TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 280-90409-1

Job Description: Ravenna, OH, LL2/Fuze and Booster Quarry

For:
Cardno TEC, Inc
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Attention: Ms. Heather Miner



Approved for release.
Patrick J McEntee
Manager of Project Management
11/29/2016 10:10 AM

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The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

HPLC/IC

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.

LCMS

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
Q	One or more quality control criteria failed.

General Chemistry

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
B	Blank contamination: The analyte was detected above one-half the reporting limit in an associated blank.
U	Undetected at the Limit of Detection.
D	The reported value is from a dilution.
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

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
CFL	Contains Free Liquid
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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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)

CASE NARRATIVE

Client: Cardno TEC, Inc

Project: Ravenna, OH, LL2/Fuze and Booster Quarry

Report Number: 280-90409-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/2/2016 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.6º C, 0.6º C and 3.1º C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): LL2mw-271-110116-GW (280-90409-1), LL2mw-261-103116-GW (280-90409-2), LL2mw-500-103116-GW (280-90409-3) and FBQmw-175-110116-GW (280-90409-4).

No sample labels had "-gw" recorded. Samples logged per COC.

For sample LL2mw-271-110116-gw, there was no sample time on the containers and the samples were logged per the COC.

For sample LL2mw-500-103116-gw, there was no sample time on the containers and the samples were logged per the COC.

For sample FBQmw-175-110116-gw, there was no sample time on the COC and the samples were logged per the bottles (as 1612).

SEMIVOLATILE ORGANIC COMPOUNDS

Samples LL2mw-271-110116-GW (280-90409-1) and LL2mw-261-103116-GW (280-90409-2) were analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 11/07/2016 and 11/08/2016 and analyzed on 11/12/2016 and 11/16/2016.

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

POLYCHLORINATED BIPHENYLS (PCBS)

Samples LL2mw-271-110116-GW (280-90409-1) and LL2mw-261-103116-GW (280-90409-2) were analyzed for polychlorinated biphenyls (PCBs) in accordance with SW-846 8082A. The samples were prepared on 11/07/2016 and 11/08/2016 and analyzed on 11/15/2016 and 11/18/2016.

The following samples underwent a sulfuric acid clean-up, via EPA Method 3665A, to reduce matrix interferences: LL2mw-271-110116-GW (280-90409-1), (LCS 280-350443/2-A), (MB 280-350443/1-A).

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

PERCHLORATE

Sample LL2mw-271-110116-GW (280-90409-1) was analyzed for Perchlorate in accordance with 6860. The samples were analyzed on 11/15/2016.

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

EXPLOSIVES

Samples LL2mw-271-110116-GW (280-90409-1) and LL2mw-261-103116-GW (280-90409-2) were analyzed for Explosives in accordance with 8330B. The samples were prepared on 11/04/2016 and analyzed on 11/17/2016 and 11/23/2016.

2,6-Dinitrotoluene was detected in method blank MB 280-349987/1-A at a level exceeding the reporting limit on the confirmation column.

The primary column was reported as ND for this compound. The associated sample was not re-analyzed because the associated sample did not need to be confirmed for the affected compound. Preparation batch 349987 in analytical batch 352866 for the 8330 confirmation.

RDX and 1,3,5-Trinitrobenzene were detected in method blank MB 280-349987/1-A at levels that were above the method detection limit but below one half the reporting limit. The values should be considered estimates, and have been flagged.

Several analytes failed the recovery criteria low for LCS 280-349987/2-A. 2-Nitrotoluene, 3-Nitrotoluene, 4-Nitrotoluene, 2-Nitrotoluene, 3-Nitrotoluene and 4-Nitrotoluene exceeded the RPD limit for LCSD 280-349987/3-A. Refer to the QC report for details. The associated samples were outside 2x the holding time; therefore, re-extraction was not performed.

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

TOTAL METALS (ICP)

Samples LL2mw-271-110116-GW (280-90409-1), LL2mw-261-103116-GW (280-90409-2), LL2mw-500-103116-GW (280-90409-3) and FBQmw-175-110116-GW (280-90409-4) were analyzed for Total Metals (ICP) in accordance with 6010C. The samples were prepared on 11/11/2016 and analyzed on 11/13/2016.

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

TOTAL METALS (ICP/MS)

Samples LL2mw-271-110116-GW (280-90409-1), LL2mw-261-103116-GW (280-90409-2), LL2mw-500-103116-GW (280-90409-3) and FBQmw-175-110116-GW (280-90409-4) were analyzed for total metals (ICP/MS) in accordance with 6020A. The samples were prepared on 11/03/2016 and analyzed on 11/10/2016 and 11/11/2016.

Chromium and Manganese were detected in method blank MB 280-349785/1-A at levels that were above the method detection limit but below one half the reporting limit. The values should be considered estimates, and have been flagged.

The low level continuing calibration verification (CCVL) associated with batch 280-351011 recovered above the upper control limit for Mn. Associated results are qualified Q. The samples associated with this CCVL were >10x the level of the CCVL for the affected analytes; therefore, the data have been reported.

The interference check standard solution (ICSA) associated with batch 280-351276 had results for one or more elements at a level greater than the limit of detection (LOD). The initial ICSA result(s) was > LOD for Mn. The vendor acknowledges that these elements are trace impurities in the ICSA standard. These results are not indicative of a matrix interference. Associated results are qualified Q.

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

MERCURY

Samples LL2mw-271-110116-GW (280-90409-1), LL2mw-261-103116-GW (280-90409-2), LL2mw-500-103116-GW (280-90409-3) and FBQmw-175-110116-GW (280-90409-4) were analyzed for mercury in accordance with 7470A. The samples were prepared and analyzed on 11/11/2016.

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

ALKALINITY

Sample FBQmw-175-110116-GW (280-90409-4) was analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 11/13/2016.

Alkalinity was detected in method blank MB 280-351255/5 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details. The associated sample was not re-analyzed because the alkalinity of sample was greater than 10x the MB.

Alkalinity exceeded the RPD limit for the duplicate of sample FBQmw-175-110116-GWDU (280-90409-4). Refer to the QC report for details. Sample was run as high alkalinity based on previous zero result but contains relatively low alkalinity, giving a high RPD for the duplicate.

The instrument blank for analytical batch 280-351255 contained Alkalinity greater than the reporting limit (RL), and were not reanalyzed because analyte found in the CCB is insignificant compared to the analyte found in the samples. The data have been qualified and reported.

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

HEXAVALENT CHROMIUM

Sample FBQmw-175-110116-GW (280-90409-4) was analyzed for hexavalent chromium in accordance with 7196A. The samples were analyzed on 11/02/2016.

Due to matrix interference, sample FBQmw-175-110116-GW (280-90409-4)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

CYANIDE, TOTAL
Samples LL2mw-271-110116-GW (280-90409-1), LL2mw-261-103116-GW (280-90409-2) and FBQmw-175-110116-GW (280-90409-4) were analyzed for Cyanide, Total in accordance with 9012B. The samples were prepared and analyzed on 11/11/2016.

Cyanide, Total was detected in method blank MB 280-350982/4-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

SULFIDE
Sample FBQmw-175-110116-GW (280-90409-4) was analyzed for sulfide in accordance with EPA SW-846 Method 9034. The samples were prepared and analyzed on 11/02/2016.

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

ANIONS (28 DAYS)
Sample FBQmw-175-110116-GW (280-90409-4) was analyzed for anions (28 days) in accordance with 9056A. The samples were analyzed on 11/02/2016.

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

ANIONS (48 HOURS)
Sample FBQmw-175-110116-GW (280-90409-4) was analyzed for anions (48 hours) in accordance with 9056A. The samples were analyzed on 11/02/2016.

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

Detection Summary

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Client Sample ID: LL2mw-271-110116-GW — Lab Sample ID: 280-90409-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.024	J M	0.050	0.0040	ug/L	1		6860	Total/NA
Calcium	58000		1000	35	ug/L	1		6010C	Total/NA
Iron	5000		100	22	ug/L	1		6010C	Total/NA
Magnesium	19000		500	11	ug/L	1		6010C	Total/NA
Potassium	1200	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	4500	J	5000	92	ug/L	1		6010C	Total/NA
Arsenic	14		5.0	0.33	ug/L	1		6020A	Total/NA
Barium	3.6		3.0	0.29	ug/L	1		6020A	Total/NA
Chromium	14		10	0.50	ug/L	1		6020A	Total/NA
Cobalt	8.6		1.0	0.054	ug/L	1		6020A	Total/NA
Copper	0.60	J	2.0	0.56	ug/L	1		6020A	Total/NA
Manganese	560	Q	3.5	0.31	ug/L	1		6020A	Total/NA
Nickel	39		3.0	0.30	ug/L	1		6020A	Total/NA
Zinc	2.4	J	20	2.0	ug/L	1		6020A	Total/NA
Cyanide, Total	3.5	J	10	2.0	ug/L	1		9012B	Total/NA

Client Sample ID: LL2mw-261-103116-GW — Lab Sample ID: 280-90409-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Calcium	63000		1000	35	ug/L	1		6010C	Total/NA
Iron	3600		100	22	ug/L	1		6010C	Total/NA
Magnesium	20000		500	11	ug/L	1		6010C	Total/NA
Potassium	1400	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	12000		5000	92	ug/L	1		6010C	Total/NA
Arsenic	14		5.0	0.33	ug/L	1		6020A	Total/NA
Barium	21		3.0	0.29	ug/L	1		6020A	Total/NA
Chromium	22		10	0.50	ug/L	1		6020A	Total/NA
Cobalt	1.3		1.0	0.054	ug/L	1		6020A	Total/NA
Copper	0.98	J	2.0	0.56	ug/L	1		6020A	Total/NA
Lead	0.18	J	3.0	0.18	ug/L	1		6020A	Total/NA
Manganese	450	Q	3.5	0.31	ug/L	1		6020A	Total/NA
Nickel	3.9		3.0	0.30	ug/L	1		6020A	Total/NA
Thallium	0.077	J	1.0	0.050	ug/L	1		6020A	Total/NA
Vanadium	1.7	J	6.0	0.50	ug/L	1		6020A	Total/NA
Zinc	2.2	J	20	2.0	ug/L	1		6020A	Total/NA
Cyanide, Total	2.7	J B	10	2.0	ug/L	1		9012B	Total/NA

Client Sample ID: LL2mw-500-103116-GW — Lab Sample ID: 280-90409-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Calcium	65000		1000	35	ug/L	1		6010C	Total/NA
Iron	4100		100	22	ug/L	1		6010C	Total/NA
Magnesium	21000		500	11	ug/L	1		6010C	Total/NA
Potassium	1500	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	13000		5000	92	ug/L	1		6010C	Total/NA
Arsenic	16		5.0	0.33	ug/L	1		6020A	Total/NA
Barium	19		3.0	0.29	ug/L	1		6020A	Total/NA
Chromium	4.6	J	10	0.50	ug/L	1		6020A	Total/NA
Cobalt	1.3		1.0	0.054	ug/L	1		6020A	Total/NA
Lead	0.23	J	3.0	0.18	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LL2mw-500-103116-GW (Continued) — Lab Sample ID: 280-90409-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Manganese	460	Q	3.5	0.31	ug/L	1		6020A	Total/NA
Nickel	3.8		3.0	0.30	ug/L	1		6020A	Total/NA

Client Sample ID: FBQmw-175-110116-GW — Lab Sample ID: 280-90409-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	410		300	18	ug/L	1		6010C	Total/NA
Calcium	9400		1000	35	ug/L	1		6010C	Total/NA
Iron	1200		100	22	ug/L	1		6010C	Total/NA
Magnesium	4600		500	11	ug/L	1		6010C	Total/NA
Potassium	950	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	1800	J	5000	92	ug/L	1		6010C	Total/NA
Arsenic	0.38	J	5.0	0.33	ug/L	1		6020A	Total/NA
Barium	11		3.0	0.29	ug/L	1		6020A	Total/NA
Beryllium	0.092	J	1.0	0.080	ug/L	1		6020A	Total/NA
Chromium	1.0	J	10	0.50	ug/L	1		6020A	Total/NA
Cobalt	0.46	J	1.0	0.054	ug/L	1		6020A	Total/NA
Copper	0.59	J	2.0	0.56	ug/L	1		6020A	Total/NA
Lead	0.71	J	3.0	0.18	ug/L	1		6020A	Total/NA
Manganese	9.9	Q	3.5	0.31	ug/L	1		6020A	Total/NA
Nickel	7.4		3.0	0.30	ug/L	1		6020A	Total/NA
Zinc	11	J	20	2.0	ug/L	1		6020A	Total/NA
Chromium, hexavalent	39	J D	40	8.0	ug/L	2		7196A	Total/NA
Nitrate as N	1300		500	42	ug/L	1		9056A	Total/NA
Sulfate	33000		5000	230	ug/L	1		9056A	Total/NA
Alkalinity	24	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LL2mw-271-110116-GW

Date Collected: 11/01/16 10:13
Date Received: 11/02/16 10:00

Lab Sample ID: 280-90409-1

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.9	U	9.7	0.54	ug/L		11/08/16 15:07	11/16/16 00:43	1
Butyl benzyl phthalate	1.9	U	19	0.97	ug/L		11/08/16 15:07	11/16/16 00:43	1
Diethyl phthalate	0.97	U	19	0.37	ug/L		11/08/16 15:07	11/16/16 00:43	1
Dimethyl phthalate	0.48	U	19	0.20	ug/L		11/08/16 15:07	11/16/16 00:43	1
Di-n-butyl phthalate	4.3	U	19	1.1	ug/L		11/08/16 15:07	11/16/16 00:43	1
Di-n-octyl phthalate	0.97	U	19	0.34	ug/L		11/08/16 15:07	11/16/16 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*102*		*43 - 140*	*11/08/16 15:07*	*11/16/16 00:43*	*1*
2-Fluorobiphenyl (Surr)	*85*		*44 - 119*	*11/08/16 15:07*	*11/16/16 00:43*	*1*
2-Fluorophenol (Surr)	*87*		*19 - 119*	*11/08/16 15:07*	*11/16/16 00:43*	*1*
Nitrobenzene-d5 (Surr)	*97*		*44 - 120*	*11/08/16 15:07*	*11/16/16 00:43*	*1*
Phenol-d5 (Surr)	*90*		*10 - 115*	*11/08/16 15:07*	*11/16/16 00:43*	*1*
Terphenyl-d14 (Surr)	*91*		*50 - 134*	*11/08/16 15:07*	*11/16/16 00:43*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1221	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1232	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1242	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1248	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1254	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1
PCB-1260	0.10	U	0.15	0.043	ug/L		11/08/16 13:24	11/18/16 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*61*		*20 - 143*	*11/08/16 13:24*	*11/18/16 01:23*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*36 - 140*	*11/08/16 13:24*	*11/18/16 01:23*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.45	U	1.1	0.23	ug/L		11/04/16 20:12	11/17/16 02:08	1
1,3-Dinitrobenzene	0.23	U	0.45	0.10	ug/L		11/04/16 20:12	11/17/16 02:08	1
2,4,6-Trinitrotoluene	0.23	U	0.45	0.082	ug/L		11/04/16 20:12	11/17/16 02:08	1
2,4-Dinitrotoluene	0.23	U	0.45	0.095	ug/L		11/04/16 20:12	11/17/16 02:08	1
2,6-Dinitrotoluene	0.23	U	0.23	0.073	ug/L		11/04/16 20:12	11/17/16 02:08	1
2-Amino-4,6-dinitrotoluene	0.14	U Q	0.23	0.057	ug/L		11/04/16 20:12	11/17/16 02:08	1
2-Nitrotoluene	0.23	U Q	0.45	0.097	ug/L		11/04/16 20:12	11/17/16 02:08	1
3-Nitrotoluene	0.23	U Q	0.45	0.094	ug/L		11/04/16 20:12	11/17/16 02:08	1
4-Amino-2,6-dinitrotoluene	0.14	U	0.23	0.065	ug/L		11/04/16 20:12	11/17/16 02:08	1
4-Nitrotoluene	0.45	U Q	1.1	0.23	ug/L		11/04/16 20:12	11/17/16 02:08	1
HMX	0.23	U	0.45	0.099	ug/L		11/04/16 20:12	11/17/16 02:08	1
Nitrobenzene	0.23	U	0.45	0.10	ug/L		11/04/16 20:12	11/17/16 02:08	1
Nitroglycerin	2.3	U	3.4	1.0	ug/L		11/04/16 20:12	11/17/16 02:08	1
PETN	1.4	U	2.3	0.47	ug/L		11/04/16 20:12	11/17/16 02:08	1
RDX	0.14	U	0.23	0.059	ug/L		11/04/16 20:12	11/23/16 19:04	1
Tetryl	0.23	U	0.27	0.090	ug/L		11/04/16 20:12	11/17/16 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*88*		*83 - 119*	*11/04/16 20:12*	*11/17/16 02:08*	*1*

Client Sample ID: LL2mw-271-110116-GW
Lab Sample ID: 280-90409-1

Date Collected: 11/01/16 10:13
Matrix: Water
Date Received: 11/02/16 10:00

Method: 8330B - Nitroaromatics and Nitramines (HPLC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*92*		*83 - 119*	*11/04/16 20:12*	*11/23/16 19:04*	*1*

Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**0.024**	**J M**	0.050	0.0040	ug/L			11/15/16 18:17	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/11/16 14:45	11/13/16 16:04	1
Calcium	**58000**		1000	35	ug/L		11/11/16 14:45	11/13/16 16:04	1
Iron	**5000**		100	22	ug/L		11/11/16 14:45	11/13/16 16:04	1
Magnesium	**19000**		500	11	ug/L		11/11/16 14:45	11/13/16 16:04	1
Potassium	**1200**	**J**	3000	240	ug/L		11/11/16 14:45	11/13/16 16:04	1
Sodium	**4500**	**J**	5000	92	ug/L		11/11/16 14:45	11/13/16 16:04	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	U	6.0	0.40	ug/L		11/03/16 21:53	11/10/16 22:29	1
Arsenic	**14**		5.0	0.33	ug/L		11/03/16 21:53	11/10/16 22:29	1
Barium	**3.6**		3.0	0.29	ug/L		11/03/16 21:53	11/10/16 22:29	1
Beryllium	0.30	U	1.0	0.080	ug/L		11/03/16 21:53	11/10/16 22:29	1
Cadmium	1.0	U	1.0	0.27	ug/L		11/03/16 21:53	11/10/16 22:29	1
Chromium	**14**		10	0.50	ug/L		11/03/16 21:53	11/10/16 22:29	1
Cobalt	**8.6**		1.0	0.054	ug/L		11/03/16 21:53	11/10/16 22:29	1
Copper	**0.60**	**J**	2.0	0.56	ug/L		11/03/16 21:53	11/10/16 22:29	1
Lead	0.70	U	3.0	0.18	ug/L		11/03/16 21:53	11/10/16 22:29	1
Manganese	**560**	**Q**	3.5	0.31	ug/L		11/03/16 21:53	11/10/16 22:29	1
Nickel	**39**		3.0	0.30	ug/L		11/03/16 21:53	11/10/16 22:29	1
Selenium	2.0	U	5.0	0.70	ug/L		11/03/16 21:53	11/10/16 22:29	1
Silver	0.10	U	5.0	0.033	ug/L		11/03/16 21:53	11/10/16 22:29	1
Thallium	0.20	U	1.0	0.050	ug/L		11/03/16 21:53	11/10/16 22:29	1
Vanadium	2.0	U	6.0	0.50	ug/L		11/03/16 21:53	11/10/16 22:29	1
Zinc	**2.4**	**J**	20	2.0	ug/L		11/03/16 21:53	11/10/16 22:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/11/16 12:30	11/11/16 17:47	1

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**3.5**	**J**	10	2.0	ug/L		11/11/16 10:27	11/11/16 13:40	1

Client Sample ID: LL2mw-261-103116-GW
Lab Sample ID: 280-90409-2

Date Collected: 10/31/16 14:40
Matrix: Water
Date Received: 11/02/16 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.0	U	9.9	0.55	ug/L		11/07/16 12:27	11/12/16 06:40	1
Butyl benzyl phthalate	2.0	U	20	0.99	ug/L		11/07/16 12:27	11/12/16 06:40	1

Client Sample ID: LL2mw-261-103116-GW
Lab Sample ID: 280-90409-2

Date Collected: 10/31/16 14:40
Matrix: Water
Date Received: 11/02/16 10:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl phthalate	0.99	U	20	0.38	ug/L		11/07/16 12:27	11/12/16 06:40	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/07/16 12:27	11/12/16 06:40	1
Di-n-butyl phthalate	4.4	U	20	1.1	ug/L		11/07/16 12:27	11/12/16 06:40	1
Di-n-octyl phthalate	0.99	U	20	0.35	ug/L		11/07/16 12:27	11/12/16 06:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*100*		*43 - 140*	*11/07/16 12:27*	*11/12/16 06:40*	*1*
2-Fluorobiphenyl (Surr)	*84*		*44 - 119*	*11/07/16 12:27*	*11/12/16 06:40*	*1*
2-Fluorophenol (Surr)	*86*		*19 - 119*	*11/07/16 12:27*	*11/12/16 06:40*	*1*
Nitrobenzene-d5 (Surr)	*91*		*44 - 120*	*11/07/16 12:27*	*11/12/16 06:40*	*1*
Phenol-d5 (Surr)	*88*		*10 - 115*	*11/07/16 12:27*	*11/12/16 06:40*	*1*
Terphenyl-d14 (Surr)	*93*		*50 - 134*	*11/07/16 12:27*	*11/12/16 06:40*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1221	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1232	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1242	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1248	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1254	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1
PCB-1260	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*52*		*20 - 143*	*11/07/16 22:14*	*11/15/16 21:27*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*36 - 140*	*11/07/16 22:14*	*11/15/16 21:27*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.44	U	1.1	0.22	ug/L		11/04/16 20:12	11/17/16 02:31	1
1,3-Dinitrobenzene	0.22	U	0.44	0.099	ug/L		11/04/16 20:12	11/17/16 02:31	1
2,4,6-Trinitrotoluene	0.22	U	0.44	0.080	ug/L		11/04/16 20:12	11/17/16 02:31	1
2,4-Dinitrotoluene	0.22	U	0.44	0.093	ug/L		11/04/16 20:12	11/17/16 02:31	1
2,6-Dinitrotoluene	0.22	U	0.22	0.072	ug/L		11/04/16 20:12	11/17/16 02:31	1
2-Amino-4,6-dinitrotoluene	0.13	U Q	0.22	0.056	ug/L		11/04/16 20:12	11/17/16 02:31	1
2-Nitrotoluene	0.22	U Q	0.44	0.095	ug/L		11/04/16 20:12	11/17/16 02:31	1
3-Nitrotoluene	0.22	U Q	0.44	0.093	ug/L		11/04/16 20:12	11/17/16 02:31	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.064	ug/L		11/04/16 20:12	11/17/16 02:31	1
4-Nitrotoluene	0.44	U Q	1.1	0.22	ug/L		11/04/16 20:12	11/17/16 02:31	1
HMX	0.22	U	0.44	0.097	ug/L		11/04/16 20:12	11/17/16 02:31	1
Nitrobenzene	0.22	U	0.44	0.10	ug/L		11/04/16 20:12	11/17/16 02:31	1
Nitroglycerin	2.2	U	3.3	1.0	ug/L		11/04/16 20:12	11/17/16 02:31	1
PETN	1.3	U	2.2	0.46	ug/L		11/04/16 20:12	11/17/16 02:31	1
RDX	0.13	U	0.22	0.058	ug/L		11/04/16 20:12	11/23/16 19:39	1
Tetryl	0.22	U	0.27	0.088	ug/L		11/04/16 20:12	11/17/16 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*98*		*83 - 119*	*11/04/16 20:12*	*11/17/16 02:31*	*1*
1,2-Dinitrobenzene	*101*		*83 - 119*	*11/04/16 20:12*	*11/23/16 19:39*	*1*

Client Sample ID: LL2mw-261-103116-GW
Lab Sample ID: 280-90409-2
Date Collected: 10/31/16 14:40
Matrix: Water
Date Received: 11/02/16 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/11/16 14:45	11/13/16 16:07	1
Calcium	**63000**		1000	35	ug/L		11/11/16 14:45	11/13/16 16:07	1
Iron	**3600**		100	22	ug/L		11/11/16 14:45	11/13/16 16:07	1
Magnesium	**20000**		500	11	ug/L		11/11/16 14:45	11/13/16 16:07	1
Potassium	**1400**	**J**	3000	240	ug/L		11/11/16 14:45	11/13/16 16:07	1
Sodium	**12000**		5000	92	ug/L		11/11/16 14:45	11/13/16 16:07	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	U	6.0	0.40	ug/L		11/03/16 21:53	11/10/16 22:33	1
Arsenic	**14**		5.0	0.33	ug/L		11/03/16 21:53	11/10/16 22:33	1
Barium	**21**		3.0	0.29	ug/L		11/03/16 21:53	11/10/16 22:33	1
Beryllium	0.30	U	1.0	0.080	ug/L		11/03/16 21:53	11/10/16 22:33	1
Cadmium	1.0	U	1.0	0.27	ug/L		11/03/16 21:53	11/10/16 22:33	1
Chromium	**22**		10	0.50	ug/L		11/03/16 21:53	11/10/16 22:33	1
Cobalt	**1.3**		1.0	0.054	ug/L		11/03/16 21:53	11/10/16 22:33	1
Copper	**0.98**	**J**	2.0	0.56	ug/L		11/03/16 21:53	11/10/16 22:33	1
Lead	**0.18**	**J**	3.0	0.18	ug/L		11/03/16 21:53	11/10/16 22:33	1
Manganese	**450**	**Q**	3.5	0.31	ug/L		11/03/16 21:53	11/10/16 22:33	1
Nickel	**3.9**		3.0	0.30	ug/L		11/03/16 21:53	11/10/16 22:33	1
Selenium	2.0	U	5.0	0.70	ug/L		11/03/16 21:53	11/10/16 22:33	1
Silver	0.10	U	5.0	0.033	ug/L		11/03/16 21:53	11/10/16 22:33	1
Thallium	**0.077**	**J**	1.0	0.050	ug/L		11/03/16 21:53	11/10/16 22:33	1
Vanadium	**1.7**	**J**	6.0	0.50	ug/L		11/03/16 21:53	11/10/16 22:33	1
Zinc	**2.2**	**J**	20	2.0	ug/L		11/03/16 21:53	11/10/16 22:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/11/16 12:30	11/11/16 17:49	1

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**2.7**	**J B**	10	2.0	ug/L		11/11/16 08:29	11/11/16 12:51	1

Client Sample ID: LL2mw-500-103116-GW
Lab Sample ID: 280-90409-3
Date Collected: 10/31/16 14:50
Matrix: Water
Date Received: 11/02/16 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/11/16 14:45	11/13/16 16:09	1
Calcium	**65000**		1000	35	ug/L		11/11/16 14:45	11/13/16 16:09	1
Iron	**4100**		100	22	ug/L		11/11/16 14:45	11/13/16 16:09	1
Magnesium	**21000**		500	11	ug/L		11/11/16 14:45	11/13/16 16:09	1
Potassium	**1500**	**J**	3000	240	ug/L		11/11/16 14:45	11/13/16 16:09	1
Sodium	**13000**		5000	92	ug/L		11/11/16 14:45	11/13/16 16:09	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	U	6.0	0.40	ug/L		11/03/16 21:53	11/10/16 22:37	1
Arsenic	**16**		5.0	0.33	ug/L		11/03/16 21:53	11/10/16 22:37	1

Client Sample ID: LL2mw-500-103116-GW
Lab Sample ID: 280-90409-3

Date Collected: 10/31/16 14:50
Matrix: Water
Date Received: 11/02/16 10:00

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**19**		3.0	0.29	ug/L		11/03/16 21:53	11/10/16 22:37	1
Beryllium	0.30	U	1.0	0.080	ug/L		11/03/16 21:53	11/10/16 22:37	1
Cadmium	1.0	U	1.0	0.27	ug/L		11/03/16 21:53	11/10/16 22:37	1
Chromium	**4.6**	**J**	10	0.50	ug/L		11/03/16 21:53	11/10/16 22:37	1
Cobalt	**1.3**		1.0	0.054	ug/L		11/03/16 21:53	11/10/16 22:37	1
Copper	1.8	U	2.0	0.56	ug/L		11/03/16 21:53	11/10/16 22:37	1
Lead	**0.23**	**J**	3.0	0.18	ug/L		11/03/16 21:53	11/10/16 22:37	1
Manganese	**460**	**Q**	3.5	0.31	ug/L		11/03/16 21:53	11/10/16 22:37	1
Nickel	**3.8**		3.0	0.30	ug/L		11/03/16 21:53	11/10/16 22:37	1
Selenium	2.0	U	5.0	0.70	ug/L		11/03/16 21:53	11/10/16 22:37	1
Silver	0.10	U	5.0	0.033	ug/L		11/03/16 21:53	11/10/16 22:37	1
Thallium	0.20	U	1.0	0.050	ug/L		11/03/16 21:53	11/10/16 22:37	1
Vanadium	2.0	U	6.0	0.50	ug/L		11/03/16 21:53	11/10/16 22:37	1
Zinc	8.0	U	20	2.0	ug/L		11/03/16 21:53	11/10/16 22:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/11/16 12:30	11/11/16 17:51	1

Client Sample ID: FBQmw-175-110116-GW
Lab Sample ID: 280-90409-4

Date Collected: 11/01/16 16:12
Matrix: Water
Date Received: 11/02/16 10:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**410**		300	18	ug/L		11/11/16 14:45	11/13/16 16:12	1
Calcium	**9400**		1000	35	ug/L		11/11/16 14:45	11/13/16 16:12	1
Iron	**1200**		100	22	ug/L		11/11/16 14:45	11/13/16 16:12	1
Magnesium	**4600**		500	11	ug/L		11/11/16 14:45	11/13/16 16:12	1
Potassium	**950**	**J**	3000	240	ug/L		11/11/16 14:45	11/13/16 16:12	1
Sodium	**1800**	**J**	5000	92	ug/L		11/11/16 14:45	11/13/16 16:12	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	U	6.0	0.40	ug/L		11/03/16 21:53	11/10/16 22:41	1
Arsenic	**0.38**	**J**	5.0	0.33	ug/L		11/03/16 21:53	11/10/16 22:41	1
Barium	**11**		3.0	0.29	ug/L		11/03/16 21:53	11/10/16 22:41	1
Beryllium	**0.092**	**J**	1.0	0.080	ug/L		11/03/16 21:53	11/10/16 22:41	1
Cadmium	1.0	U	1.0	0.27	ug/L		11/03/16 21:53	11/10/16 22:41	1
Chromium	**1.0**	**J**	10	0.50	ug/L		11/03/16 21:53	11/10/16 22:41	1
Cobalt	**0.46**	**J**	1.0	0.054	ug/L		11/03/16 21:53	11/10/16 22:41	1
Copper	**0.59**	**J**	2.0	0.56	ug/L		11/03/16 21:53	11/10/16 22:41	1
Lead	**0.71**	**J**	3.0	0.18	ug/L		11/03/16 21:53	11/10/16 22:41	1
Manganese	**9.9**	**Q**	3.5	0.31	ug/L		11/03/16 21:53	11/11/16 18:50	1
Nickel	**7.4**		3.0	0.30	ug/L		11/03/16 21:53	11/10/16 22:41	1
Selenium	2.0	U	5.0	0.70	ug/L		11/03/16 21:53	11/10/16 22:41	1
Silver	0.10	U	5.0	0.033	ug/L		11/03/16 21:53	11/10/16 22:41	1
Thallium	0.20	U	1.0	0.050	ug/L		11/03/16 21:53	11/10/16 22:41	1
Vanadium	2.0	U	6.0	0.50	ug/L		11/03/16 21:53	11/10/16 22:41	1
Zinc	**11**	**J**	20	2.0	ug/L		11/03/16 21:53	11/10/16 22:41	1

Client Sample ID: FBQmw-175-110116-GW
Lab Sample ID: 280-90409-4

Date Collected: 11/01/16 16:12
Matrix: Water
Date Received: 11/02/16 10:00

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/11/16 12:30	11/11/16 17:53	1

General Chemistry

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**39**	**J D**	40	8.0	ug/L			11/02/16 11:13	2
Cyanide, Total	5.0	U	10	2.0	ug/L		11/11/16 10:27	11/11/16 13:42	1
Sulfide	1900	U	4000	790	ug/L		11/02/16 16:30	11/02/16 16:50	1
Nitrate as N	**1300**		500	42	ug/L			11/02/16 13:01	1
Sulfate	**33000**		5000	230	ug/L			11/02/16 13:01	1
Nitrite as N	100	U	500	49	ug/L			11/02/16 13:01	1
Alkalinity	**24**	**B**	5.0	1.1	mg/L			11/13/16 14:49	1

Default Detection Limits

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3520C

Analyte	LOQ	DL	Units	Method
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Prep: 3510C

Analyte	LOQ	DL	Units	Method
PCB-1016	0.15	0.042	ug/L	8082A
PCB-1221	0.15	0.042	ug/L	8082A
PCB-1232	0.15	0.042	ug/L	8082A
PCB-1242	0.15	0.042	ug/L	8082A
PCB-1248	0.15	0.042	ug/L	8082A
PCB-1254	0.15	0.042	ug/L	8082A
PCB-1260	0.15	0.042	ug/L	8082A

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Prep: 3535

Analyte	LOQ	DL	Units	Method
1,3,5-Trinitrobenzene	1.0	0.20	ug/L	8330B
1,3-Dinitrobenzene	0.40	0.089	ug/L	8330B
2,4,6-Trinitrotoluene	0.40	0.072	ug/L	8330B
2,4-Dinitrotoluene	0.40	0.084	ug/L	8330B
2,6-Dinitrotoluene	0.20	0.065	ug/L	8330B
2-Amino-4,6-dinitrotoluene	0.20	0.051	ug/L	8330B
2-Nitrotoluene	0.40	0.086	ug/L	8330B
3-Nitrotoluene	0.40	0.083	ug/L	8330B
4-Amino-2,6-dinitrotoluene	0.20	0.058	ug/L	8330B
4-Nitrotoluene	1.0	0.20	ug/L	8330B
HMX	0.40	0.088	ug/L	8330B
Nitrobenzene	0.40	0.091	ug/L	8330B
Nitroglycerin	3.0	0.92	ug/L	8330B
PETN	2.0	0.42	ug/L	8330B
RDX	0.20	0.052	ug/L	8330B
Tetryl	0.24	0.079	ug/L	8330B

Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Analyte	LOQ	DL	Units	Method
Perchlorate	0.050	0.0040	ug/L	6860

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Iron	100	22	ug/L	6010C

Method: 6010C - Metals (ICP) (Continued)

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Magnesium	500	11	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Sodium	5000	92	ug/L	6010C

Method: 6020A - Metals (ICP/MS)

Prep: 3020A

Analyte	LOQ	DL	Units	Method
Antimony	6.0	0.40	ug/L	6020A
Arsenic	5.0	0.33	ug/L	6020A
Barium	3.0	0.29	ug/L	6020A
Beryllium	1.0	0.080	ug/L	6020A
Cadmium	1.0	0.27	ug/L	6020A
Chromium	10	0.50	ug/L	6020A
Cobalt	1.0	0.054	ug/L	6020A
Copper	2.0	0.56	ug/L	6020A
Lead	3.0	0.18	ug/L	6020A
Manganese	3.5	0.31	ug/L	6020A
Nickel	3.0	0.30	ug/L	6020A
Selenium	5.0	0.70	ug/L	6020A
Silver	5.0	0.033	ug/L	6020A
Thallium	1.0	0.050	ug/L	6020A
Vanadium	6.0	0.50	ug/L	6020A
Zinc	20	2.0	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Mercury	0.20	0.027	ug/L	7470A

General Chemistry

Analyte	LOQ	DL	Units	Method
Chromium, hexavalent	20	4.0	ug/L	7196A
Nitrate as N	500	42	ug/L	9056A
Nitrite as N	500	49	ug/L	9056A
Sulfate	5000	230	ug/L	9056A
Alkalinity	5.0	1.1	mg/L	SM 2320B

General Chemistry

Prep: 9012B

Analyte	LOQ	DL	Units	Method
Cyanide, Total	10	2.0	ug/L	9012B

General Chemistry

Prep: 9030B

Analyte	LOQ	DL	Units	Method
Sulfide	4000	790	ug/L	9034

Surrogate Summary

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-90409-1	LL2mw-271-110116-GW	102	85	87	97	90	91
280-90409-2	LL2mw-261-103116-GW	100	84	86	91	88	93
LCS 280-350194/2-A	Lab Control Sample	108	88	88	95	91	94
LCS 280-350444/2-A	Lab Control Sample	101	78	89	97	94	93
LCSD 280-350194/3-A	Lab Control Sample Dup	104	90	88	97	88	93
MB 280-350194/1-A	Method Blank	92	84	83	92	85	88
MB 280-350444/1-A	Method Blank	98	64	92	97	94	96

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCB2
Lab Sample ID	Client Sample ID	(20-143)	(36-140)
280-90409-1	LL2mw-271-110116-GW	61	98
280-90409-2	LL2mw-261-103116-GW	52	89
LCS 280-350275/2-A	Lab Control Sample	48	92
LCS 280-350443/2-A	Lab Control Sample	53	104
LCSD 280-350275/3-A	Lab Control Sample Dup	34	109
MB 280-350275/1-A	Method Blank	48	94
MB 280-350443/1-A	Method Blank	53	100

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		12DNB1
Lab Sample ID	Client Sample ID	(83-119)
280-90409-1	LL2mw-271-110116-GW	88
280-90409-1	LL2mw-271-110116-GW	92
280-90409-2	LL2mw-261-103116-GW	98
280-90409-2	LL2mw-261-103116-GW	101
LCS 280-349987/2-A	Lab Control Sample	95
LCS 280-349987/2-A	Lab Control Sample	107
LCSD 280-349987/3-A	Lab Control Sample Dup	97
LCSD 280-349987/3-A	Lab Control Sample Dup	104
MB 280-349987/1-A	Method Blank	98
MB 280-349987/1-A	Method Blank	99

Surrogate Summary

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Surrogate Legend

12DNB = 1,2-Dinitrobenzene

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-350194/1-A
Matrix: Water
Analysis Batch: 351071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350194

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		11/07/16 12:27	11/11/16 21:14	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/07/16 12:27	11/11/16 21:14	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		11/07/16 12:27	11/11/16 21:14	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/07/16 12:27	11/11/16 21:14	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/07/16 12:27	11/11/16 21:14	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		11/07/16 12:27	11/11/16 21:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*43 - 140*	*11/07/16 12:27*	*11/11/16 21:14*	*1*
2-Fluorobiphenyl (Surr)	*84*		*44 - 119*	*11/07/16 12:27*	*11/11/16 21:14*	*1*
2-Fluorophenol (Surr)	*83*		*19 - 119*	*11/07/16 12:27*	*11/11/16 21:14*	*1*
Nitrobenzene-d5 (Surr)	*92*		*44 - 120*	*11/07/16 12:27*	*11/11/16 21:14*	*1*
Phenol-d5 (Surr)	*85*		*10 - 115*	*11/07/16 12:27*	*11/11/16 21:14*	*1*
Terphenyl-d14 (Surr)	*88*		*50 - 134*	*11/07/16 12:27*	*11/11/16 21:14*	*1*

Lab Sample ID: LCS 280-350194/2-A
Matrix: Water
Analysis Batch: 351071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate	80.0	79.2		ug/L		99	55 - 135
Butyl benzyl phthalate	80.0	79.3		ug/L		99	53 - 134
Diethyl phthalate	80.0	83.1		ug/L		104	56 - 125
Dimethyl phthalate	80.0	83.1		ug/L		104	45 - 127
Di-n-butyl phthalate	80.0	80.2		ug/L		100	59 - 127
Di-n-octyl phthalate	80.0	80.5		ug/L		101	51 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*108*		*43 - 140*
2-Fluorobiphenyl (Surr)	*88*		*44 - 119*
2-Fluorophenol (Surr)	*88*		*19 - 119*
Nitrobenzene-d5 (Surr)	*95*		*44 - 120*
Phenol-d5 (Surr)	*91*		*10 - 115*
Terphenyl-d14 (Surr)	*94*		*50 - 134*

Lab Sample ID: LCSD 280-350194/3-A
Matrix: Water
Analysis Batch: 351071

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 350194

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate	80.0	79.0		ug/L		99	55 - 135	0	20
Butyl benzyl phthalate	80.0	79.8		ug/L		100	53 - 134	1	20
Diethyl phthalate	80.0	80.6		ug/L		101	56 - 125	3	20
Dimethyl phthalate	80.0	80.9		ug/L		101	45 - 127	3	20
Di-n-butyl phthalate	80.0	79.5		ug/L		99	59 - 127	1	20
Di-n-octyl phthalate	80.0	79.7		ug/L		100	51 - 140	1	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-350194/3-A
Matrix: Water
Analysis Batch: 351071

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 350194

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*104*		*43 - 140*
2-Fluorobiphenyl (Surr)	*90*		*44 - 119*
2-Fluorophenol (Surr)	*88*		*19 - 119*
Nitrobenzene-d5 (Surr)	*97*		*44 - 120*
Phenol-d5 (Surr)	*88*		*10 - 115*
Terphenyl-d14 (Surr)	*93*		*50 - 134*

Lab Sample ID: MB 280-350444/1-A
Matrix: Water
Analysis Batch: 351625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350444

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		11/08/16 15:07	11/15/16 21:25	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/08/16 15:07	11/15/16 21:25	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		11/08/16 15:07	11/15/16 21:25	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/08/16 15:07	11/15/16 21:25	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/08/16 15:07	11/15/16 21:25	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		11/08/16 15:07	11/15/16 21:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*98*		*43 - 140*	*11/08/16 15:07*	*11/15/16 21:25*	*1*
2-Fluorobiphenyl (Surr)	*64*		*44 - 119*	*11/08/16 15:07*	*11/15/16 21:25*	*1*
2-Fluorophenol (Surr)	*92*		*19 - 119*	*11/08/16 15:07*	*11/15/16 21:25*	*1*
Nitrobenzene-d5 (Surr)	*97*		*44 - 120*	*11/08/16 15:07*	*11/15/16 21:25*	*1*
Phenol-d5 (Surr)	*94*		*10 - 115*	*11/08/16 15:07*	*11/15/16 21:25*	*1*
Terphenyl-d14 (Surr)	*96*		*50 - 134*	*11/08/16 15:07*	*11/15/16 21:25*	*1*

Lab Sample ID: LCS 280-350444/2-A
Matrix: Water
Analysis Batch: 351625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate	80.0	76.1		ug/L		95	55 - 135
Butyl benzyl phthalate	80.0	77.4		ug/L		97	53 - 134
Diethyl phthalate	80.0	78.1		ug/L		98	56 - 125
Dimethyl phthalate	80.0	78.0		ug/L		97	45 - 127
Di-n-butyl phthalate	80.0	76.6		ug/L		96	59 - 127
Di-n-octyl phthalate	80.0	76.3		ug/L		95	51 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*101*		*43 - 140*
2-Fluorobiphenyl (Surr)	*78*		*44 - 119*
2-Fluorophenol (Surr)	*89*		*19 - 119*
Nitrobenzene-d5 (Surr)	*97*		*44 - 120*
Phenol-d5 (Surr)	*94*		*10 - 115*
Terphenyl-d14 (Surr)	*93*		*50 - 134*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 280-350275/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351504 — **Prep Batch: 350275**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1221	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1232	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1242	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1248	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1254	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1
PCB-1260	0.10	U	0.15	0.042	ug/L		11/07/16 22:14	11/15/16 17:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*48*		*20 - 143*	*11/07/16 22:14*	*11/15/16 17:28*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*36 - 140*	*11/07/16 22:14*	*11/15/16 17:28*	*1*

Lab Sample ID: LCS 280-350275/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351504 — **Prep Batch: 350275**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			0.200	0.156		ug/L		78	46 - 129		
PCB-1260			0.200	0.187		ug/L		93	45 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*48*		*20 - 143*
DCB Decachlorobiphenyl (Surr)	*92*		*36 - 140*

Lab Sample ID: LCSD 280-350275/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351504 — **Prep Batch: 350275**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			0.200	0.160		ug/L		80	46 - 129	3	30
PCB-1260			0.200	0.219		ug/L		110	45 - 134	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*34*		*20 - 143*
DCB Decachlorobiphenyl (Surr)	*109*		*36 - 140*

Lab Sample ID: MB 280-350443/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351983 — **Prep Batch: 350443**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1
PCB-1221	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1
PCB-1232	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1
PCB-1242	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1
PCB-1248	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1
PCB-1254	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 280-350443/1-A
Matrix: Water
Analysis Batch: 351983

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350443

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	0.10	U	0.15	0.042	ug/L		11/08/16 13:24	11/18/16 00:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*53*		*20 - 143*	*11/08/16 13:24*	*11/18/16 00:40*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*36 - 140*	*11/08/16 13:24*	*11/18/16 00:40*	*1*

Lab Sample ID: LCS 280-350443/2-A
Matrix: Water
Analysis Batch: 351983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.200	0.167		ug/L		84	46 - 129
PCB-1260	0.200	0.205		ug/L		102	45 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*53*		*20 - 143*
DCB Decachlorobiphenyl (Surr)	*104*		*36 - 140*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Lab Sample ID: MB 280-349987/1-A
Matrix: Water
Analysis Batch: 351752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349987

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U	1.0	0.20	ug/L		11/04/16 20:12	11/16/16 21:31	1
1,3-Dinitrobenzene	0.20	U	0.40	0.089	ug/L		11/04/16 20:12	11/16/16 21:31	1
2,4,6-Trinitrotoluene	0.20	U	0.40	0.072	ug/L		11/04/16 20:12	11/16/16 21:31	1
2,4-Dinitrotoluene	0.20	U	0.40	0.084	ug/L		11/04/16 20:12	11/16/16 21:31	1
2,6-Dinitrotoluene	0.20	U	0.20	0.065	ug/L		11/04/16 20:12	11/16/16 21:31	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.051	ug/L		11/04/16 20:12	11/16/16 21:31	1
2-Nitrotoluene	0.20	U	0.40	0.086	ug/L		11/04/16 20:12	11/16/16 21:31	1
3-Nitrotoluene	0.20	U	0.40	0.083	ug/L		11/04/16 20:12	11/16/16 21:31	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.058	ug/L		11/04/16 20:12	11/16/16 21:31	1
4-Nitrotoluene	0.40	U	1.0	0.20	ug/L		11/04/16 20:12	11/16/16 21:31	1
HMX	0.20	U	0.40	0.088	ug/L		11/04/16 20:12	11/16/16 21:31	1
Nitrobenzene	0.20	U	0.40	0.091	ug/L		11/04/16 20:12	11/16/16 21:31	1
Nitroglycerin	2.0	U	3.0	0.92	ug/L		11/04/16 20:12	11/16/16 21:31	1
PETN	1.2	U	2.0	0.42	ug/L		11/04/16 20:12	11/16/16 21:31	1
RDX	0.0606	J	0.20	0.052	ug/L		11/04/16 20:12	11/16/16 21:31	1
Tetryl	0.20	U	0.24	0.079	ug/L		11/04/16 20:12	11/16/16 21:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*98*		*83 - 119*	*11/04/16 20:12*	*11/16/16 21:31*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC) (Continued)

Lab Sample ID: MB 280-349987/1-A
Matrix: Water
Analysis Batch: 352866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349987

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.335	J	1.0	0.20	ug/L		11/04/16 20:12	11/23/16 14:59	1
1,3-Dinitrobenzene	0.20	U	0.40	0.089	ug/L		11/04/16 20:12	11/23/16 14:59	1
2,4,6-Trinitrotoluene	0.20	U	0.40	0.072	ug/L		11/04/16 20:12	11/23/16 14:59	1
2,4-Dinitrotoluene	0.20	U	0.40	0.084	ug/L		11/04/16 20:12	11/23/16 14:59	1
2,6-Dinitrotoluene	0.241	M	0.20	0.065	ug/L		11/04/16 20:12	11/23/16 14:59	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.051	ug/L		11/04/16 20:12	11/23/16 14:59	1
2-Nitrotoluene	0.20	U	0.40	0.086	ug/L		11/04/16 20:12	11/23/16 14:59	1
3-Nitrotoluene	0.20	U M	0.40	0.083	ug/L		11/04/16 20:12	11/23/16 14:59	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.058	ug/L		11/04/16 20:12	11/23/16 14:59	1
4-Nitrotoluene	0.40	U	1.0	0.20	ug/L		11/04/16 20:12	11/23/16 14:59	1
HMX	0.20	U	0.40	0.088	ug/L		11/04/16 20:12	11/23/16 14:59	1
Nitrobenzene	0.20	U	0.40	0.091	ug/L		11/04/16 20:12	11/23/16 14:59	1
Nitroglycerin	2.0	U	3.0	0.92	ug/L		11/04/16 20:12	11/23/16 14:59	1
PETN	1.2	U	2.0	0.42	ug/L		11/04/16 20:12	11/23/16 14:59	1
RDX	0.12	U	0.20	0.052	ug/L		11/04/16 20:12	11/23/16 14:59	1
Tetryl	0.20	U	0.24	0.079	ug/L		11/04/16 20:12	11/23/16 14:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*99*		*83 - 119*	*11/04/16 20:12*	*11/23/16 14:59*	*1*

Lab Sample ID: LCS 280-349987/2-A
Matrix: Water
Analysis Batch: 351752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	2.00	1.82		ug/L		91	73 - 125
1,3-Dinitrobenzene	2.00	1.89		ug/L		95	78 - 120
2,4,6-Trinitrotoluene	2.00	1.99		ug/L		100	71 - 123
2,4-Dinitrotoluene	2.00	1.69		ug/L		85	78 - 120
2,6-Dinitrotoluene	2.00	1.70		ug/L		85	77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.57	Q	ug/L		78	79 - 120
2-Nitrotoluene	2.00	1.21	Q	ug/L		61	70 - 127
3-Nitrotoluene	2.00	1.25	Q	ug/L		62	73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.55		ug/L		77	76 - 125
4-Nitrotoluene	2.00	1.38	Q	ug/L		69	71 - 127
HMX	2.00	1.92		ug/L		96	65 - 135
Nitrobenzene	2.00	1.47		ug/L		73	65 - 134
Nitroglycerin	20.0	20.4		ug/L		102	74 - 127
PETN	20.0	20.4		ug/L		102	73 - 127
RDX	2.00	2.12		ug/L		106	68 - 130
Tetryl	2.00	1.80		ug/L		90	64 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dinitrobenzene	*95*		*83 - 119*

Method: 8330B - Nitroaromatics and Nitramines (HPLC) (Continued)

Lab Sample ID: LCS 280-349987/2-A
Matrix: Water
Analysis Batch: 352866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349987

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,3,5-Trinitrobenzene			2.00	2.08		ug/L		104	73 - 125		
1,3-Dinitrobenzene			2.00	1.87		ug/L		93	78 - 120		
2,4,6-Trinitrotoluene			2.00	2.33		ug/L		116	71 - 123		
2,4-Dinitrotoluene			2.00	1.74		ug/L		87	78 - 120		
2,6-Dinitrotoluene			2.00	1.64		ug/L		82	77 - 127		
2-Amino-4,6-dinitrotoluene			2.00	1.51	Q	ug/L		75	79 - 120		
2-Nitrotoluene			2.00	1.27	Q	ug/L		64	70 - 127		
3-Nitrotoluene			2.00	1.26	Q	ug/L		63	73 - 125		
4-Amino-2,6-dinitrotoluene			2.00	1.45	Q	ug/L		73	76 - 125		
4-Nitrotoluene			2.00	1.26	Q	ug/L		63	71 - 127		
HMX			2.00	1.87		ug/L		94	65 - 135		
Nitrobenzene			2.00	1.87		ug/L		94	65 - 134		
Nitroglycerin			20.0	20.0		ug/L		100	74 - 127		
PETN			20.0	21.1		ug/L		106	73 - 127		
RDX			2.00	2.03		ug/L		101	68 - 130		
Tetryl			2.00	1.79		ug/L		89	64 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dinitrobenzene	*107*		*83 - 119*

Lab Sample ID: LCSD 280-349987/3-A
Matrix: Water
Analysis Batch: 351752

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 349987

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trinitrobenzene			2.00	1.80		ug/L		90	73 - 125	1	20
1,3-Dinitrobenzene			2.00	1.98		ug/L		99	78 - 120	5	20
2,4,6-Trinitrotoluene			2.00	1.99		ug/L		99	71 - 123	0	20
2,4-Dinitrotoluene			2.00	1.86		ug/L		93	78 - 120	9	20
2,6-Dinitrotoluene			2.00	1.76		ug/L		88	77 - 127	3	20
2-Amino-4,6-dinitrotoluene			2.00	1.68		ug/L		84	79 - 120	7	20
2-Nitrotoluene			2.00	1.56	Q	ug/L		78	70 - 127	25	20
3-Nitrotoluene			2.00	1.62	Q	ug/L		81	73 - 125	26	20
4-Amino-2,6-dinitrotoluene			2.00	1.61		ug/L		80	76 - 125	4	20
4-Nitrotoluene			2.00	1.72	Q	ug/L		86	71 - 127	22	20
HMX			2.00	1.81		ug/L		91	65 - 135	6	20
Nitrobenzene			2.00	1.74		ug/L		87	65 - 134	17	20
Nitroglycerin			20.0	20.0		ug/L		100	74 - 127	2	20
PETN			20.0	19.3		ug/L		97	73 - 127	5	20
RDX			2.00	2.04		ug/L		102	68 - 130	4	20
Tetryl			2.00	1.66		ug/L		83	64 - 128	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dinitrobenzene	*97*		*83 - 119*

Method: 8330B - Nitroaromatics and Nitramines (HPLC) (Continued)

Lab Sample ID: LCSD 280-349987/3-A
Matrix: Water
Analysis Batch: 352866

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 349987

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trinitrobenzene			2.00	2.25		ug/L		113	73 - 125	8	20
1,3-Dinitrobenzene			2.00	1.95		ug/L		98	78 - 120	4	20
2,4,6-Trinitrotoluene			2.00	2.30		ug/L		115	71 - 123	1	20
2,4-Dinitrotoluene			2.00	1.98		ug/L		99	78 - 120	13	20
2,6-Dinitrotoluene			2.00	1.77		ug/L		88	77 - 127	8	20
2-Amino-4,6-dinitrotoluene			2.00	1.63		ug/L		81	79 - 120	8	20
2-Nitrotoluene			2.00	1.69	Q	ug/L		84	70 - 127	28	20
3-Nitrotoluene			2.00	1.70	Q	ug/L		85	73 - 125	29	20
4-Amino-2,6-dinitrotoluene			2.00	1.57		ug/L		78	76 - 125	7	20
4-Nitrotoluene			2.00	1.76	Q	ug/L		88	71 - 127	33	20
HMX			2.00	1.79		ug/L		90	65 - 135	4	20
Nitrobenzene			2.00	2.23		ug/L		111	65 - 134	17	20
Nitroglycerin			20.0	20.4		ug/L		102	74 - 127	2	20
PETN			20.0	20.3		ug/L		101	73 - 127	4	20
RDX			2.00	2.05		ug/L		102	68 - 130	1	20
Tetryl			2.00	1.67		ug/L		83	64 - 128	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dinitrobenzene	*104*		*83 - 119*

Method: 6860 - Perchlorate by IC/MS or IC/MS/MS

Lab Sample ID: MB 280-351565/44
Matrix: Water
Analysis Batch: 351565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.010	U	0.050	0.0040	ug/L			11/15/16 16:14	1

Lab Sample ID: DLCK 280-351565/12
Matrix: Water
Analysis Batch: 351565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	DLCK Result	DLCK Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			0.0500	0.0428	J M	ug/L		86	70 - 130		

Lab Sample ID: LCS 280-351565/45
Matrix: Water
Analysis Batch: 351565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			0.0500	0.0475	J M	ug/L		95	84 - 119		

Method: 6860 - Perchlorate by IC/MS or IC/MS/MS (Continued)

Lab Sample ID: INF 280-351565/46
Matrix: Water
Analysis Batch: 351565

Client Sample ID: Lab Control Sample

Analyte	Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0609		ug/L		122	70 - 130

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-350904/1-A
Matrix: Water
Analysis Batch: 351243

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350904

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/11/16 14:45	11/13/16 15:22	1
Calcium	140	U	1000	35	ug/L		11/11/16 14:45	11/13/16 15:22	1
Iron	85	U	100	22	ug/L		11/11/16 14:45	11/13/16 15:22	1
Magnesium	40	U	500	11	ug/L		11/11/16 14:45	11/13/16 15:22	1
Potassium	940	U	3000	240	ug/L		11/11/16 14:45	11/13/16 15:22	1
Sodium	350	U	5000	92	ug/L		11/11/16 14:45	11/13/16 15:22	1

Lab Sample ID: LCS 280-350904/2-A
Matrix: Water
Analysis Batch: 351243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1860		ug/L		93	86 - 115
Calcium	50000	51900		ug/L		104	87 - 113
Iron	1000	997		ug/L		100	87 - 115
Magnesium	50000	48600		ug/L		97	85 - 113
Potassium	50000	51300		ug/L		103	86 - 114
Sodium	50000	50500		ug/L		101	87 - 115

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-349785/1-A
Matrix: Water
Analysis Batch: 351011

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349785

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.0	U	6.0	0.40	ug/L		11/03/16 21:53	11/10/16 21:44	1
Arsenic	1.0	U	5.0	0.33	ug/L		11/03/16 21:53	11/10/16 21:44	1
Barium	0.95	U	3.0	0.29	ug/L		11/03/16 21:53	11/10/16 21:44	1
Beryllium	0.30	U	1.0	0.080	ug/L		11/03/16 21:53	11/10/16 21:44	1
Cadmium	1.0	U	1.0	0.27	ug/L		11/03/16 21:53	11/10/16 21:44	1
Chromium	1.12	J	10	0.50	ug/L		11/03/16 21:53	11/10/16 21:44	1
Cobalt	0.20	U	1.0	0.054	ug/L		11/03/16 21:53	11/10/16 21:44	1
Copper	1.8	U	2.0	0.56	ug/L		11/03/16 21:53	11/10/16 21:44	1
Lead	0.70	U	3.0	0.18	ug/L		11/03/16 21:53	11/10/16 21:44	1
Manganese	0.356	J Q	3.5	0.31	ug/L		11/03/16 21:53	11/10/16 21:44	1
Nickel	1.0	U	3.0	0.30	ug/L		11/03/16 21:53	11/10/16 21:44	1
Selenium	2.0	U	5.0	0.70	ug/L		11/03/16 21:53	11/10/16 21:44	1
Silver	0.10	U	5.0	0.033	ug/L		11/03/16 21:53	11/10/16 21:44	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 280-349785/1-A
Matrix: Water
Analysis Batch: 351011

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349785

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.20	U	1.0	0.050	ug/L		11/03/16 21:53	11/10/16 21:44	1
Vanadium	2.0	U	6.0	0.50	ug/L		11/03/16 21:53	11/10/16 21:44	1
Zinc	8.0	U	20	2.0	ug/L		11/03/16 21:53	11/10/16 21:44	1

Lab Sample ID: LCS 280-349785/2-A
Matrix: Water
Analysis Batch: 351011

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	37.5		ug/L		94	85 - 117
Arsenic	40.0	41.1		ug/L		103	84 - 116
Barium	40.0	38.7		ug/L		97	86 - 114
Beryllium	40.0	40.3		ug/L		101	83 - 121
Cadmium	40.0	38.7		ug/L		97	87 - 115
Chromium	40.0	41.6		ug/L		104	85 - 116
Cobalt	40.0	40.7		ug/L		102	86 - 115
Copper	40.0	39.4		ug/L		99	85 - 118
Lead	40.0	40.1		ug/L		100	88 - 115
Manganese	40.0	40.2	Q	ug/L		101	87 - 115
Nickel	40.0	41.2		ug/L		103	85 - 117
Selenium	40.0	38.6		ug/L		97	80 - 120
Silver	40.0	39.9		ug/L		100	85 - 116
Thallium	40.0	39.5		ug/L		99	82 - 116
Vanadium	40.0	40.1		ug/L		100	86 - 115
Zinc	40.0	41.5		ug/L		104	83 - 119

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-350470/1-A
Matrix: Water
Analysis Batch: 351251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350470

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/11/16 12:30	11/11/16 17:22	1

Lab Sample ID: LCS 280-350470/2-A
Matrix: Water
Analysis Batch: 351251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350470

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.36		ug/L		107	82 - 119

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 280-349415/10
Matrix: Water
Analysis Batch: 349415

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	4.0	U	20	4.0	ug/L			11/02/16 11:13	1

Lab Sample ID: LCS 280-349415/8
Matrix: Water
Analysis Batch: 349415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	100	92.2		ug/L		92	90 - 111

Lab Sample ID: LCSD 280-349415/9
Matrix: Water
Analysis Batch: 349415

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	100	90.7		ug/L		91	90 - 111	2	20

Method: 9012B - Cyanide, Total and/or Amenable

Lab Sample ID: MB 280-350982/4-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350982

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	5.29	J	10	2.0	ug/L		11/11/16 08:29	11/11/16 12:29	1

Lab Sample ID: HLCS 280-350982/1-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350982

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	400	408		ug/L		102	90 - 110

Lab Sample ID: LCS 280-350982/3-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	99.1		ug/L		99	83 - 116

Lab Sample ID: LLCS 280-350982/2-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350982

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	101		ug/L		101	44 - 167

Method: 9012B - Cyanide, Total and/or Amenable (Continued)

Lab Sample ID: MB 280-351026/4-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351026

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	5.0	U	10	2.0	ug/L		11/11/16 10:27	11/11/16 13:15	1

Lab Sample ID: HLCS 280-351026/1-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351026

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	400	415		ug/L		104	90 - 110

Lab Sample ID: LCS 280-351026/3-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	99.6		ug/L		100	83 - 116

Lab Sample ID: LLCS 280-351026/2-A
Matrix: Water
Analysis Batch: 351049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351026

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	101		ug/L		101	44 - 167

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 280-349505/2-A
Matrix: Water
Analysis Batch: 349511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349505

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	1900	U	4000	790	ug/L		11/02/16 16:30	11/02/16 16:50	1

Lab Sample ID: LCS 280-349505/1-A
Matrix: Water
Analysis Batch: 349511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19900	16000		ug/L		80	50 - 106

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-349376/6
Matrix: Water
Analysis Batch: 349376

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	100	U	500	42	ug/L			11/02/16 10:44	1
Nitrite as N	100	U	500	49	ug/L			11/02/16 10:44	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-349376/4
Matrix: Water
Analysis Batch: 349376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5000	5030		ug/L		101	88 - 111
Nitrite as N	5000	5250		ug/L		105	87 - 111

Lab Sample ID: LCSD 280-349376/5
Matrix: Water
Analysis Batch: 349376

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5000	5030		ug/L		101	88 - 111	0	10
Nitrite as N	5000	5260		ug/L		105	87 - 111	0	10

Lab Sample ID: MRL 280-349376/3
Matrix: Water
Analysis Batch: 349376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.200	0.205	J	mg/L		103	50 - 150
Nitrite as N	0.200	0.179	J	mg/L		90	50 - 150

Lab Sample ID: 280-90409-4 MS
Matrix: Water
Analysis Batch: 349376

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1300		5000	6350		ug/L		102	88 - 111
Nitrite as N	100	U	5000	5400		ug/L		108	87 - 111

Lab Sample ID: 280-90409-4 MSD
Matrix: Water
Analysis Batch: 349376

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1300		5000	6390		ug/L		102	88 - 111	1	10
Nitrite as N	100	U	5000	5440		ug/L		109	87 - 111	1	10

Lab Sample ID: 280-90409-4 DU
Matrix: Water
Analysis Batch: 349376

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	1300		1260		ug/L		0.06	10
Nitrite as N	100	U	100	U	ug/L		NC	10

Lab Sample ID: MB 280-349377/6
Matrix: Water
Analysis Batch: 349377

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	500	U	5000	230	ug/L			11/02/16 10:44	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-349377/4
Matrix: Water
Analysis Batch: 349377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100000	100000		ug/L		100	87 - 112

Lab Sample ID: LCSD 280-349377/5
Matrix: Water
Analysis Batch: 349377

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100000	99900		ug/L		100	87 - 112	0	10

Lab Sample ID: MRL 280-349377/3
Matrix: Water
Analysis Batch: 349377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.50	2.50	J	mg/L		100	50 - 150

Lab Sample ID: 280-90409-4 MS
Matrix: Water
Analysis Batch: 349377

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	33000		25000	58600		ug/L		102	87 - 112

Lab Sample ID: 280-90409-4 MSD
Matrix: Water
Analysis Batch: 349377

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	33000		25000	58800		ug/L		103	87 - 112	0	10

Lab Sample ID: 280-90409-4 DU
Matrix: Water
Analysis Batch: 349377

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	33000		33000		ug/L		0.05	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-351255/5
Matrix: Water
Analysis Batch: 351255

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	6.07		5.0	1.1	mg/L			11/13/16 14:41	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-351255/4
Matrix: Water
Analysis Batch: 351255

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			1000	984		mg/L		98	90 - 110		

Lab Sample ID: 280-90409-4 DU
Matrix: Water
Analysis Batch: 351255

Client Sample ID: FBQmw-175-110116-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	24	B		11.7	J	mg/L				67	10

GC/MS Semi VOA

Prep Batch: 350194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	3520C	
MB 280-350194/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-350194/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 280-350194/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 350444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	3520C	
MB 280-350444/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-350444/2-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 351071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	8270D	350194
MB 280-350194/1-A	Method Blank	Total/NA	Water	8270D	350194
LCS 280-350194/2-A	Lab Control Sample	Total/NA	Water	8270D	350194
LCSD 280-350194/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	350194

Analysis Batch: 351625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	8270D	350444
MB 280-350444/1-A	Method Blank	Total/NA	Water	8270D	350444
LCS 280-350444/2-A	Lab Control Sample	Total/NA	Water	8270D	350444

GC Semi VOA

Prep Batch: 350275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	3510C	
MB 280-350275/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-350275/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-350275/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 350443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	3510C	
MB 280-350443/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-350443/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 351504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	8082A	350275
MB 280-350275/1-A	Method Blank	Total/NA	Water	8082A	350275
LCS 280-350275/2-A	Lab Control Sample	Total/NA	Water	8082A	350275
LCSD 280-350275/3-A	Lab Control Sample Dup	Total/NA	Water	8082A	350275

Analysis Batch: 351983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	8082A	350443
MB 280-350443/1-A	Method Blank	Total/NA	Water	8082A	350443

GC Semi VOA (Continued)

Analysis Batch: 351983 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-350443/2-A	Lab Control Sample	Total/NA	Water	8082A	350443

HPLC/IC

Prep Batch: 349987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	3535	
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	3535	
MB 280-349987/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-349987/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 280-349987/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 351752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	8330B	349987
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	8330B	349987
MB 280-349987/1-A	Method Blank	Total/NA	Water	8330B	349987
LCS 280-349987/2-A	Lab Control Sample	Total/NA	Water	8330B	349987
LCSD 280-349987/3-A	Lab Control Sample Dup	Total/NA	Water	8330B	349987

Analysis Batch: 352866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	8330B	349987
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	8330B	349987
MB 280-349987/1-A	Method Blank	Total/NA	Water	8330B	349987
LCS 280-349987/2-A	Lab Control Sample	Total/NA	Water	8330B	349987
LCSD 280-349987/3-A	Lab Control Sample Dup	Total/NA	Water	8330B	349987

LCMS

Analysis Batch: 351565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	6860	
MB 280-351565/44	Method Blank	Total/NA	Water	6860	
DLCK 280-351565/12	Lab Control Sample	Total/NA	Water	6860	
INF 280-351565/46	Lab Control Sample		Water	6860	
LCS 280-351565/45	Lab Control Sample	Total/NA	Water	6860	

Metals

Prep Batch: 349785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	3020A	
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	3020A	
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	3020A	
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	3020A	
MB 280-349785/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-349785/2-A	Lab Control Sample	Total/NA	Water	3020A	

Metals (Continued)

Prep Batch: 350470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	7470A	
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	7470A	
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	7470A	
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	7470A	
MB 280-350470/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-350470/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 350904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	3010A	
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	3010A	
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	3010A	
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	3010A	
MB 280-350904/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-350904/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 351011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	6020A	349785
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	6020A	349785
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	6020A	349785
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	6020A	349785
MB 280-349785/1-A	Method Blank	Total/NA	Water	6020A	349785
LCS 280-349785/2-A	Lab Control Sample	Total/NA	Water	6020A	349785

Analysis Batch: 351243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	6010C	350904
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	6010C	350904
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	6010C	350904
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	6010C	350904
MB 280-350904/1-A	Method Blank	Total/NA	Water	6010C	350904
LCS 280-350904/2-A	Lab Control Sample	Total/NA	Water	6010C	350904

Analysis Batch: 351251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	7470A	350470
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	7470A	350470
280-90409-3	LL2mw-500-103116-GW	Total/NA	Water	7470A	350470
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	7470A	350470
MB 280-350470/1-A	Method Blank	Total/NA	Water	7470A	350470
LCS 280-350470/2-A	Lab Control Sample	Total/NA	Water	7470A	350470

Analysis Batch: 351276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	6020A	349785

General Chemistry

Analysis Batch: 349376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9056A	
MB 280-349376/6	Method Blank	Total/NA	Water	9056A	
LCS 280-349376/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-349376/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-349376/3	Lab Control Sample	Total/NA	Water	9056A	
280-90409-4 MS	FBQmw-175-110116-GW	Total/NA	Water	9056A	
280-90409-4 MSD	FBQmw-175-110116-GW	Total/NA	Water	9056A	
280-90409-4 DU	FBQmw-175-110116-GW	Total/NA	Water	9056A	

Analysis Batch: 349377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9056A	
MB 280-349377/6	Method Blank	Total/NA	Water	9056A	
LCS 280-349377/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-349377/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-349377/3	Lab Control Sample	Total/NA	Water	9056A	
280-90409-4 MS	FBQmw-175-110116-GW	Total/NA	Water	9056A	
280-90409-4 MSD	FBQmw-175-110116-GW	Total/NA	Water	9056A	
280-90409-4 DU	FBQmw-175-110116-GW	Total/NA	Water	9056A	

Analysis Batch: 349415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	7196A	
MB 280-349415/10	Method Blank	Total/NA	Water	7196A	
LCS 280-349415/8	Lab Control Sample	Total/NA	Water	7196A	
LCSD 280-349415/9	Lab Control Sample Dup	Total/NA	Water	7196A	

Prep Batch: 349505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9030B	
MB 280-349505/2-A	Method Blank	Total/NA	Water	9030B	
LCS 280-349505/1-A	Lab Control Sample	Total/NA	Water	9030B	

Analysis Batch: 349511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9034	349505
MB 280-349505/2-A	Method Blank	Total/NA	Water	9034	349505
LCS 280-349505/1-A	Lab Control Sample	Total/NA	Water	9034	349505

Prep Batch: 350982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	9012B	
MB 280-350982/4-A	Method Blank	Total/NA	Water	9012B	
HLCS 280-350982/1-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 280-350982/3-A	Lab Control Sample	Total/NA	Water	9012B	
LLCS 280-350982/2-A	Lab Control Sample	Total/NA	Water	9012B	

Prep Batch: 351026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	9012B	
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9012B	

General Chemistry (Continued)

Prep Batch: 351026 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-351026/4-A	Method Blank	Total/NA	Water	9012B	
HLCS 280-351026/1-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 280-351026/3-A	Lab Control Sample	Total/NA	Water	9012B	
LLCS 280-351026/2-A	Lab Control Sample	Total/NA	Water	9012B	

Analysis Batch: 351049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-1	LL2mw-271-110116-GW	Total/NA	Water	9012B	351026
280-90409-2	LL2mw-261-103116-GW	Total/NA	Water	9012B	350982
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	9012B	351026
MB 280-350982/4-A	Method Blank	Total/NA	Water	9012B	350982
MB 280-351026/4-A	Method Blank	Total/NA	Water	9012B	351026
HLCS 280-350982/1-A	Lab Control Sample	Total/NA	Water	9012B	350982
HLCS 280-351026/1-A	Lab Control Sample	Total/NA	Water	9012B	351026
LCS 280-350982/3-A	Lab Control Sample	Total/NA	Water	9012B	350982
LCS 280-351026/3-A	Lab Control Sample	Total/NA	Water	9012B	351026
LLCS 280-350982/2-A	Lab Control Sample	Total/NA	Water	9012B	350982
LLCS 280-351026/2-A	Lab Control Sample	Total/NA	Water	9012B	351026

Analysis Batch: 351255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90409-4	FBQmw-175-110116-GW	Total/NA	Water	SM 2320B	
MB 280-351255/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-351255/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-90409-4 DU	FBQmw-175-110116-GW	Total/NA	Water	SM 2320B	

Client Sample ID: LL2mw-271-110116-GW

Lab Sample ID: 280-90409-1

Date Collected: 11/01/16 10:13

Matrix: Water

Date Received: 11/02/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1034.5 mL	1 mL	350444	11/08/16 15:07	JDW	TAL DEN
Total/NA	Analysis	8270D		1			351625	11/16/16 00:43	DCK	TAL DEN
Total/NA	Prep	3510C			974.5 mL	1 mL	350443	11/08/16 13:24	KI	TAL DEN
Total/NA	Analysis	8082A		1			351983	11/18/16 01:23	TDJ	TAL DEN
Total/NA	Prep	3535			443 mL	5 mL	349987	11/04/16 20:12	CDC	TAL DEN
Total/NA	Analysis	8330B		1			352866	11/23/16 19:04	DMJ	TAL DEN
Total/NA	Prep	3535			443 mL	5 mL	349987	11/04/16 20:12	CDC	TAL DEN
Total/NA	Analysis	8330B		1			351752	11/17/16 02:08	DMJ	TAL DEN
Total/NA	Analysis	6860		1			351565	11/15/16 18:17	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	350904	11/11/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			351243	11/13/16 16:04	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	349785	11/03/16 21:53	SUR	TAL DEN
Total/NA	Analysis	6020A		1			351011	11/10/16 22:29	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	350470	11/11/16 12:30	CDH	TAL DEN
Total/NA	Analysis	7470A		1			351251	11/11/16 17:47	CDH	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	351026	11/11/16 10:27	JML	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	351049	11/11/16 13:40	JML	TAL DEN

Client Sample ID: LL2mw-261-103116-GW

Lab Sample ID: 280-90409-2

Date Collected: 10/31/16 14:40

Matrix: Water

Date Received: 11/02/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1009.6 mL	1 mL	350194	11/07/16 12:27	JDW	TAL DEN
Total/NA	Analysis	8270D		1			351071	11/12/16 06:40	AFH	TAL DEN
Total/NA	Prep	3510C			988.4 mL	1 mL	350275	11/07/16 22:14	BJA	TAL DEN
Total/NA	Analysis	8082A		1			351504	11/15/16 21:27	TDJ	TAL DEN
Total/NA	Prep	3535			449.8 mL	5 mL	349987	11/04/16 20:12	CDC	TAL DEN
Total/NA	Analysis	8330B		1			352866	11/23/16 19:39	DMJ	TAL DEN
Total/NA	Prep	3535			449.8 mL	5 mL	349987	11/04/16 20:12	CDC	TAL DEN
Total/NA	Analysis	8330B		1			351752	11/17/16 02:31	DMJ	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	350904	11/11/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			351243	11/13/16 16:07	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	349785	11/03/16 21:53	SUR	TAL DEN
Total/NA	Analysis	6020A		1			351011	11/10/16 22:33	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	350470	11/11/16 12:30	CDH	TAL DEN
Total/NA	Analysis	7470A		1			351251	11/11/16 17:49	CDH	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	350982	11/11/16 08:29	JML	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	351049	11/11/16 12:51	JML	TAL DEN

Lab Chronicle

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Client Sample ID: LL2mw-500-103116-GW

Lab Sample ID: 280-90409-3

Date Collected: 10/31/16 14:50

Matrix: Water

Date Received: 11/02/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	350904	11/11/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			351243	11/13/16 16:09	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	349785	11/03/16 21:53	SUR	TAL DEN
Total/NA	Analysis	6020A		1			351011	11/10/16 22:37	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	350470	11/11/16 12:30	CDH	TAL DEN
Total/NA	Analysis	7470A		1			351251	11/11/16 17:51	CDH	TAL DEN

Client Sample ID: FBQmw-175-110116-GW

Lab Sample ID: 280-90409-4

Date Collected: 11/01/16 16:12

Matrix: Water

Date Received: 11/02/16 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	350904	11/11/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			351243	11/13/16 16:12	CRR	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	349785	11/03/16 21:53	SUR	TAL DEN
Total/NA	Analysis	6020A		1			351011	11/10/16 22:41	LMT	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	349785	11/03/16 21:53	SUR	TAL DEN
Total/NA	Analysis	6020A		1			351276	11/11/16 18:50	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	350470	11/11/16 12:30	CDH	TAL DEN
Total/NA	Analysis	7470A		1			351251	11/11/16 17:53	CDH	TAL DEN
Total/NA	Analysis	7196A		2	10 mL	10 mL	349415	11/02/16 11:13	IEU	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	351026	11/11/16 10:27	JML	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	351049	11/11/16 13:42	JML	TAL DEN
Total/NA	Prep	9030B			50 mL	50 mL	349505	11/02/16 16:30	NJF	TAL DEN
Total/NA	Analysis	9034		1			349511	11/02/16 16:50	NJF	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	349376	11/02/16 13:01	AFB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	349377	11/02/16 13:01	AFB	TAL DEN
Total/NA	Analysis	SM 2320B		1			351255	11/13/16 14:49	MMC	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Certification Summary

Client: Cardno TEC, Inc
TestAmerica Job ID: 280-90409-1
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3020A	Water	Thallium

Method Summary

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL DEN
8330B	Nitroaromatics and Nitramines (HPLC)	EPA	TAL DEN
6860	Perchlorate by IC/MS or IC/MS/MS	EPA	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
7196A	Chromium, Hexavalent	SW846	TAL DEN
9012B	Cyanide, Total and/or Amenable	EPA	TAL DEN
9034	Sulfide, Acid Soluble and Insoluble (Titrimetric)	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Cardno TEC, Inc
Project/Site: Ravenna, OH, LL2/Fuze and Booster Quarry

TestAmerica Job ID: 280-90409-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-90409-1	LL2mw-271-110116-GW	Water	11/01/16 10:13	11/02/16 10:00
280-90409-2	LL2mw-261-103116-GW	Water	10/31/16 14:40	11/02/16 10:00
280-90409-3	LL2mw-500-103116-GW	Water	10/31/16 14:50	11/02/16 10:00
280-90409-4	FBQmw-175-110116-GW	Water	11/01/16 16:12	11/02/16 10:00

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SMS_D Analysis Batch Number: 350537

Lab Sample ID: ICIS 280-350537/3 Client Sample ID:

Date Analyzed: 11/09/16 07:22 Lab File ID: D18884.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 08:06

Lab Sample ID: STD004 280-350537/4 IC Client Sample ID:

Date Analyzed: 11/09/16 07:50 Lab File ID: D18885.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 08:17

Lab Sample ID: STD010 280-350537/5 IC Client Sample ID:

Date Analyzed: 11/09/16 08:19 Lab File ID: D18886.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 09:03

Lab Sample ID: STD020 280-350537/6 IC Client Sample ID:

Date Analyzed: 11/09/16 08:47 Lab File ID: D18887.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 09:41

Lab Sample ID: STD050 280-350537/7 IC Client Sample ID:

Date Analyzed: 11/09/16 09:15 Lab File ID: D18888.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 09:43

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SMS_D Analysis Batch Number: 350537

Lab Sample ID: STD120 280-350537/8 IC Client Sample ID:

Date Analyzed: 11/09/16 09:43 Lab File ID: D18889.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 10:55
Benzoic acid	5.69	Split Peak	kiekeld	11/09/16 10:55
Indeno[1,2,3-cd]pyrene	20.49	Shouldering	kiekeld	11/09/16 10:55

Lab Sample ID: STD160 280-350537/9 IC Client Sample ID:

Date Analyzed: 11/09/16 10:12 Lab File ID: D18890.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 11:10
Benzoic acid	5.71	Split Peak	kiekeld	11/09/16 11:10

Lab Sample ID: STD200 280-350537/10 IC Client Sample ID:

Date Analyzed: 11/09/16 10:40 Lab File ID: D18891.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 12:09
Benzoic acid	5.73	Split Peak	kiekeld	11/09/16 12:09
Indeno[1,2,3-cd]pyrene	20.51	Shouldering	kiekeld	11/09/16 12:09

Lab Sample ID: ICV 280-350537/11 Client Sample ID:

Date Analyzed: 11/09/16 11:09 Lab File ID: D18892.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.24	Baseline	kiekeld	11/09/16 12:14

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Analysis Batch Number: 345281

Lab Sample ID: STDL21248 280-345281/6 Client Sample ID:

Date Analyzed: 10/08/16 13:27 Lab File ID: 10081606.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 1	4.02	Baseline Smoothing	jacksonto	10/09/16 09:16
PCB-1248 Peak 2	4.38	Baseline Smoothing	jacksonto	10/09/16 09:16
PCB-1248 Peak 3	4.62	Baseline Smoothing	jacksonto	10/09/16 09:16
PCB-1248 Peak 4	5.12	Baseline Smoothing	jacksonto	10/09/16 09:16
PCB-1248 Peak 5	5.14	Baseline Smoothing	jacksonto	10/09/16 09:16

Lab Sample ID: STDL11248 280-345281/7 Client Sample ID:

Date Analyzed: 10/08/16 13:49 Lab File ID: 10081607.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 1	4.01	Baseline Smoothing	jacksonto	10/09/16 09:17
PCB-1248 Peak 2	4.38	Baseline Smoothing	jacksonto	10/09/16 09:17
PCB-1248 Peak 3	4.62	Baseline Smoothing	jacksonto	10/09/16 09:17
PCB-1248 Peak 4	5.12	Baseline Smoothing	jacksonto	10/09/16 09:17
PCB-1248 Peak 5	5.14	Baseline Smoothing	jacksonto	10/09/16 09:17

Lab Sample ID: STDL71660 280-345281/15 Client Sample ID:

Date Analyzed: 10/08/16 16:42 Lab File ID: 10081615.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.20	Baseline Smoothing	jacksonto	10/09/16 09:13
PCB-1016 Peak 2	3.55	Baseline Smoothing	jacksonto	10/09/16 09:13
PCB-1016 Peak 3	4.02	Baseline Smoothing	jacksonto	10/09/16 09:13
PCB-1016 Peak 4	4.16	Baseline Smoothing	jacksonto	10/09/16 09:13
PCB-1016 Peak 5	4.62	Baseline Smoothing	jacksonto	10/09/16 09:13

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Analysis Batch Number: 345281

Lab Sample ID: STDL61660 280-345281/16 Client Sample ID:

Date Analyzed: 10/08/16 17:04 Lab File ID: 10081616.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.19	Baseline Smoothing	jacksonto	10/09/16 09:12
PCB-1016 Peak 2	3.55	Baseline Smoothing	jacksonto	10/09/16 09:12
PCB-1016 Peak 3	4.02	Baseline Smoothing	jacksonto	10/09/16 09:12
PCB-1016 Peak 4	4.16	Baseline Smoothing	jacksonto	10/09/16 09:12
PCB-1016 Peak 5	4.62	Baseline Smoothing	jacksonto	10/09/16 09:12

Lab Sample ID: STDL23262 280-345281/27 Client Sample ID:

Date Analyzed: 10/08/16 21:02 Lab File ID: 10081627.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 1	3.20	Baseline Smoothing	jacksonto	10/09/16 09:14
PCB-1232 Peak 2	3.55	Baseline Smoothing	jacksonto	10/09/16 09:14
PCB-1232 Peak 3	4.02	Baseline Smoothing	jacksonto	10/09/16 09:14
PCB-1232 Peak 4	4.16	Baseline Smoothing	jacksonto	10/09/16 09:14
PCB-1232 Peak 5	4.62	Baseline Smoothing	jacksonto	10/09/16 09:14

Lab Sample ID: ICV 280-345281/38 Client Sample ID:

Date Analyzed: 10/09/16 01:00 Lab File ID: 10081638.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1260 Peak 1	6.11	Baseline Smoothing	jacksonto	10/09/16 09:24
PCB-1260 Peak 2	6.85	Baseline Smoothing	jacksonto	10/09/16 09:24
PCB-1260 Peak 3	7.34	Baseline Smoothing	jacksonto	10/09/16 09:24
PCB-1260 Peak 4	7.77	Baseline Smoothing	jacksonto	10/09/16 09:24
PCB-1260 Peak 5	8.16	Baseline Smoothing	jacksonto	10/09/16 09:24

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Analysis Batch Number: 351504

Lab Sample ID: LCSD 280-350275/3-A Client Sample ID:

Date Analyzed: 11/15/16 18:11 Lab File ID: 11151620.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1260 Peak 1	6.13	Sample matrix interference	jacksonto	11/16/16 06:37
PCB-1260 Peak 2	6.86	Sample matrix interference	jacksonto	11/16/16 06:37
PCB-1260 Peak 3	7.36	Sample matrix interference	jacksonto	11/16/16 06:37
PCB-1260 Peak 4	7.79	Sample matrix interference	jacksonto	11/16/16 06:37
PCB-1260 Peak 5	8.18	Sample matrix interference	jacksonto	11/16/16 06:37

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 352866

Lab Sample ID: MB 280-349987/1-A Client Sample ID:

Date Analyzed: 11/23/16 14:59 Lab File ID: 11231608.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3-Nitrotoluene	16.88	Baseline Smoothing	jonsrudd	11/24/16 18:30
2,6-Dinitrotoluene	18.94	Baseline Smoothing	jonsrudd	11/24/16 18:30

Lab Sample ID: 280-90409-1 Client Sample ID: LL2mw-271-110116-GW

Date Analyzed: 11/23/16 19:04 Lab File ID: 11231615.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Nitrotoluene	15.56	Baseline Smoothing	jonsrudd	11/24/16 18:43

Lab Sample ID: 280-90409-2 Client Sample ID: LL2mw-261-103116-GW

Date Analyzed: 11/23/16 19:39 Lab File ID: 11231616.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4,6-Trinitrotoluene	23.32	Baseline Smoothing	jonsrudd	11/24/16 18:45

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 348785

Lab Sample ID: IC 280-348785/17 Client Sample ID:

Date Analyzed: 10/28/16 20:21 Lab File ID: 070-1701.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Picric acid	8.19	Split Peak	freya	10/29/16 09:35
Nitroglycerin	11.07	Baseline Smoothing	freya	10/29/16 09:29
2-Amino-4,6-dinitrotoluene	12.01	Split Peak	freya	10/29/16 09:25
2,6-Dinitrotoluene	12.16	Split Peak	freya	10/29/16 09:25
PETN	15.46	Incomplete Integration	freya	10/29/16 09:25

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: LC_LCMS2 Analysis Batch Number: 351565

Lab Sample ID: STD020 280-351565/4 IC Client Sample ID:

Date Analyzed: 11/15/16 12:23 Lab File ID: IC216K15002.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.36	Baseline	fiedlerh	11/16/16 09:37

Lab Sample ID: STD050 280-351565/5 IC Client Sample ID:

Date Analyzed: 11/15/16 12:28 Lab File ID: IC216K15003.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.36	Baseline	fiedlerh	11/16/16 09:37

Lab Sample ID: ICV 280-351565/11 Client Sample ID:

Date Analyzed: 11/15/16 12:59 Lab File ID: IC216K15009.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.36	Baseline	fiedlerh	11/16/16 09:38

Lab Sample ID: DLCK 280-351565/12 Client Sample ID:

Date Analyzed: 11/15/16 13:04 Lab File ID: IC216K15010.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.36	Baseline	fiedlerh	11/16/16 09:39

Lab Sample ID: CCVL 280-351565/35 Client Sample ID:

Date Analyzed: 11/15/16 15:28 Lab File ID: IC216K15033.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.34	Baseline	fiedlerh	11/16/16 09:41

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: LC_LCMS2 Analysis Batch Number: 351565

Lab Sample ID: LCS 280-351565/45 Client Sample ID:

Date Analyzed: 11/15/16 16:19 Lab File ID: IC216K15043.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.31	Baseline	fiedlerh	11/16/16 09:45

Lab Sample ID: CCVL 280-351565/48 Client Sample ID:

Date Analyzed: 11/15/16 16:34 Lab File ID: IC216K15046.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.33	Baseline	fiedlerh	11/16/16 09:45

Lab Sample ID: CCVL 280-351565/61 Client Sample ID:

Date Analyzed: 11/15/16 17:40 Lab File ID: IC216K15059.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.36	Baseline	fiedlerh	11/16/16 09:48

Lab Sample ID: 280-90409-1 Client Sample ID: LL2mw-271-110116-GW

Date Analyzed: 11/15/16 18:17 Lab File ID: IC216K15066.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.41	Baseline	fiedlerh	11/16/16 09:50

Lab Sample ID: CCVL 280-351565/70 Client Sample ID:

Date Analyzed: 11/15/16 18:27 Lab File ID: IC216K15068.d GC Column: IonPac ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	2.31	Baseline	fiedlerh	11/16/16 09:51

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
6860-IS-Spike_00061	04/28/17	10/28/16	Di Water, Lot 126136	200 mL	6860-ISStock2_00015	2 mL	Perchlorate-18O	0.0204 ug/mL
.6860-ISStock2_00015	10/28/17	10/28/16	H2O, Lot 126536	10 mL	6860-ISStock1_00013	0.2 mL	Perchlorate-18O	2.04 ug/mL
..6860-ISStock1_00013	02/27/24		Cambridge, Lot SDDG-013		(Purchased Reagent)		Perchlorate-18O	102 ug/mL
6860CalStockW_00074	01/28/17	06/24/16	H2O, Lot 126136	100 mL	6860CalStock3_00019	1 mL	Perchlorate	0.001 ug/mL
.6860CalStock3_00019	01/28/17	08/16/16	H2O, Lot 143636	10 mL	6860CalStock2_00016	0.1 mL	Perchlorate	0.1 ug/mL
..6860CalStock2_00016	01/28/17	01/28/16	H2O, Lot 122050	10 mL	6860StockClO4_00010	0.1 mL	Perchlorate	10 ug/mL
...6860StockClO4_00010	02/03/17		Accustandard, Lot 215015113		(Purchased Reagent)		Perchlorate	1000 ug/mL
6860ICVStockW_00030	01/15/17	03/22/16	H2O, Lot 126136	50 mL	6860ICVStock3_00023	0.5 mL	Perchlorate	0.001 ug/mL
.6860ICVStock3_00023	01/15/17	01/17/16	H2O, Lot 102050	10 mL	6860ICVStock2_00015	0.1 mL	Perchlorate	0.1 ug/mL
..6860ICVStock2_00015	01/15/17	01/15/16	H2O, Lot 122050	10 mL	6860ICVStock1_00007	0.1 mL	Perchlorate	10 ug/mL
...6860ICVStock1_00007	05/27/18		Absolute Standards, Lot 052715		(Purchased Reagent)		Perchlorate	1000 ug/mL
6860LCSspkH2O_00031	01/15/17	11/10/16	H2O, Lot 126136	10 mL	6860ICVStock3_00023	0.5 mL	Perchlorate	0.005 ug/mL
.6860ICVStock3_00023	01/15/17	01/17/16	H2O, Lot 102050	10 mL	6860ICVStock2_00015	0.1 mL	Perchlorate	0.1 ug/mL
..6860ICVStock2_00015	01/15/17	01/15/16	H2O, Lot 122050	10 mL	6860ICVStock1_00007	0.1 mL	Perchlorate	10 ug/mL
...6860ICVStock1_00007	05/27/18		Absolute Standards, Lot 052715		(Purchased Reagent)		Perchlorate	1000 ug/mL
8081/82 Surr_00089	04/16/17	10/16/16	ACETONE, Lot Acetone_00161	1000 mL	AR_SURR_RES_00053	1 mL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene (Surr)	0.2 ug/mL
.AR_SURR_RES_00053	10/16/17		RESTEK, Lot A0117947		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
8082 LCS_00044	07/07/17	07/07/16	ACETONE, Lot Acetone_000151	500 mL	8082LCSSTOCK_00032	1 mL	PCB-1016	2 ug/mL
							PCB-1260	2 ug/mL
.8082LCSSTOCK_00032	06/30/21		RESTEK, Lot A0109664		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
8270_LCS_Main_00036	04/30/17	08/23/16	P&T Methanol, Lot MethanolP&T_00145	500 mL	570666_00030	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00031	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00032	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00034	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00035	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					MS-569731_00037	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00038	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00040	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00041	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-570666_00003	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					MS-570666_00004	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					MS-570666_00005	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.15 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
.570666_00030	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00031	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00032	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00034	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00035	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-569731_00037	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00038	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00040	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00041	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-570666_00003	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-570666_00004	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-570666_00005	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
8270_LCS_Main_00039	04/30/17	08/23/16	P&T Methanol, Lot MethanolP&T_00145	250 mL	570666_00025	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00026	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00027	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					570666_00033	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					MS-569731_00042	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00043	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
.570666_00025	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00026	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00027	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.570666_00033	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-569731_00042	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00043	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
8270_LCS_Supp_00194	11/08/16	11/01/16	P&T Methanol, Lot MethanolP&T_00152	50 mL	MS-569730_00060	2 mL	3,3'-Dichlorobenzidine	80 ug/mL
							Benzidine	80 ug/mL
					MS-569732_00053	2 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
.MS-569730_00060	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
.MS-569732_00053	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
8270_LCS_Supp_00195	11/14/16	11/07/16	P&T Methanol, Lot MethanolP&T_00152	50 mL	MS-569730_00051	2 mL	3,3'-Dichlorobenzidine	80 ug/mL
							Benzidine	80 ug/mL
					MS-569732_00063	2 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
.MS-569730_00051	01/31/17		Restek, Lot A0112567		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzidine	2000 ug/mL
.MS-569732_00063	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
8270Surrogate_00100	10/24/17	10/24/16	ACETONE, Lot Acetone_000163	1000 mL	8270SurStkHL_00185	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
					8270SurStkHL_00186	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
					8270SurStkHL_00187	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
					8270SurStkHL_00188	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
.8270SurStkHL_00185	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
.8270SurStkHL_00186	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
.8270SurStkHL_00187	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
.8270SurStkHL_00188	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
8330 LCS_00071	02/16/17	08/16/16	Acetonitrile, Lot ACN_00192	100 mL	8330 LCSMix2_00091	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00046	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00048	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00042	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00050	1 mL	PETN	100 ug/mL
					8330LCSMix1_00089	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
.8330 LCSMix2_00091	08/31/20		Restek, Lot A0113065		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00046	07/31/19		Restek, Lot A0120172		(Purchased Reagent)		Nitroglycerin	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8330_NG_Stk_00048	07/31/19		Restek, Lot A0120172		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00042	06/30/19		Restek, Lot A0120082		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00050	06/30/19		Restek, Lot A0120082		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00089	08/31/20		Restek, Lot A094176		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00072	03/02/17	09/14/16	Acetonitrile, Lot ACN_00182	100 mL	8330 LCSMix2_00088	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00032	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00033	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00037	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00038	1 mL	PETN	100 ug/mL
					8330LCSMix1_00090	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
					8330MNXStckPS_00014	0.95 mL	MNX	10.0532 ug/mL
					PicricARestek_00074	1 mL	2,4,6-Trinitrophenol	10 ug/mL
.8330 LCSMix2_00088	03/31/17		Restek, Lot A087152		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00032	07/03/18		Restek, Lot A0112817		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00033	07/03/18		Restek, Lot A0112817		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00037	08/31/18		Restek, Lot A0113079		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00038	08/31/18		Restek, Lot A0113079		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00090	08/31/20		Restek, Lot A094176		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							RDX	1000 ug/mL
.8330MNXStckPS_00014	03/02/17	03/04/16	Acetonitrile, Lot ACN_00178	10 mL	8330MNXNeatPS_00014	10.7 mg	MNX	1058.23 ug/mL
..8330MNXNeatPS_00014	03/03/17	SRI International, Lot 05282007			(Purchased Reagent)		MNX	98.9 %
.PicricARestek_00074	09/27/19	Restek, Lot A0105913			(Purchased Reagent)		2,4,6-Trinitrophenol	1000 ug/mL
8330IntermStk_00041	03/02/17	09/21/16	Acetonitrile, Lot ACN_00178	5 mL	8330ICALStock_00022	1 mL	1,3,5-Trinitrobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							2,4,6-Trinitrotoluene	20 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Amino-4,6-dinitrotoluene	20 ug/mL
							2-Nitrotoluene	20 ug/mL
							3-Nitrotoluene	20 ug/mL
							4-Amino-2,6-dinitrotoluene	20 ug/mL
							4-Nitrotoluene	20 ug/mL
							HMX	20 ug/mL
							Nitrobenzene	20 ug/mL
							RDX	20 ug/mL
							Tetryl	20 ug/mL
							1,2-Dinitrobenzene	20 ug/mL
					8330NG_PS_00011	1 mL	Nitroglycerin	200 ug/mL
					8330PAStkPS_00041	1 mL	2,4,6-Trinitrophenol	20 ug/mL
					8330PETN_PS_00011	1 mL	PETN	200 ug/mL
.8330ICALStock_00022	03/02/17	05/11/16	Acetonitrile, Lot ACN_00178	10 mL	8330 Stock_TS_00005	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							2,4,6-Trinitrotoluene	100 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Amino-4,6-dinitrotoluene	100 ug/mL
							2-Nitrotoluene	100 ug/mL
							3-Nitrotoluene	100 ug/mL
							4-Amino-2,6-dinitrotoluene	100 ug/mL
							4-Nitrotoluene	100 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL
					8330SurrStock_00159	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00005	04/30/18	Ultra Scientific, Lot CM-1321			(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock_00159	08/15/24		AccuStandard, Lot 214081391		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330NG_PS_00011	12/03/17		Accustandard, Lot 215121015		(Purchased Reagent)		Nitroglycerin	1000 ug/mL
.8330PAStkPS_00041	12/01/17		AccuStandard, Lot 214121302		(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL
.8330PETN_PS_00011	06/16/17		Accustandard, Lot 215061294		(Purchased Reagent)		PETN	1000 ug/mL
8330Surrogate_00089	12/07/16	06/07/16	Acetonitrile, Lot ACN_00182	500 mL	8330SurrStkSS_00095	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00096	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00097	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00099	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00100	1 mL	1,2-Dinitrobenzene	10 ug/mL
.8330SurrStkSS_00095	11/30/19		Restek, Lot A0107162		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00096	11/30/19		Restek, Lot A0107162		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00097	11/30/19		Restek, Lot A0107162		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00099	03/27/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00100	03/27/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
8330Surrogate_00090	03/14/17	09/14/16	Acetonitrile, Lot ACN_00193	500 mL	8330SurrStkSS_00101	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00102	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00109	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00111	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00113	1 mL	1,2-Dinitrobenzene	10 ug/mL
.8330SurrStkSS_00101	03/27/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00102	03/27/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00109	08/31/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00111	08/31/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00113	08/31/20		Restek, Lot A0109837		(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
Alk high lcs_00161	11/20/16	11/13/16	Di Water, Lot na	250 mL	Alk stk std_00011	5 mL	Alkalinity	1000 mg/L
.Alk stk std_00011	08/31/17		Fischer, Lot 152782		(Purchased Reagent)		Alkalinity	50 g/L
AR_1248_ICV_00009	11/10/16	05/10/16	Hexane, Lot 116331	100 mL	AR_1248_RESss_00006	25 uL	PCB-1248	250 ng/mL
.AR_1248_RESss_00006	04/27/17		RESTEK, Lot A0107321		(Purchased Reagent)		PCB-1248	1000 ug/mL
AR_1248_L1_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	0.25 mL	PCB-1248 Peak 1	0.025 ug/mL
							PCB-1248 Peak 2	0.025 ug/mL
							PCB-1248 Peak 3	0.025 ug/mL
							PCB-1248 Peak 4	0.025 ug/mL
							PCB-1248 Peak 5	0.025 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L2_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	0.5 mL	PCB-1248 Peak 1	0.05 ug/mL
							PCB-1248 Peak 2	0.05 ug/mL
							PCB-1248 Peak 3	0.05 ug/mL
							PCB-1248 Peak 4	0.05 ug/mL
							PCB-1248 Peak 5	0.05 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L3_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	1 mL	PCB-1248 Peak 1	0.1 ug/mL
							PCB-1248 Peak 2	0.1 ug/mL
							PCB-1248 Peak 3	0.1 ug/mL
							PCB-1248 Peak 4	0.1 ug/mL
							PCB-1248 Peak 5	0.1 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L4_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	2.5 mL	PCB-1248 Peak 1	0.25 ug/mL
							PCB-1248 Peak 2	0.25 ug/mL
							PCB-1248 Peak 3	0.25 ug/mL
							PCB-1248 Peak 4	0.25 ug/mL
							PCB-1248 Peak 5	0.25 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L5_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	5 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L6_00014	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_1248_L7_00012	7.5 mL	PCB-1248 Peak 1	0.75 ug/mL
							PCB-1248 Peak 2	0.75 ug/mL
							PCB-1248 Peak 3	0.75 ug/mL
							PCB-1248 Peak 4	0.75 ug/mL
							PCB-1248 Peak 5	0.75 ug/mL
.AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1248_RES_00007	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
.AR_1248_RES_00007	04/27/17		RESTEK, Lot A01110957		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1660_ICV_00009	10/27/16	05/10/16	Hexane, Lot 116331	100 mL	AR_1660_RESss_00006	25 uL	PCB-1016	250 ng/mL
							PCB-1260	250 ng/mL
					AR_SURR_RES_00032	6.25 uL	DCB Decachlorobiphenyl (Surr)	12.5 ng/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene (Surr)	12.5 ng/mL
.AR_1660_RESss_00006	04/27/17		RESTEK, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
.AR_SURR_RES_00032	10/27/16		RESTEK, Lot A0108779		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L1_00026	10/27/16	04/27/16	hexane, Lot 116331	10 mL	AR_1660_L7_00020	0.25 mL	PCB-1016 Peak 1	0.025 ug/mL
							PCB-1016 Peak 2	0.025 ug/mL
							PCB-1016 Peak 3	0.025 ug/mL
							PCB-1016 Peak 4	0.025 ug/mL
							PCB-1016 Peak 5	0.025 ug/mL
							PCB-1260 Peak 1	0.025 ug/mL
							PCB-1260 Peak 2	0.025 ug/mL
							PCB-1260 Peak 3	0.025 ug/mL
							PCB-1260 Peak 4	0.025 ug/mL
							PCB-1260 Peak 5	0.025 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.00125 ug/mL
							Tetrachloro-m-xylene (Surr)	0.00125 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L2_00025	10/27/16	04/27/16	hexane, Lot 116331	10 mL	AR_1660_L7_00020	0.5 mL	PCB-1016 Peak 1	0.05 ug/mL
							PCB-1016 Peak 2	0.05 ug/mL
							PCB-1016 Peak 3	0.05 ug/mL
							PCB-1016 Peak 4	0.05 ug/mL
							PCB-1016 Peak 5	0.05 ug/mL
							PCB-1260 Peak 1	0.05 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 2	0.05 ug/mL
							PCB-1260 Peak 3	0.05 ug/mL
							PCB-1260 Peak 4	0.05 ug/mL
							PCB-1260 Peak 5	0.05 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0025 ug/mL
							Tetrachloro-m-xylene (Surr)	0.0025 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L3_00026	10/27/16	04/27/16	hexane, Lot 116331	10 mL	AR_1660_L7_00020	1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene (Surr)	0.005 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L4_00063	10/27/16	04/27/16	hexane, Lot 116331	10 mL	AR_1660_L7_00020	2.5 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0125 ug/mL
							Tetrachloro-m-xylene (Surr)	0.0125 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L5_00060	10/27/16	04/27/16	hexane, Lot 116131	25 mL	AR_1660_L7_00020	12.5 mL	PCB-1016 Peak 1	0.5 ug/mL
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene (Surr)	0.025 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L5_00061	04/28/17	10/28/16	hexane, Lot 135581	25 mL	AR_1660_L7_00021	12.5 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene (Surr)	0.025 ug/mL
.AR_1660_L7_00021	04/28/17	10/28/16	Hexane, Lot 135581	100 mL	AR_1016_RES_00009	100 uL	PCB-1016	1 ug/mL
					AR_1260_RES_00011	100 uL	PCB-1260	1 ug/mL
					AR_SURR_RES_00055	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00009	10/28/17		RESTEK, Lot A0117379		(Purchased Reagent)		PCB-1016	1000 ug/mL
..AR_1260_RES_00011	10/28/17		RESTEK, Lot A0116299		(Purchased Reagent)		PCB-1260	1000 ug/mL
..AR_SURR_RES_00055	10/28/17		RESTEK, Lot A0117949		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L6_00027	10/27/16	04/27/16	hexane, Lot 116331	10 mL	AR_1660_L7_00020	7.5 mL	PCB-1016 Peak 1	0.75 ug/mL
							PCB-1016 Peak 2	0.75 ug/mL
							PCB-1016 Peak 3	0.75 ug/mL
							PCB-1016 Peak 4	0.75 ug/mL
							PCB-1016 Peak 5	0.75 ug/mL
							PCB-1260 Peak 1	0.75 ug/mL
							PCB-1260 Peak 2	0.75 ug/mL
							PCB-1260 Peak 3	0.75 ug/mL
							PCB-1260 Peak 4	0.75 ug/mL
							PCB-1260 Peak 5	0.75 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0375 ug/mL
							Tetrachloro-m-xylene (Surr)	0.0375 ug/mL
.AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
..AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
..AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_1660_L7_00020	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1016_RES_00008	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
					AR_1260_RES_00010	100 uL	PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00049	25 uL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene (Surr)	0.05 ug/mL
.AR_1016_RES_00008	04/27/17		RESTEK, Lot A0112461		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
.AR_1260_RES_00010	04/27/17		RESTEK, Lot A0113625		(Purchased Reagent)		PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
.AR_SURR_RES_00049	04/27/17		RESTEK, Lot A0115723		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene (Surr)	200 ug/mL
AR_2154_ICV_00009	11/10/16	05/10/16	Hexane, Lot 116331	100 mL	AR_1221_RESss_00006	25 uL	PCB-1221	250 ng/mL
					AR_1254_RESss_00006	25 uL	PCB-1254	250 ng/mL
.AR_1221_RESss_00006	04/27/17		RESTEK, Lot A094157		(Purchased Reagent)		PCB-1221	1000 ug/mL
.AR_1254_RESss_00006	04/27/17		RESTEK, Lot A0105373		(Purchased Reagent)		PCB-1254	1000 ug/mL
AR_2154_L1_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	0.25 mL	PCB-1221 Peak 1	0.025 ug/mL
							PCB-1221 Peak 2	0.025 ug/mL
							PCB-1221 Peak 3	0.025 ug/mL
							PCB-1254 Peak 1	0.025 ug/mL
							PCB-1254 Peak 2	0.025 ug/mL
							PCB-1254 Peak 3	0.025 ug/mL
							PCB-1254 Peak 4	0.025 ug/mL
							PCB-1254 Peak 5	0.025 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L2_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	0.5 mL	PCB-1221 Peak 1	0.05 ug/mL
							PCB-1221 Peak 2	0.05 ug/mL
							PCB-1221 Peak 3	0.05 ug/mL
							PCB-1254 Peak 1	0.05 ug/mL
							PCB-1254 Peak 2	0.05 ug/mL
							PCB-1254 Peak 3	0.05 ug/mL
							PCB-1254 Peak 4	0.05 ug/mL
							PCB-1254 Peak 5	0.05 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L3_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	1 mL	PCB-1221 Peak 1	0.1 ug/mL
							PCB-1221 Peak 2	0.1 ug/mL
							PCB-1221 Peak 3	0.1 ug/mL
							PCB-1254 Peak 1	0.1 ug/mL
							PCB-1254 Peak 2	0.1 ug/mL
							PCB-1254 Peak 3	0.1 ug/mL
							PCB-1254 Peak 4	0.1 ug/mL
							PCB-1254 Peak 5	0.1 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L4_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	2.5 mL	PCB-1221 Peak 1	0.25 ug/mL
							PCB-1221 Peak 2	0.25 ug/mL
							PCB-1221 Peak 3	0.25 ug/mL
							PCB-1254 Peak 1	0.25 ug/mL
							PCB-1254 Peak 2	0.25 ug/mL
							PCB-1254 Peak 3	0.25 ug/mL
							PCB-1254 Peak 4	0.25 ug/mL
							PCB-1254 Peak 5	0.25 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L5_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	5 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L6_00014	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_2154_L7_00012	7.5 mL	PCB-1221 Peak 1	0.75 ug/mL
							PCB-1221 Peak 2	0.75 ug/mL
							PCB-1221 Peak 3	0.75 ug/mL
							PCB-1254 Peak 1	0.75 ug/mL
							PCB-1254 Peak 2	0.75 ug/mL
							PCB-1254 Peak 3	0.75 ug/mL
							PCB-1254 Peak 4	0.75 ug/mL
							PCB-1254 Peak 5	0.75 ug/mL
.AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
..AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1221_RES_00007	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
					AR_1254_RES_00007	100 uL	PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
.AR_1221_RES_00007	04/27/17		RESTEK, Lot A0110245		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
.AR_1254_RES_00007	04/27/17		RESTEK, Lot A0112456		(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_3262_ICV_00009	11/10/16	05/10/16	Hexane, Lot 116331	100 mL	AR_1232_RESss_00006	25 uL	PCB-1232	250 ng/mL
.AR_1232_RESss_00006	04/27/17		RESTEK, Lot A095877		(Purchased Reagent)		PCB-1232	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR_3262_L1_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	0.25 mL	PCB-1232 Peak 1	0.025 ug/mL
							PCB-1232 Peak 2	0.025 ug/mL
							PCB-1232 Peak 3	0.025 ug/mL
							PCB-1232 Peak 4	0.025 ug/mL
							PCB-1232 Peak 5	0.025 ug/mL
							PCB-1262 Peak 1	0.025 ug/mL
							PCB-1262 Peak 2	0.025 ug/mL
							PCB-1262 Peak 3	0.025 ug/mL
							PCB-1262 Peak 4	0.025 ug/mL
							PCB-1262 Peak 5	0.025 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L2_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	0.5 mL	PCB-1232 Peak 1	0.05 ug/mL
							PCB-1232 Peak 2	0.05 ug/mL
							PCB-1232 Peak 3	0.05 ug/mL
							PCB-1232 Peak 4	0.05 ug/mL
							PCB-1232 Peak 5	0.05 ug/mL
							PCB-1262 Peak 1	0.05 ug/mL
							PCB-1262 Peak 2	0.05 ug/mL
							PCB-1262 Peak 3	0.05 ug/mL
							PCB-1262 Peak 4	0.05 ug/mL
							PCB-1262 Peak 5	0.05 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L3_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	1 mL	PCB-1232 Peak 1	0.1 ug/mL
							PCB-1232 Peak 2	0.1 ug/mL
							PCB-1232 Peak 3	0.1 ug/mL
							PCB-1232 Peak 4	0.1 ug/mL
							PCB-1232 Peak 5	0.1 ug/mL
							PCB-1262 Peak 1	0.1 ug/mL
							PCB-1262 Peak 2	0.1 ug/mL
							PCB-1262 Peak 3	0.1 ug/mL
							PCB-1262 Peak 4	0.1 ug/mL
							PCB-1262 Peak 5	0.1 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L4_00017	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	2.5 mL	PCB-1232 Peak 1	0.25 ug/mL
							PCB-1232 Peak 2	0.25 ug/mL
							PCB-1232 Peak 3	0.25 ug/mL
							PCB-1232 Peak 4	0.25 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1232 Peak 5	0.25 ug/mL
							PCB-1262 Peak 1	0.25 ug/mL
							PCB-1262 Peak 2	0.25 ug/mL
							PCB-1262 Peak 3	0.25 ug/mL
							PCB-1262 Peak 4	0.25 ug/mL
							PCB-1262 Peak 5	0.25 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L5_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	5 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L6_00014	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_3262_L7_00012	7.5 mL	PCB-1232 Peak 1	0.75 ug/mL
							PCB-1232 Peak 2	0.75 ug/mL
							PCB-1232 Peak 3	0.75 ug/mL
							PCB-1232 Peak 4	0.75 ug/mL
							PCB-1232 Peak 5	0.75 ug/mL
							PCB-1262 Peak 1	0.75 ug/mL
							PCB-1262 Peak 2	0.75 ug/mL
							PCB-1262 Peak 3	0.75 ug/mL
							PCB-1262 Peak 4	0.75 ug/mL
							PCB-1262 Peak 5	0.75 ug/mL
.AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
..AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L7_00012	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1232_RES_00008	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
					AR_1262_RES_00008	100 uL	PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
.AR_1232_RES_00008	04/27/17		RESTEK, Lot A0107138		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
.AR_1262_RES_00008	04/27/17		RESTEK, Lot A0113548		(Purchased Reagent)		PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_4268_ICV_00009	11/10/16	05/10/16	Hexane, Lot 116331	100 mL	AR_1242_RESss_00006	25 uL	PCB-1242	250 ng/mL
.AR_1242_RESss_00006	04/27/17		RESTEK, Lot A0105175		(Purchased Reagent)		PCB-1242	1000 ug/mL
AR_4268_L1_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	0.25 mL	PCB-1242 Peak 1	0.025 ug/mL
							PCB-1242 Peak 2	0.025 ug/mL
							PCB-1242 Peak 3	0.025 ug/mL
							PCB-1242 Peak 4	0.025 ug/mL
							PCB-1242 Peak 5	0.025 ug/mL
							PCB-1268 Peak 1	0.025 ug/mL
							PCB-1268 Peak 2	0.025 ug/mL
							PCB-1268 Peak 3	0.025 ug/mL
							PCB-1268 Peak 4	0.025 ug/mL
							PCB-1268 Peak 5	0.025 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L2_00015	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	0.5 mL	PCB-1242 Peak 1	0.05 ug/mL
							PCB-1242 Peak 2	0.05 ug/mL
							PCB-1242 Peak 3	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 4	0.05 ug/mL
							PCB-1242 Peak 5	0.05 ug/mL
							PCB-1268 Peak 1	0.05 ug/mL
							PCB-1268 Peak 2	0.05 ug/mL
							PCB-1268 Peak 3	0.05 ug/mL
							PCB-1268 Peak 4	0.05 ug/mL
							PCB-1268 Peak 5	0.05 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L3_00015	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	1 mL	PCB-1242 Peak 1	0.1 ug/mL
							PCB-1242 Peak 2	0.1 ug/mL
							PCB-1242 Peak 3	0.1 ug/mL
							PCB-1242 Peak 4	0.1 ug/mL
							PCB-1242 Peak 5	0.1 ug/mL
							PCB-1268 Peak 1	0.1 ug/mL
							PCB-1268 Peak 2	0.1 ug/mL
							PCB-1268 Peak 3	0.1 ug/mL
							PCB-1268 Peak 4	0.1 ug/mL
							PCB-1268 Peak 5	0.1 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L4_00018	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	2.5 mL	PCB-1242 Peak 1	0.25 ug/mL
							PCB-1242 Peak 2	0.25 ug/mL
							PCB-1242 Peak 3	0.25 ug/mL
							PCB-1242 Peak 4	0.25 ug/mL
							PCB-1242 Peak 5	0.25 ug/mL
							PCB-1268 Peak 1	0.25 ug/mL
							PCB-1268 Peak 2	0.25 ug/mL
							PCB-1268 Peak 3	0.25 ug/mL
							PCB-1268 Peak 4	0.25 ug/mL
							PCB-1268 Peak 5	0.25 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L5_00016	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	5 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
							PCB-1268 Peak 5	0.5 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L6_00013	10/27/16	04/27/16	Hexane, Lot 116331	10 mL	AR_4268_L7_00011	7.5 mL	PCB-1242 Peak 1	0.75 ug/mL
							PCB-1242 Peak 2	0.75 ug/mL
							PCB-1242 Peak 3	0.75 ug/mL
							PCB-1242 Peak 4	0.75 ug/mL
							PCB-1242 Peak 5	0.75 ug/mL
							PCB-1268 Peak 1	0.75 ug/mL
							PCB-1268 Peak 2	0.75 ug/mL
							PCB-1268 Peak 3	0.75 ug/mL
							PCB-1268 Peak 4	0.75 ug/mL
							PCB-1268 Peak 5	0.75 ug/mL
.AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 5	1000 ug/mL
..AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L7_00011	10/27/16	04/27/16	Hexane, Lot 116331	100 mL	AR_1242_RES_00007	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
					AR_1268_RES_00007	100 uL	PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
.AR_1242_RES_00007	04/27/17		RESTEK, Lot A0112462		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
.AR_1268_RES_00007	04/27/17		RESTEK, Lot A0110266		(Purchased Reagent)		PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
BNB IS_00008	02/18/17	08/18/16	Hexane, Lot 116331	100 mL	BNB 10000ppb_00004	10 mL	1-Bromo-2-nitrobenzene	1000 ng/mL
.BNB 10000ppb_00004	02/18/17	08/18/16	Hexane, Lot 110063	100 mL	BNB stock_00006	1 mL	1-Bromo-2-nitrobenzene	10000 ng/mL
..BNB stock_00006	08/18/17		Restek, Lot A0110081		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
CN 10ppm_00228	11/16/16	11/09/16	2% NaOH, Lot 1% NaOH_00078	100 mg/L	CN CAL Std_00052	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	10 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN CAL Std_00052	03/31/17		Ricca, Lot 2609C92		(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	1000 mg/L
							Cyanide, Total	1000 mg/L
							Cyanide, Weak Acid Dissociable	1000 mg/L
CN CAL 1 ppm_01176	11/12/16	11/11/16	1% NaOH, Lot N/A	100 mL	CN 10ppm_00228	10 mL	Cyanide, Total	1 mg/L
.CN 10ppm_00228	11/16/16	11/09/16	2% NaOH, Lot 1% NaOH 00078	100 mg/L	CN CAL Std_00052	1 mL	Cyanide, Total	10 mg/L
..CN CAL Std_00052	03/31/17		Ricca, Lot 2609C92		(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Daily_00940	11/12/16	11/11/16	1% HNO3, Lot N/A	100 mL	CN ICV Int_00407	1 mL	Cyanide, Total	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.CN ICV Int_00407	11/16/16	11/09/16	1% NaOH, Lot 1% NaOH_00078	100 mL	CN ICV Std_00038	1 mL	Cyanide, Total	10 mg/L
..CN ICV Std_00038	04/16/18	CPI, Lot 1097445			(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Int_00407	11/16/16	11/09/16	1% NaOH, Lot 1% NaOH_00078	100 mL	CN ICV Std_00038	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN ICV Std_00038	04/16/18	CPI, Lot 1097445			(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	1000 mg/L
							Cyanide, Weak Acid Dissociable	1000 mg/L
CR6 ICV int_01146	11/03/16	11/02/16	Di Water, Lot na	100 mL	Cr6 ICV Std_00016	0.1 mL	Chromium, hexavalent	1 mg/L
.Cr6 ICV Std_00016	05/31/20	Hach, Lot A5149			(Purchased Reagent)		Chromium, hexavalent	1000 mg/L
CR6 Int cal_00735	11/03/16	11/02/16	Di Water, Lot na	100 mL	CR6 Cal std_00007	0.1 mL	Chromium, hexavalent	1 mg/L
.CR6 Cal std_00007	04/30/19	ERA, Lot 040416			(Purchased Reagent)		Chromium, hexavalent	1000 mg/L
CR6 spike sou_00757	11/03/16	11/02/16	Di Water, Lot na	100 mL	Cr6 ICV Std_00012	1 mL	Chromium, hexavalent	10 mg/L
.Cr6 ICV Std_00012	02/28/18	Hach, Lot a3059			(Purchased Reagent)		Chromium, hexavalent	1000 mg/L
Hg Biwk ICV_00208	11/25/16	11/11/16	1% HNO3, Lot K23022	100 mL	Hg ICV Stock_00008	0.4 mL	Mercury	0.4 mg/L
.Hg ICV Stock_00008	03/08/17	Inorganic Ventures, Lot H2-HG02113R			(Purchased Reagent)		Mercury	100 mg/L
Hg Daily Spk_01788	11/12/16	11/11/16	1% HNO3, Lot K23022	100 mL	Hg Mnth Spike_00108	1 mL	Mercury	0.1 mg/L
.Hg Mnth Spike_00108	12/03/16	11/03/16	1% HNO3, Lot K23022	100 mL	Hg Ultra Prim_00010	1 mL	Mercury	10 mg/L
..Hg Ultra Prim_00010	03/08/17	Ultra Scientific, Lot T00602			(Purchased Reagent)		Mercury	1000 mg/L
IC CAL cl/so4_00120	10/14/16	10/07/16	Di Water, Lot na	100 mL	IC CL cal_00045	25 mL	Chloride	250 mg/L
					IC sulfatecal_00042	25 mL	Sulfate	250 mg/L
.IC CL cal_00045	07/30/17	SPEX CertiPrep, Lot 3-170CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00042	08/30/17	SPEX CertiPrep, Lot 3-177SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC CAL cl/so4_00123	11/03/16	10/28/16	Di Water, Lot na	100 mL	IC sulfatecal_00043	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00043	09/30/17	SPEX CertiPrep, Lot 3-177SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00235	10/14/16	10/07/16	Di Water, Lot NA	100 mL	IC Br cal_00012	5 mL	Bromide	50 mg/L
					IC FL cal_00010	5 mL	Fluoride	50 mg/L
					IC N02 CAL_00037	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00014	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00015	5 mL	Orthophosphate as P	50 mg/L
.IC Br cal_00012	12/31/16	Ricca, Lot 1507818			(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00010	09/30/17	Ricca, Lot 4604574			(Purchased Reagent)		Fluoride	1000 mg/L
.IC N02 CAL_00037	12/31/16	RICCA, Lot 1606C23			(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00014	03/31/17	Ricca, Lot 4509B38			(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC P04 cal_00015	01/31/18	RICCA, Lot 4602878			(Purchased Reagent)		Orthophosphate as P	1000 mg/L
IC Cal low_00241	11/09/16	11/02/16	Di Water, Lot NA	100 mL	IC N02 CAL_00037	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00014	5 mL	Nitrate as N	50 mg/L
.IC N02 CAL_00037	12/31/16	RICCA, Lot 1606C23			(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00014	03/31/17	Ricca, Lot 4509B38			(Purchased Reagent)		Nitrate as N	1000 mg/L

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
IC ICV 5_00158	10/14/16	10/07/16	Di Water, Lot na	10 mL	IC NO2 ICV_00010	0.5 mL	Nitrite as N	50 mg/L
					IC NO3 ICV_00010	0.5 mL	Nitrate as N	50 mg/L
.IC NO2 ICV_00010	01/31/17	ERA, Lot 030115			(Purchased Reagent)		Nitrite as N	1000 mg/L
.IC NO3 ICV_00010	11/30/17	ERA, Lot 031115			(Purchased Reagent)		Nitrate as N	1000 mg/L
IC LCS_00736	11/03/16	11/02/16	Di Water, Lot 27	200 mL	IC Cal low_00241	20 mL	Nitrite as N	5 mg/L
							Nitrate as N	5 mg/L
					IC sulfatecal_00043	20 mL	Sulfate	100 mg/L
.IC Cal low_00241	11/09/16	11/02/16	Di Water, Lot NA	100 mL	IC N02 CAL_00037	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00014	5 mL	Nitrate as N	50 mg/L
..IC N02 CAL_00037	12/31/16	RICCA, Lot 1606C23			(Purchased Reagent)		Nitrite as N	1000 ppm
..IC N03 cal_00014	03/31/17	Ricca, Lot 4509B38			(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC sulfatecal_00043	09/30/17	SPEX CertiPrep, Lot 3-177SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC SO4 ICV_00016	10/31/17	ERA, Lot 211015			(Purchased Reagent)		Sulfate	1000 mg/L
ICMS/MSD WEEK_00428	11/07/16	10/31/16	Di Water, Lot NA	20 mL	IC SPK 6 ANIO_00018	10 mL	Nitrate as N	500.003 mg/L
							Sulfate	2500.26 mg/L
					IC SPK N02SOL_00009	10 mL	Nitrite as N	499.973 mg/L
.IC SPK 6 ANIO_00018	09/13/17	09/13/16	Di Water, Lot NA	1000 mL	IC MS/MSD N03_00004	6.068 g	Nitrate as N	1000.01 mg/L
					IC MS/MSD S04_00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD N03_00004	10/02/18	FISHER, Lot 035600			(Purchased Reagent)		Nitrate as N	0.1648 g/g
..IC MS/MSD S04_00005	09/29/20	FISHER, Lot 147276			(Purchased Reagent)		Sulfate	0.5513 g/g
.IC SPK N02SOL_00009	12/24/16	12/24/15	Di Water, Lot na	500 mL	IC MS/MSD N02_00001	2.4628 g	Nitrite as N	999.946 mg/L
..IC MS/MSD N02_00001	06/09/17	fisher, Lot 041304			(Purchased Reagent)		Nitrite as N	0.20301 g/g
ICP CCV_00231	03/09/17	11/10/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL1A_00696	250 mL	Aluminum	0.5 mg/L
							Calcium	5 mg/L
							Iron	2.5 mg/L
							Magnesium	20 mg/L
							Potassium	50 mg/L
							Sodium	5 mg/L
.ICP ICAL1A_00696	03/09/17	11/10/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	1000 mL	Icp cal std 3_00013	10 mL	Aluminum	1 mg/L
							Calcium	10 mg/L
							Iron	5 mg/L
							Magnesium	40 mg/L
							Potassium	100 mg/L
							Sodium	10 mg/L
..Icp cal std 3_00013	04/01/17	Inorganic Ventures, Lot H2-MEB585085			(Purchased Reagent)		Aluminum	100 mg/L
							Calcium	1000 mg/L
							Iron	500 mg/L
							Magnesium	4000 mg/L
							Potassium	10000 mg/L
							Sodium	1000 mg/L
ICP CCVH_00501	01/05/17	11/10/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL2A_00403	250 mL	Aluminum	50 mg/L
							Iron	50 mg/L
							Sodium	250 mg/L

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.ICP ICAL2A_00403	01/05/17	11/10/16	5%HCl/5% HNO3, Lot see reagent log	1000 mL	10000 Al_00015	10 mL	Aluminum	100 mg/L
					10000 Fe_00017	10 mL	Iron	100 mg/L
					10000 Na_00051	50 mL	Sodium	500 mg/L
..10000 Al_00015	03/09/17	Inorganic Ventures, Lot H2-AL04147			(Purchased Reagent)		Aluminum	10000 mg/L
..10000 Fe_00017	09/21/17	Inorganic Ventures, Lot K2-FE04047			(Purchased Reagent)		Iron	10000 mg/L
..10000 Na_00051	07/28/17	Inorganic Ventures, Lot J2-NA03138			(Purchased Reagent)		Sodium	10000 mg/L
ICP CRI_00540	11/14/16	11/13/16	5:HNO3/5%HCl, Lot see reagent log	100 mL	ICP RL STD3A_00011	0.1 mL	Aluminum	0.1 mg/L
							Calcium	0.2 mg/L
							Magnesium	0.2 mg/L
							Potassium	1 mg/L
							Sodium	1 mg/L
.ICP RL STD3A_00011	08/31/17	Inorganic Ventures, Lot k2-MEB651193			(Purchased Reagent)		Aluminum	100 mg/L
							Calcium	200 mg/L
							Magnesium	200 mg/L
							Potassium	1000 mg/L
							Sodium	1000 mg/L
ICP ICSA_00133	07/19/17	11/02/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	250 mL	Icp stk ICSA_00018	25 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.Icp stk ICSA_00018	07/19/17	Inorganic Ventures, Lot K2-MEB643109			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
ICP ICSAB_00143	12/08/16	11/08/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	250 mL	10000 Si_00012	0.25 mL	Si	10 mg/L
							SiO2	21.4 mg/L
					ANALYTES B_00011	2.5 mL	Barium	0.5 mg/L
							Beryllium	0.5 mg/L
							Cadmium	1 mg/L
							Chromium	0.5 mg/L
							Cobalt	0.5 mg/L
							Copper	0.5 mg/L
							Lead	1 mg/L
							Manganese	0.5 mg/L
							Nickel	1 mg/L
							Silver	1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
					ICP ISAB 1B_00009	2.5 mL	Thallium	10 mg/L
					ICP ISAB STD1_00008	2.5 mL	Antimony	1 mg/L
							Arsenic	2 mg/L
							B	2 mg/L
							Li	1 mg/L

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Mo	1 mg/L
							P	2 mg/L
							Potassium	50 mg/L
							Selenium	5 mg/L
							Sodium	50 mg/L
							Sr	1 mg/L
					ICP ISAB STD2_00009	2.5 mL	Sn	10 mg/L
							Ti	1 mg/L
					Icp stk ICSA_00016	25 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.10000 Si_00012	12/08/16	Inorganic ventures, Lot J2-SI03056			(Purchased Reagent)		Si	10000 mg/L
							SiO2	21400 mg/L
.ANALYTES B_00011	04/30/17	SPEX, Lot 1-75MKBY			(Purchased Reagent)		Barium	50 mg/L
							Beryllium	50 mg/L
							Cadmium	100 mg/L
							Chromium	50 mg/L
							Cobalt	50 mg/L
							Copper	50 mg/L
							Lead	100 mg/L
							Manganese	50 mg/L
							Nickel	100 mg/L
							Silver	100 mg/L
							Vanadium	50 mg/L
							Zinc	100 mg/L
.ICP ISAB 1B_00009	01/27/17	High Purity, Lot 1602230			(Purchased Reagent)		Thallium	1000 mg/L
.ICP ISAB STD1_00008	01/27/17	High Purity, Lot 1602229			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	200 mg/L
							B	200 mg/L
							Li	100 mg/L
							Mo	100 mg/L
							P	200 mg/L
							Potassium	5000 mg/L
							Selenium	500 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
.ICP ISAB STD2_00009	07/27/17	High Purity, Lot 1620836			(Purchased Reagent)		Sn	1000 mg/L
							Ti	100 mg/L
.Icp stk ICSA_00016	04/29/17	Inorganic Ventures, Lot J2-MEB572053			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
ICP ICV_00218	02/02/17	11/12/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	100 mL	Icp ICVL A_00010	1 mL	Aluminum	0.25 mg/L
							Calcium	2 mg/L
							Iron	0.25 mg/L
							Magnesium	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	20 mg/L
							Sodium	2 mg/L
.Icp ICVL A_00010	02/02/17		High Purity, Lot 1602809		(Purchased Reagent)		Aluminum	25 mg/L
							Calcium	200 mg/L
							Iron	25 mg/L
							Magnesium	1000 mg/L
							Potassium	2000 mg/L
							Sodium	200 mg/L
ICP ICVH_00359	12/14/16	11/11/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	100 mL	Icp ICVH_00274	1 mL	Aluminum	40 mg/L
							Iron	80 mg/L
							Sodium	40 mg/L
.Icp ICVH_00274	12/14/16		High Purity, Lot 1534512		(Purchased Reagent)		Aluminum	4000 mg/L
							Iron	8000 mg/L
							Sodium	4000 mg/L
ICP LLCCV_01920	11/14/16	11/13/16	5%/5% HCL/HNO3, Lot SEE LOGBOOK	100 mL	ICP LLCCV-3_00003	1 mL	Aluminum	0.1 mg/L
							Calcium	0.2 mg/L
							Iron	0.1 mg/L
							Magnesium	0.2 mg/L
							Potassium	3 mg/L
							Sodium	1 mg/L
.ICP LLCCV-3_00003	10/27/17		Inorganic Ventures, Lot K2-MEB650744		(Purchased Reagent)		Aluminum	10 mg/L
							Calcium	20 mg/L
							Iron	10 mg/L
							Magnesium	20 mg/L
							Potassium	300 mg/L
							Sodium	100 mg/L
ICP SPK 2B_00050	10/17/17		Inorganic Ventures, Lot K2-MEB650632		(Purchased Reagent)		Antimony	50 mg/L
							B	100 mg/L
							Mo	100 mg/L
							Si	1000 mg/L
							SiO2	2140 mg/L
							Sn	200 mg/L
							Sulfur	200 mg/L
							Ti	100 mg/L
							Zr	50 mg/L
ICP SPK 3A_00123	10/26/17		Inorganic Ventures, Lot K2-MEB651900		(Purchased Reagent)		Aluminum	200 mg/L
							Arsenic	100 mg/L
							Barium	200 mg/L
							Beryllium	5 mg/L
							Bi	200 mg/L
							Cadmium	10 mg/L
							Calcium	5000 mg/L
							Chromium	20 mg/L
							Cobalt	50 mg/L
							Copper	25 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Iron	100 mg/L
							Lead	50 mg/L
							Li	100 mg/L
							Magnesium	5000 mg/L
							Manganese	50 mg/L
							Nickel	50 mg/L
							P	1000 mg/L
							Potassium	5000 mg/L
							Selenium	200 mg/L
							Silver	5 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
							Th	100 mg/L
							Thallium	200 mg/L
							U	200 mg/L
							Vanadium	50 mg/L
							Zinc	50 mg/L
ICPALTCRI_00007	11/14/16	11/13/16	5%HNO3/5% HCl, Lot See reagent log	100 mL	10 ppm Fe_00007	1 mL	Iron	0.1 mg/L
.10 ppm Fe_00007	03/09/17	09/06/16	5%HNO3/5% HCl, Lot see log book	100 mL	200 ppm Fe_00006	5 mL	Iron	10 mg/L
..200 ppm Fe_00006	03/09/17	08/02/16	5%HNO3/5% HCl, Lot see log book	100 mL	10000 Fe_00015	2 mL	Iron	200 mg/L
...10000 Fe_00015	03/09/17	Inorganic Ventures, Lot J2-FE04047			(Purchased Reagent)		Iron	10000 mg/L
ms 77 alt RL_00039	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	1 ppm Ba_00004	0.05 mL	Barium	0.001 mg/L
					1 ppm Zn_00008	0.5 mL	Zinc	0.01 mg/L
.1 ppm Ba_00004	12/16/16	09/30/16	1% HNO3, Lot 99263	50 mL	1000 Ba_00010	0.05 mL	Barium	1 mg/L
..1000 Ba_00010	12/16/16	Inorganic Ventures, Lot G2-BA02082			(Purchased Reagent)		Barium	1000 mg/L
.1 ppm Zn_00008	02/15/17	08/11/16	2%HNO3/0.5% HCl, Lot 131530/132880	50 mL	1000 Zn_00015	0.05 mL	Zinc	1 mg/L
..1000 Zn_00015	02/15/17	Inorganic Ventures, Lot H2-ZN02100			(Purchased Reagent)		Zinc	1000 mg/L
ms 77 RL_01227	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	ms 77 cal std_01339	0.5 mL	Arsenic	0.001 mg/L
							Beryllium	0.001 mg/L
							Cadmium	0.001 mg/L
							Chromium	0.001 mg/L
							Cobalt	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Nickel	0.001 mg/L
							Selenium	0.001 mg/L
							Silver	0.001 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.001 mg/L
							Antimony	0.001 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.ms 77 cal std_01339	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
..MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 RL_01228	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	ms 77 cal std_01340	0.5 mL	Arsenic	0.001 mg/L
							Barium	0.001 mg/L
							Beryllium	0.001 mg/L
							Chromium	0.001 mg/L
							Cobalt	0.001 mg/L
							Copper	0.001 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Selenium	0.001 mg/L
							Silver	0.001 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.001 mg/L
							Antimony	0.001 mg/L
.ms 77 cal std_01340	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Chromium	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
..MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 alt RL_00233	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	1 ppm Cd_00005	0.05 mL	Cadmium	0.001 mg/L
					1 ppm Ni_00002	0.1 mL	Nickel	0.002 mg/L
					1 ppm Zn_00008	0.5 mL	Zinc	0.01 mg/L
.1 ppm Cd_00005	02/08/17	03/28/16	1% HNO3, Lot 00106819	50 mL	1000 Cd_00008	0.05 mL	Cadmium	1 mg/L
..1000 Cd_00008	02/08/17	Inorganic Ventures, Lot h2-cd02055			(Purchased Reagent)		Cadmium	1000 mg/L
.1 ppm Ni_00002	12/24/16	01/15/16	1% HNO3, Lot 000119637	50 mL	1000 Ni_00008	0.05 mL	Nickel	1 mg/L
..1000 Ni_00008	12/24/16	Inorganic Ventures, Lot J2-Ni02095			(Purchased Reagent)		Nickel	1000 mg/L
.1 ppm Zn_00008	02/15/17	08/11/16	2%HNO3/0.5% HCl, Lot 131530/132880	50 mL	1000 Zn_00015	0.05 mL	Zinc	1 mg/L
..1000 Zn_00015	02/15/17	Inorganic Ventures, Lot H2-ZN02100			(Purchased Reagent)		Zinc	1000 mg/L
ms 77 cal std_01339	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
.MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 cal std_01340	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
.MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 ccv_01343	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	ms 77 cal std_01339	50 mL	Arsenic	0.05 mg/L
							Barium	0.05 mg/L
							Beryllium	0.05 mg/L
							Cadmium	0.05 mg/L
							Chromium	0.05 mg/L
							Cobalt	0.05 mg/L
							Copper	0.05 mg/L
							Lead	0.05 mg/L
							Manganese	0.05 mg/L
							Nickel	0.05 mg/L
							Selenium	0.05 mg/L
							Silver	0.05 mg/L
							Thallium	0.05 mg/L
							Vanadium	0.05 mg/L
							Zinc	0.05 mg/L
							Antimony	0.05 mg/L
.ms 77 cal std_01339	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
..MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 ccv_01344	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	ms 77 cal std_01340	50 mL	Arsenic	0.05 mg/L
							Barium	0.05 mg/L
							Beryllium	0.05 mg/L
							Cadmium	0.05 mg/L
							Chromium	0.05 mg/L
							Cobalt	0.05 mg/L
							Copper	0.05 mg/L
							Lead	0.05 mg/L
							Manganese	0.05 mg/L
							Nickel	0.05 mg/L
							Selenium	0.05 mg/L
							Silver	0.05 mg/L
							Thallium	0.05 mg/L
							Vanadium	0.05 mg/L
							Zinc	0.05 mg/L
							Antimony	0.05 mg/L
.ms 77 cal std_01340	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
..MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
ms 77 icsa_00247	11/17/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	MS ICSA STOCK_00025	5 mL	Mo	2 mg/L
.MS ICSA STOCK_00025	08/31/17	Inorganic Ventures, Lot J2-MEB613036			(Purchased Reagent)		Mo	20 mg/L
ms 77 icsab_00250	11/17/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS CALSTD-1_00114	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00089	0.5 mL	Antimony	0.1 mg/L
							Mo	2.1 mg/L
					MS ICSA STOCK_00025	10 mL	Mo	2.1 mg/L
.MS CALSTD-1_00114	06/01/17	Inorganic Ventures, Lot J2-MEb598104			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00089	06/01/17	Inorganic Ventures, Lot h2-meb526033			(Purchased Reagent)		Antimony	20 mg/L
							Mo	20 mg/L
.MS ICSA STOCK_00025	08/31/17	Inorganic Ventures, Lot J2-MEB613036			(Purchased Reagent)		Mo	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS 77 ICV_01342	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	MS ICV StockA_00005	0.1 mL	Arsenic	0.04 mg/L
							Barium	0.04 mg/L
							Beryllium	0.04 mg/L
							Cadmium	0.04 mg/L
							Chromium	0.04 mg/L
							Cobalt	0.04 mg/L
							Copper	0.04 mg/L
							Lead	0.04 mg/L
							Manganese	0.04 mg/L
							Nickel	0.04 mg/L
							Selenium	0.04 mg/L
							Thallium	0.04 mg/L
							Vanadium	0.04 mg/L
							Zinc	0.04 mg/L
					MS ICV StockB_00006	0.1 mL	Antimony	0.04 mg/L
							Silver	0.04 mg/L
.MS ICV StockA_00005	01/12/17		HIGH PURITY, Lot 1601116		(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS ICV StockB_00006	01/12/17		HIGH PURITY, Lot 1601117		(Purchased Reagent)		Antimony	20 mg/L
							Silver	20 mg/L
MS 77 ICV_01343	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	50 mL	MS ICV StockA_00005	0.1 mL	Arsenic	0.04 mg/L
							Barium	0.04 mg/L
							Beryllium	0.04 mg/L
							Cadmium	0.04 mg/L
							Chromium	0.04 mg/L
							Cobalt	0.04 mg/L
							Copper	0.04 mg/L
							Lead	0.04 mg/L
							Manganese	0.04 mg/L
							Nickel	0.04 mg/L
							Selenium	0.04 mg/L
							Thallium	0.04 mg/L
							Vanadium	0.04 mg/L
							Zinc	0.04 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS ICV StockB_00006	0.1 mL	Antimony	0.04 mg/L
							Silver	0.04 mg/L
.MS ICV StockA_00005	01/12/17		HIGH PURITY, Lot 1601116		(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS ICV StockB_00006	01/12/17		HIGH PURITY, Lot 1601117		(Purchased Reagent)		Antimony	20 mg/L
							Silver	20 mg/L
ms 77 LLCCV_01144	11/11/16	11/10/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS LLCCV1_00016	1 mL	Arsenic	0.005 mg/L
							Barium	0.001 mg/L
							Beryllium	0.001 mg/L
							Cadmium	0.001 mg/L
							Chromium	0.002 mg/L
							Cobalt	0.001 mg/L
							Copper	0.002 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Nickel	0.002 mg/L
							Selenium	0.005 mg/L
							Silver	0.005 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.005 mg/L
							Zinc	0.01 mg/L
					MS LLCCV2 IV_00014	1 mL	Antimony	0.002 mg/L
.MS LLCCV1_00016	10/01/17		Inorganic Ventures, Lot k2-meb625111		(Purchased Reagent)		Arsenic	0.5 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.2 mg/L
							Cobalt	0.1 mg/L
							Copper	0.2 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.2 mg/L
							Selenium	0.5 mg/L
							Silver	0.5 mg/L
							Thallium	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
.MS LLCCV2 IV 00014	10/01/17	Inorganic Ventures, Lot k2-meb625112			(Purchased Reagent)		Antimony	0.2 mg/L
ms 77 LLCCV_01145	11/12/16	11/11/16	2%HNO3/0.5% HCl, Lot 141598/4116020	100 mL	MS LLCCV1_00016	1 mL	Arsenic	0.005 mg/L
							Barium	0.001 mg/L
							Beryllium	0.001 mg/L
							Cadmium	0.001 mg/L
							Chromium	0.002 mg/L
							Cobalt	0.001 mg/L
							Copper	0.002 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Nickel	0.002 mg/L
							Selenium	0.005 mg/L
							Silver	0.005 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.005 mg/L
							Zinc	0.01 mg/L
					MS LLCCV2 IV 00014	1 mL	Antimony	0.002 mg/L
.MS LLCCV1_00016	10/01/17	Inorganic Ventures, Lot k2-meb625111			(Purchased Reagent)		Arsenic	0.5 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.2 mg/L
							Cobalt	0.1 mg/L
							Copper	0.2 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.2 mg/L
							Selenium	0.5 mg/L
							Silver	0.5 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
.MS LLCCV2 IV 00014	10/01/17	Inorganic Ventures, Lot k2-meb625112			(Purchased Reagent)		Antimony	0.2 mg/L
MS CALSTD-1_00116	10/19/17	Inorganic Ventures, Lot K2-MEB651442			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silver	20 mg/L
							Th	20 mg/L
							Thallium	20 mg/L
							U	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
MS spike 2_00048	12/08/16	10/10/16	1% HNO3, Lot 00141598	250 mL	1000 B_00012	5 mL	B	20 mg/L
					1000 Li_00029	10 mL	Li	40 mg/L
					1000 Mo_00009	5 mL	Mo	20 mg/L
					1000 Sb_00015	5 mL	Antimony	20 mg/L
					1000 Sn_00010	5 mL	Sn	20 mg/L
					1000 Sr_00008	5 mL	Sr	20 mg/L
					1000 W IV_00010	5 mL	W	20 mg/L
					1000 Zr_00012	5 mL	Zr	20 mg/L
					10000 Al_00015	5 mL	Aluminum	200 mg/L
					10000 Fe_00015	5 mL	Iron	200 mg/L
.1000 B_00012	03/21/17	Inorganic Ventures, Lot H2-B02125			(Purchased Reagent)		B	1000 mg/L
.1000 Li_00029	03/09/17	Inorganic Ventures, Lot J2-LI03023			(Purchased Reagent)		Li	1000 mg/L
.1000 Mo_00009	01/04/17	Inorganic Ventures, Lot h2-MO02073			(Purchased Reagent)		Mo	1000 mg/L
.1000 Sb_00015	07/19/17	Inorganic Ventures, Lot J2-SB03037			(Purchased Reagent)		Antimony	1000 mg/L
.1000 Sn_00010	01/27/17	Inorganic Ventures, Lot H2-Sn02058R			(Purchased Reagent)		Sn	1000 mg/L
.1000 Sr_00008	02/09/17	Inorganic Ventures, Lot G2-SR02040			(Purchased Reagent)		Sr	1000 mg/L
.1000 W IV_00010	05/31/17	Inorganic Ventures, Lot j2-w02027			(Purchased Reagent)		W	1000 mg/L
.1000 Zr_00012	12/08/16	Inorganic Ventures, Lot J2-ZR01108			(Purchased Reagent)		Zr	1000 mg/L
.10000 Al_00015	03/09/17	Inorganic Ventures, Lot H2-AL04147			(Purchased Reagent)		Aluminum	10000 mg/L
.10000 Fe_00015	03/09/17	Inorganic Ventures, Lot J2-FE04047			(Purchased Reagent)		Iron	10000 mg/L
MS-FAMSSV_100_00016	02/11/17	08/10/16	Methylene Chloride, Lot 137272	0.5 mL	MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-HSLA004_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	10 uL	2,4,6-Tribromophenol (Surr)	4 ug/mL
							2-Fluorobiphenyl (Surr)	4 ug/mL
							2-Fluorophenol (Surr)	4 ug/mL
							Nitrobenzene-d5 (Surr)	4 ug/mL
							Phenol-d5 (Surr)	4 ug/mL
							Terphenyl-d14 (Surr)	4 ug/mL
							Famphur	4 ug/mL
							Alachlor	4 ug/mL
							3,3'-Dichlorobenzidine	4 ug/mL
							Benzoic acid	8 ug/mL
							Atrazine	4 ug/mL
							1,2,4,5-Tetrachlorobenzene	4 ug/mL
							1,2,4-Trichlorobenzene	4 ug/mL
							1,2-Dichlorobenzene	4 ug/mL
							1,2-Diphenylhydrazine	4.0439 ug/mL
							1,3-Dichlorobenzene	4 ug/mL
							1,3-Dinitrobenzene	4 ug/mL
							1,4-Dichlorobenzene	4 ug/mL
							1,4-Dioxane	4 ug/mL
							1-Methylnaphthalene	4 ug/mL
							2,2'-oxybis[1-chloropropane]	4 ug/mL
							2,3,4,6-Tetrachlorophenol	4 ug/mL
							2,4,5-Trichlorophenol	4 ug/mL
							2,4,6-Trichlorophenol	4 ug/mL
							2,4-Dichlorophenol	4 ug/mL
							2,4-Dimethylphenol	4 ug/mL
							2,4-Dinitrophenol	8 ug/mL
							2,4-Dinitrotoluene	4 ug/mL
							2,6-Dichlorophenol	4 ug/mL
							2,6-Dinitrotoluene	4 ug/mL
							2-Chloronaphthalene	4 ug/mL
							2-Chlorophenol	4 ug/mL
							2-Methylnaphthalene	4 ug/mL
							2-Methylphenol	4 ug/mL
							2-Nitroaniline	4 ug/mL
							2-Nitrophenol	4 ug/mL
							3 & 4 Methylphenol	4 ug/mL
							3-Nitroaniline	4 ug/mL
							4,6-Dinitro-2-methylphenol	8 ug/mL
							4-Bromophenyl phenyl ether	4 ug/mL
							4-Chloro-3-methylphenol	4 ug/mL
							4-Chloroaniline	4 ug/mL
							4-Chlorophenyl phenyl ether	4 ug/mL
							4-Nitroaniline	4 ug/mL
							4-Nitrophenol	8 ug/mL
							Acenaphthene	4 ug/mL
							Acenaphthylene	4 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	4 ug/mL
							Aniline	4 ug/mL
							Anthracene	4 ug/mL
							Azobenzene	4 ug/mL
							Benzo[a]anthracene	4 ug/mL
							Benzo[a]pyrene	4 ug/mL
							Benzo[b]fluoranthene	4 ug/mL
							Benzo[g,h,i]perylene	4 ug/mL
							Benzo[k]fluoranthene	4 ug/mL
							Benzyl alcohol	4 ug/mL
							Bis(2-chloroethoxy)methane	4 ug/mL
							Bis(2-chloroethyl)ether	4 ug/mL
							Bis(2-ethylhexyl) phthalate	4 ug/mL
							Butyl benzyl phthalate	4 ug/mL
							Carbazole	4 ug/mL
							Chrysene	4 ug/mL
							Di-n-butyl phthalate	4 ug/mL
							Di-n-octyl phthalate	4 ug/mL
							Dibenz(a,h)anthracene	4 ug/mL
							Dibenzofuran	4 ug/mL
							Diethyl phthalate	4 ug/mL
							Dimethyl phthalate	4 ug/mL
							Diphenylamine	3.42 ug/mL
							Fluoranthene	4 ug/mL
							Fluorene	4 ug/mL
							Hexachlorobenzene	4 ug/mL
							Hexachlorobutadiene	4 ug/mL
							Hexachlorocyclopentadiene	4 ug/mL
							Hexachloroethane	4 ug/mL
							Indeno[1,2,3-cd]pyrene	4 ug/mL
							Isophorone	4 ug/mL
							N-Nitrosodi-n-propylamine	4 ug/mL
							N-Nitrosodimethylamine	4 ug/mL
							N-Nitrosodiphenylamine	4 ug/mL
							Naphthalene	4 ug/mL
							Nitrobenzene	4 ug/mL
							Pentachlorophenol	8 ug/mL
							Phenanthrene	4 ug/mL
							Phenol	4 ug/mL
							Pyrene	4 ug/mL
							Pyridine	4 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA010_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	25 uL	2,4,6-Tribromophenol (Surr)	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
							Famphur	10 ug/mL
							Alachlor	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzoic acid	20 ug/mL
							Atrazine	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10.1097 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3 & 4 Methylphenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Diphenylamine	8.55 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	10 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-569732 HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA020_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	50 uL	2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl (Surr)	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
							Famphur	20 ug/mL
							Alachlor	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzoic acid	40 ug/mL
							Atrazine	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20.2195 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL
							3 & 4 Methylphenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Diphenylamine	17.1 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	20 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA050_00029	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	125 uL	2,4,6-Tribromophenol (Surr)	50 ug/mL
							2-Fluorobiphenyl (Surr)	50 ug/mL
							2-Fluorophenol (Surr)	50 ug/mL
							Nitrobenzene-d5 (Surr)	50 ug/mL
							Phenol-d5 (Surr)	50 ug/mL
							Terphenyl-d14 (Surr)	50 ug/mL
							Famphur	50 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Alachlor	50 ug/mL
							3,3'-Dichlorobenzidine	50 ug/mL
							Benzoic acid	100 ug/mL
							Atrazine	50 ug/mL
							1,2,4,5-Tetrachlorobenzene	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Diphenylhydrazine	50.5487 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dinitrobenzene	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	50 ug/mL
							1-Methylnaphthalene	50 ug/mL
							2,2'-oxybis[1-chloropropane]	50 ug/mL
							2,3,4,6-Tetrachlorophenol	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dichlorophenol	50 ug/mL
							2,4-Dimethylphenol	50 ug/mL
							2,4-Dinitrophenol	100 ug/mL
							2,4-Dinitrotoluene	50 ug/mL
							2,6-Dichlorophenol	50 ug/mL
							2,6-Dinitrotoluene	50 ug/mL
							2-Chloronaphthalene	50 ug/mL
							2-Chlorophenol	50 ug/mL
							2-Methylnaphthalene	50 ug/mL
							2-Methylphenol	50 ug/mL
							2-Nitroaniline	50 ug/mL
							2-Nitrophenol	50 ug/mL
							3 & 4 Methylphenol	50 ug/mL
							3-Nitroaniline	50 ug/mL
							4,6-Dinitro-2-methylphenol	100 ug/mL
							4-Bromophenyl phenyl ether	50 ug/mL
							4-Chloro-3-methylphenol	50 ug/mL
							4-Chloroaniline	50 ug/mL
							4-Chlorophenyl phenyl ether	50 ug/mL
							4-Nitroaniline	50 ug/mL
							4-Nitrophenol	100 ug/mL
							Acenaphthene	50 ug/mL
							Acenaphthylene	50 ug/mL
							Acetophenone	50 ug/mL
							Aniline	50 ug/mL
							Anthracene	50 ug/mL
							Azobenzene	50 ug/mL
							Benzo[a]anthracene	50 ug/mL
							Benzo[a]pyrene	50 ug/mL
							Benzo[b]fluoranthene	50 ug/mL
							Benzo[g,h,i]perylene	50 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	50 ug/mL
							Benzyl alcohol	50 ug/mL
							Bis(2-chloroethoxy)methane	50 ug/mL
							Bis(2-chloroethyl)ether	50 ug/mL
							Bis(2-ethylhexyl) phthalate	50 ug/mL
							Butyl benzyl phthalate	50 ug/mL
							Carbazole	50 ug/mL
							Chrysene	50 ug/mL
							Di-n-butyl phthalate	50 ug/mL
							Di-n-octyl phthalate	50 ug/mL
							Dibenz(a,h)anthracene	50 ug/mL
							Dibenzofuran	50 ug/mL
							Diethyl phthalate	50 ug/mL
							Dimethyl phthalate	50 ug/mL
							Diphenylamine	42.75 ug/mL
							Fluoranthene	50 ug/mL
							Fluorene	50 ug/mL
							Hexachlorobenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexachlorocyclopentadiene	50 ug/mL
							Hexachloroethane	50 ug/mL
							Indeno[1,2,3-cd]pyrene	50 ug/mL
							Isophorone	50 ug/mL
							N-Nitrosodi-n-propylamine	50 ug/mL
							N-Nitrosodimethylamine	50 ug/mL
							N-Nitrosodiphenylamine	50 ug/mL
							Naphthalene	50 ug/mL
							Nitrobenzene	50 ug/mL
							Pentachlorophenol	100 ug/mL
							Phenanthrene	50 ug/mL
							Phenol	50 ug/mL
							Pyrene	50 ug/mL
							Pyridine	50 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA080_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl (Surr)	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5 (Surr)	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14 (Surr)	80 ug/mL
							Famphur	80 ug/mL
							Alachlor	80 ug/mL
							3,3'-Dichlorobenzidine	80 ug/mL
							Benzoic acid	160 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Atrazine	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68.4 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	80 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA120_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	300 uL	2,4,6-Tribromophenol (Surr)	120 ug/mL
							2-Fluorobiphenyl (Surr)	120 ug/mL
							2-Fluorophenol (Surr)	120 ug/mL
							Nitrobenzene-d5 (Surr)	120 ug/mL
							Phenol-d5 (Surr)	120 ug/mL
							Terphenyl-d14 (Surr)	120 ug/mL
							Famphur	120 ug/mL
							Alachlor	120 ug/mL
							3,3'-Dichlorobenzidine	120 ug/mL
							Benzoic acid	240 ug/mL
							Atrazine	120 ug/mL
							1,2,4,5-Tetrachlorobenzene	120 ug/mL
							1,2,4-Trichlorobenzene	120 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	120 ug/mL
							1,2-Diphenylhydrazine	121.317 ug/mL
							1,3-Dichlorobenzene	120 ug/mL
							1,3-Dinitrobenzene	120 ug/mL
							1,4-Dichlorobenzene	120 ug/mL
							1,4-Dioxane	120 ug/mL
							1-Methylnaphthalene	120 ug/mL
							2,2'-oxybis[1-chloropropane]	120 ug/mL
							2,3,4,6-Tetrachlorophenol	120 ug/mL
							2,4,5-Trichlorophenol	120 ug/mL
							2,4,6-Trichlorophenol	120 ug/mL
							2,4-Dichlorophenol	120 ug/mL
							2,4-Dimethylphenol	120 ug/mL
							2,4-Dinitrophenol	240 ug/mL
							2,4-Dinitrotoluene	120 ug/mL
							2,6-Dichlorophenol	120 ug/mL
							2,6-Dinitrotoluene	120 ug/mL
							2-Chloronaphthalene	120 ug/mL
							2-Chlorophenol	120 ug/mL
							2-Methylnaphthalene	120 ug/mL
							2-Methylphenol	120 ug/mL
							2-Nitroaniline	120 ug/mL
							2-Nitrophenol	120 ug/mL
							3 & 4 Methylphenol	120 ug/mL
							3-Nitroaniline	120 ug/mL
							4,6-Dinitro-2-methylphenol	240 ug/mL
							4-Bromophenyl phenyl ether	120 ug/mL
							4-Chloro-3-methylphenol	120 ug/mL
							4-Chloroaniline	120 ug/mL
							4-Chlorophenyl phenyl ether	120 ug/mL
							4-Nitroaniline	120 ug/mL
							4-Nitrophenol	240 ug/mL
							Acenaphthene	120 ug/mL
							Acenaphthylene	120 ug/mL
							Acetophenone	120 ug/mL
							Aniline	120 ug/mL
							Anthracene	120 ug/mL
							Azobenzene	120 ug/mL
							Benzo[a]anthracene	120 ug/mL
							Benzo[a]pyrene	120 ug/mL
							Benzo[b]fluoranthene	120 ug/mL
							Benzo[g,h,i]perylene	120 ug/mL
							Benzo[k]fluoranthene	120 ug/mL
							Benzyl alcohol	120 ug/mL
							Bis(2-chloroethoxy)methane	120 ug/mL
							Bis(2-chloroethyl)ether	120 ug/mL
							Bis(2-ethylhexyl) phthalate	120 ug/mL
							Butyl benzyl phthalate	120 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	120 ug/mL
							Chrysene	120 ug/mL
							Di-n-butyl phthalate	120 ug/mL
							Di-n-octyl phthalate	120 ug/mL
							Dibenz(a,h)anthracene	120 ug/mL
							Dibenzofuran	120 ug/mL
							Diethyl phthalate	120 ug/mL
							Dimethyl phthalate	120 ug/mL
							Diphenylamine	102.6 ug/mL
							Fluoranthene	120 ug/mL
							Fluorene	120 ug/mL
							Hexachlorobenzene	120 ug/mL
							Hexachlorobutadiene	120 ug/mL
							Hexachlorocyclopentadiene	120 ug/mL
							Hexachloroethane	120 ug/mL
							Indeno[1,2,3-cd]pyrene	120 ug/mL
							Isophorone	120 ug/mL
							N-Nitrosodi-n-propylamine	120 ug/mL
							N-Nitrosodimethylamine	120 ug/mL
							N-Nitrosodiphenylamine	120 ug/mL
							Naphthalene	120 ug/mL
							Nitrobenzene	120 ug/mL
							Pentachlorophenol	240 ug/mL
							Phenanthrene	120 ug/mL
							Phenol	120 ug/mL
							Pyrene	120 ug/mL
							Pyridine	120 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA160_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	400 uL	2,4,6-Tribromophenol (Surr)	160 ug/mL
							2-Fluorobiphenyl (Surr)	160 ug/mL
							2-Fluorophenol (Surr)	160 ug/mL
							Nitrobenzene-d5 (Surr)	160 ug/mL
							Phenol-d5 (Surr)	160 ug/mL
							Terphenyl-d14 (Surr)	160 ug/mL
							Famphur	160 ug/mL
							Alachlor	160 ug/mL
							3,3'-Dichlorobenzidine	160 ug/mL
							Benzoic acid	320 ug/mL
							Atrazine	160 ug/mL
							1,2,4,5-Tetrachlorobenzene	160 ug/mL
							1,2,4-Trichlorobenzene	160 ug/mL
							1,2-Dichlorobenzene	160 ug/mL
							1,2-Diphenylhydrazine	161.756 ug/mL
							1,3-Dichlorobenzene	160 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	160 ug/mL
							1,4-Dichlorobenzene	160 ug/mL
							1,4-Dioxane	160 ug/mL
							1-Methylnaphthalene	160 ug/mL
							2,2'-oxybis[1-chloropropane]	160 ug/mL
							2,3,4,6-Tetrachlorophenol	160 ug/mL
							2,4,5-Trichlorophenol	160 ug/mL
							2,4,6-Trichlorophenol	160 ug/mL
							2,4-Dichlorophenol	160 ug/mL
							2,4-Dimethylphenol	160 ug/mL
							2,4-Dinitrophenol	320 ug/mL
							2,4-Dinitrotoluene	160 ug/mL
							2,6-Dichlorophenol	160 ug/mL
							2,6-Dinitrotoluene	160 ug/mL
							2-Chloronaphthalene	160 ug/mL
							2-Chlorophenol	160 ug/mL
							2-Methylnaphthalene	160 ug/mL
							2-Methylphenol	160 ug/mL
							2-Nitroaniline	160 ug/mL
							2-Nitrophenol	160 ug/mL
							3 & 4 Methylphenol	160 ug/mL
							3-Nitroaniline	160 ug/mL
							4,6-Dinitro-2-methylphenol	320 ug/mL
							4-Bromophenyl phenyl ether	160 ug/mL
							4-Chloro-3-methylphenol	160 ug/mL
							4-Chloroaniline	160 ug/mL
							4-Chlorophenyl phenyl ether	160 ug/mL
							4-Nitroaniline	160 ug/mL
							4-Nitrophenol	320 ug/mL
							Acenaphthene	160 ug/mL
							Acenaphthylene	160 ug/mL
							Acetophenone	160 ug/mL
							Aniline	160 ug/mL
							Anthracene	160 ug/mL
							Azobenzene	160 ug/mL
							Benzo[a]anthracene	160 ug/mL
							Benzo[a]pyrene	160 ug/mL
							Benzo[b]fluoranthene	160 ug/mL
							Benzo[g,h,i]perylene	160 ug/mL
							Benzo[k]fluoranthene	160 ug/mL
							Benzyl alcohol	160 ug/mL
							Bis(2-chloroethoxy)methane	160 ug/mL
							Bis(2-chloroethyl)ether	160 ug/mL
							Bis(2-ethylhexyl) phthalate	160 ug/mL
							Butyl benzyl phthalate	160 ug/mL
							Carbazole	160 ug/mL
							Chrysene	160 ug/mL
							Di-n-butyl phthalate	160 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	160 ug/mL
							Dibenz(a,h)anthracene	160 ug/mL
							Dibenzofuran	160 ug/mL
							Diethyl phthalate	160 ug/mL
							Dimethyl phthalate	160 ug/mL
							Diphenylamine	136.8 ug/mL
							Fluoranthene	160 ug/mL
							Fluorene	160 ug/mL
							Hexachlorobenzene	160 ug/mL
							Hexachlorobutadiene	160 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	160 ug/mL
							Indeno[1,2,3-cd]pyrene	160 ug/mL
							Isophorone	160 ug/mL
							N-Nitrosodi-n-propylamine	160 ug/mL
							N-Nitrosodimethylamine	160 ug/mL
							N-Nitrosodiphenylamine	160 ug/mL
							Naphthalene	160 ug/mL
							Nitrobenzene	160 ug/mL
							Pentachlorophenol	320 ug/mL
							Phenanthrene	160 ug/mL
							Phenol	160 ug/mL
							Pyrene	160 ug/mL
							Pyridine	160 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added	Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA200_00028	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	500 uL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
					MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-568023_00036	1 mL	Famphur	200 ug/mL
					MS-568033_00013	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00004	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00048	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00002	1 mL	Atrazine	200 ug/mL
					MS-570666_00010	2 mL	1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	171 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00036	09/30/18		Restek, Lot A0121843		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00013	10/31/17		Restek, Lot A0118842		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00004	09/30/17		Restek, Lot A0118008		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00048	05/31/17		Restek, Lot A0115596		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00002	05/31/17		Restek, Lot A0115387		(Purchased Reagent)		Atrazine	2000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	855 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	1000 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00113	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00113	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLA_STK_00026	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl (Surr)	80 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5 (Surr)	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14 (Surr)	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
.MS-HSLA_STK_00026	04/30/17	11/07/16	Methylene Chloride, Lot 138764	10 mL	MS-567685_00002	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl (Surr)	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-570666_00010	2 mL	Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
..MS-567685_00002	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-570666_00010	04/30/17		Restek, Lot A0114832		(Purchased Reagent)		Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
MS-HSLB1B3SSV_00037	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLB1B3SSV_00037	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-HSLB1_STK_00008	250 uL	Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
.MS-HSLB1_STK_00008	06/30/17	06/30/16	Methylene Chloride, Lot 123631	10 mL	MS-570666.SEC_00001	2 mL	Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
..MS-570666.SEC_00001	06/30/17		Restek, Lot A0115803		(Purchased Reagent)		Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
MS-HSLB2SSV_00035	02/11/17	11/08/16	Methylene Chloride, Lot 138764	0.5 mL	MS-IS_00009	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00018	11/30/19		Restek, Lot A0107273		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-IS_00009	02/11/17	02/11/16	Methylene Chloride, Lot 98740	300 mL	MS-567684_00018	60 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.MS-567684_00018	11/30/19	Restek, Lot A0107273			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SFD CAL INT_01294	01/14/17	10/14/16	Di Water, Lot NA	500 mL	SFD CAL STK_00003	3.73034 g	Sulfide	996.001 mg/L
.SFD CAL STK_00003	12/31/17	FISHER, Lot 127305			(Purchased Reagent)		Sulfide	0.1335 g/g

Reagent

1000 B_00012

'al Requirements for the Competence of Reference Material Producers"

ducer - Accredited / A2LA Certificate Number 883.02

'IRATION AND PERIOD OF VALIDITY

within the measurement uncertainty specified provided the CRM/RM is stored and th instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 CRM/RM is damaged, contaminated, or otherwise modified.

s CRM/RM should not be used.

eflects the period of time that the stability of a CRM/RM can be supported by long term d on properly stored and handled CRM/RMs. Lot expiration is limited primarily by er from the solution) and infrequently by chemical stability.

Date: _____

ot be used longer than one year from the date of removal from the aluminized bag or c. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled with the instructions given in Sec 7.1.

S OF CERTIFYING OFFICERS

nician Zachary Saunders

ctor Brian Alejnikov

or Paul R Haines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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inorganicventures.com

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fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGB1
Lot Number:	H2-B02125
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: B
Starting Material:	Recrystallized H3BO3
Starting Material Lot#:	F2-B02105
Starting Material Purity:	100.0000%

3781826
ID: 1000 B_00012
Exp: 02/05/18 Prpd: SJS
1000 B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 6 µg/mL - weighted mean

Certified Density: 1.001 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1003 ± 5 µg/mL**
ICP Assay NIST SRM 3107 Lot Number: 110830

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000100	M	Eu	<	0.000100	O	Na		0.000833	M	Se	<	0.005021	O	Zn	<	0.008176
O	Al	<	0.008176	O	Fe	<	0.003066	M	Nb	<	0.000100	O	Si	<	0.009198	M	Zr	<	0.000100
M	As	<	0.000502	M	Ga	<	0.000502	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000100	M	Gd	<	0.000100	O	Ni	<	0.003066	M	Sn	<	0.000100				
s	B	<		M	Ge	<	0.003013	n	Os	<		M	Sr	<	0.000301				
M	Ba	<	0.000100	M	Hf	<	0.000100	O	P	<	0.153300	M	Ta	<	0.000100				
M	Be	<	0.000803	O	Hg	<	0.051100	M	Pb	<	0.000100	M	Tb	<	0.000100				
M	Bi	<	0.000100	M	Ho	<	0.001004	M	Pd	<	0.000100	M	Te	<	0.001004				
O	Ca		0.000552	M	In	<	0.000100	M	Pr	<	0.000100	M	Th	<	0.000100				
M	Cd	<	0.000100	M	Ir	<	0.000100	M	Pt	<	0.000100	O	Ti	<	0.001533				
M	Ce	<	0.000100	O	K	<	0.001635	M	Rb	<	0.001004	M	Tl	<	0.000100				
M	Co	<	0.001004	M	La	<	0.000100	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr	<	0.002008	O	Li	<	0.000061	M	Rh	<	0.000100	M	U	<	0.000100				
M	Cs	<	0.003013	M	Lu	<	0.000100	M	Ru	<	0.000100	O	V	<	0.003066				
M	Cu	<	0.002008	O	Mg	<	0.000082	n	S	<		M	W	<	0.001004				
M	Dy	<	0.000100	O	Mn	<	0.005110	M	Sb	<	0.000100	M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000100	O	Sc	<	0.010220	M	Yb	<	0.000100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 10.81 +3 4 B(OH)3 and B(OH)4-1

Chemical Compatibility -Moderately soluble in HCl, HNO3, H2SO4 and HF aqueous matrices and very soluble in NH4OH . Stable with all metals and inorganic anions at low to moderate ppm levels.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-1,000 ppm solutions chemically stable for years in 1% HNO3 / LDPE container. 1000 -10,000 ppm stable for years in dilute NH4OH / LDPE container.

B Containing Samples (Preparation and Solution) -Metal (Crystalline form is scarcely attacked by acids or alkaline solutions; amorphous form is soluble in conc. HNO3 or H2SO4); B(OH)3 (water soluble); Ores(avoid acid digestions and use caustic fusions in PtE); Organic Matrices (dry ash mixed with Na2CO3 in PtE at 450EC then increase heat to 1000EC to fuse; or perform a Na2O2 fusion in a NiE crucible / Parr bomb).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 11 amu	700 ppt	N/A	
ICP-OES 208.959 nm	0.007/0.0005 µg/mL	1	Mo
ICP-OES 249.678 nm	0.004/0.003 µg/mL	1	Os, W, Co, Cr, Hf
ICP-OES 249.773 nm	0.003/0.001 µg/mL	1	W, Ce, Co, Th, Ta, Mn, Mo, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

1000 Ba_00010

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 16, 2013

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 16, 2016**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Zach Saunders
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES
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info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBA1
Lot Number:	G2-BA02082
Matrix:	0.1% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Barium
Starting Material:	Ba(NO3)2
Starting Material Lot#:	1822
Starting Material Purity:	99.9991%

3347442
ID: 1000 Ba_00010
Exp:12/16/16 Prpd:SJS Opn:06/23/15
1000 Ba IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 996 ± 4 µg/mL weighted mean

Certified Density: 1.000 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **997 ± 3 µg/mL**
ICP Assay NIST SRM 3104a Lot Number: 070222

Assay Method #2 **995 ± 4 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001998	O	Eu	<	0.001700	O	Na	<	0.020000	O	Se	<	0.050000	O	Zn	<	0.000400
O	Al	<	0.001500	O	Fe	<	0.001200	M	Nb	<	0.000200	O	Si	<	0.004000	M	Zr	<	0.000200
M	As	<	0.002997	M	Ga	<	0.000200	M	Nd	<	0.000200	O	Sm	<	0.007000				
M	Au	<	0.001998	M	Gd	<	0.000200	O	Ni	<	0.002000	M	Sn	<	0.003996				
M	B	<	0.005994	M	Ge	<	0.001199	n	Os	<		O	Sr		0.010467				
s	Ba	<		M	Hf	<	0.001998	O	P	<	0.050000	M	Ta	<	0.000999				
M	Be	<	0.000200	O	Hg	<	0.009000	M	Pb		0.001593	M	Tb	<	0.000200				
M	Bi	<	0.001399	M	Ho	<	0.000200	M	Pd	<	0.000200	M	Te	<	0.011988				
O	Ca		0.000498	M	In	<	0.000200	M	Pr	<	0.000200	M	Th	<	0.000200				
M	Cd	<	0.000200	M	Ir	<	0.000200	M	Pt	<	0.000200	O	Ti	<	0.000400				
M	Ce	<	0.000200	O	K	<	0.002000	M	Rb	<	0.000200	M	Tl	<	0.000200				
M	Co	<	0.000200	O	La	<	0.002000	M	Re	<	0.000200	M	Tm	<	0.000200				
M	Cr	<	0.000999	O	Li	<	0.000080	M	Rh	<	0.000200	M	U	<	0.000200				
M	Cs	<	0.000599	M	Lu	<	0.000200	M	Ru	<	0.000200	M	V	<	0.000200				
O	Cu	<	0.004000	O	Mg	<	0.000600	O	S		0.004984	M	W	<	0.005994				
M	Dy	<	0.000200	O	Mn	<	0.000400	M	Sb	<	0.001998	O	Y	<	0.000400				
M	Er	<	0.000200	O	Mo	<	0.000300	O	Sc	<	0.000300	M	Yb	<	0.000999				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 137.33 +2 6 Ba(H2O)6+2

Chemical Compatibility - Soluble in HCl, and HNO3. Avoid H2SO4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, iodate, molybdate, sulfite and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1 -10,000 ppm solutions chemically stable for years in 1-3.5% HNO3 / LDPE container.
Ba Containing Samples (Preparation and Solution) -Metal(is best dissolved in diluted HNO3); Ores(Carbonate fusion in Pt0 followed by HCl dissolution. If sulfate is present dissolve the fuseate using HCl / tartaric acid to prevent BaSO4 precipitate); Organic Matrices (dry ash and dissolve in dilute HCl.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 138 amu	1 ppt	N/A	122Sn16O, 122Te16O
ICP-OES 230.424 nm	0.004/0.0005 µg/mL	1	Mo, Ir, Co
ICP-OES 233.527 nm	0.004/0.0003 µg/mL	1	
ICP-OES 455.403 nm	0.002/0.0001 µg/mL	1	Zr, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

1000 Cd_00008

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 31, 2014

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 31, 2017

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

3683054
ID: 1000 Cd_00008
Exp: 03/31/17 Prpd: SJS
1000 Cd IV

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCD1
Lot Number:	H2-CD02055
Matrix:	3% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Cadmium
Starting Material:	Cd shot
Starting Material Lot#:	1816
Starting Material Purity:	99.9999%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL weighted mean

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3108 Lot Number: 060531

Assay Method #2 **1003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.007976	M	Eu	<	0.000399	O	Na		0.000126	M	Se	<	0.007976	O	Zn		0.000126
O	Al		0.000226	O	Fe		0.000075	M	Nb	<	0.001196	O	Si		0.000956	O	Zr	<	0.001000
M	As	<	0.003988	M	Ga	<	0.000399	M	Nd	<	0.000399	M	Sm	<	0.000399				
M	Au	<	0.000399	M	Gd	<	0.000399	O	Ni	<	0.003000	M	Sn	<	0.004786				
O	B	<	0.000100	M	Ge	<	0.003988	n	Os	<		O	Sr	<	0.000200				
M	Ba	<	0.000399	M	Hf	<	0.000798	O	P	<	0.003000	M	Ta	<	0.003988				
M	Be	<	0.000399	O	Hg	<	0.012000	M	Pb	<	0.000399	M	Tb	<	0.000399				
M	Bi	<	0.003988	M	Ho	<	0.000399	M	Pd	<	0.000399	O	Te	<	0.010000				
O	Ca		0.000111	O	In	<	0.001000	M	Pr	<	0.000399	M	Th	<	0.000399				
s	Cd	<		M	Ir	<	0.000399	M	Pt	<	0.000399	O	Ti	<	0.000100				
M	Ce	<	0.000399	O	K	<	0.001800	M	Rb	<	0.000399	M	Tl	<	0.000399				
M	Co	<	0.000399	M	La	<	0.000399	M	Re	<	0.000399	M	Tm	<	0.000399				
M	Cr	<	0.001994	O	Li	<	0.000100	M	Rh	<	0.000399	M	U	<	0.003988				
M	Cs	<	0.000399	M	Lu	<	0.000399	M	Ru	<	0.000399	M	V	<	0.000399				
M	Cu	<	0.000798	O	Mg	<	0.000100	O	S	<	0.030000	M	W	<	0.019940				
M	Dy	<	0.000399	O	Mn	<	0.000100	M	Sb	<	0.019940	M	Y	<	0.000399				
M	Er	<	0.000399	M	Mo	<	0.003988	O	Sc	<	0.000300	M	Yb	<	0.000399				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 112.41 +2 4 Cd2(OH) (aq)3+ and Cd(OH)(aq)

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 , and HF. Avoid basic media forming insoluble carbonate and hydroxide.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in

Cd Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxides (Soluble in HCl or HNO3); Ores

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe
ICP-MS 111 amu	11 ppt	n/a	95Mo16O
ICP-OES 214.438 nm	0.003 / 0.0003 µg/mL	1	Pt, Ir
ICP-OES 226.502 nm	0.003 / 0.0003 µg/mL	1	Ir
ICP-OES 228.802 nm	0.003 / 0.0003 µg/mL	1	Co, Ir, As, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Reagent

1000 Li_00029

INORGANIC VENTURES
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inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

3731573
ID: 1000 Li_00029
Exp: 08/24/18 Prpd: SJS
1000 Li IV

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGLI1
Lot Number:	J2-LI03023
Matrix:	0.14% (v/v) HNO3
Value / Analyte(s):	1.000 µg/mL ea: Li
Starting Material:	Li2CO3
Starting Material Lot#:	1613
Starting Material Purity:	99.9985%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 4 µg/mL

Certified Density: 1.005 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **996 ± 5 µg/mL**
ICP Assay NIST SRM 3129a Lot Number: 100714

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	< 0.004204	M	Eu	< 0.006306	O	Na	0.014350	M	Se	< 0.016817	O	Zn	0.001435
O	Al	0.000406	O	Fe	0.000956	M	Nb	< 0.001051	O	Si	0.022961	M	Zr	< 0.010511
M	As	< 0.021022	M	Ga	< 0.002102	M	Nd	< 0.004204	M	Sm	< 0.002102			
M	Au	< 0.006306	M	Gd	< 0.002102	O	Ni	< 0.002300	O	Sn	< 0.006000			
O	B	0.000239	M	Ge	< 0.012613	n	Os	<	O	Sr	0.000095			
O	Ba	0.000095	M	Hf	< 0.004204	O	P	< 0.002500	M	Ta	< 0.014715			
O	Be	< 0.000200	O	Hg	< 0.015000	M	Pb	< 0.006306	M	Tb	< 0.000630			
M	Bi	< 0.000840	M	Ho	< 0.001051	M	Pd	< 0.010511	M	Te	< 0.063067			
O	Ca	0.022004	O	In	< 0.004000	M	Pr	< 0.000630	M	Th	< 0.002102			
M	Cd	< 0.006306	M	Ir	< 0.010511	M	Pt	< 0.004204	O	Ti	< 0.000700			
M	Ce	< 0.010511	O	K	0.009806	M	Rb	< 0.002102	M	Tl	< 0.002102			
M	Co	< 0.006306	M	La	< 0.001051	M	Re	< 0.002102	M	Tm	< 0.000840			
M	Cr	< 0.010511	s	Li	<	M	Rh	< 0.002102	M	U	< 0.004204			
M	Cs	< 0.000630	M	Lu	< 0.000840	M	Ru	< 0.004204	O	V	< 0.000900			
O	Cu	< 0.001400	O	Mg	0.006218	O	S	0.008132	O	W	< 0.004000			
M	Dy	< 0.012613	O	Mn	0.000033	M	Sb	< 0.001051	M	Y	< 0.084089			
M	Er	< 0.010511	M	Mo	< 0.004204	M	Sc	< 0.021022	M	Yb	< 0.002102			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 6.94 +1 (6) Li+(aq) large effective radius due to hydration sphere

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Li Containing Samples (Preparation and Solution) -Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of Li in sodium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 7 amu	10 ppt	n/a	
ICP-OES 323.261 nm	1.1 / 0.05 micro;g/mL	1	Sb, Th, Ni
ICP-OES 460.286 nm	0.9 / 0.04 µg/mL	1	Zr, Th
ICP-OES 670.784 nm	0.002 / 0.00002 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 24, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 24, 2018**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

1000 Mo_00009

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 09, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 09, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Zach Saunders
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	H2-MO02073
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Mo
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	1934
Starting Material Purity:	99.9942%

3433067
ID: 1000 Mo_00009
Exp:01/09/18 Prpd:SJS Opn:08/14/15
1000 Mo IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 6 µg/mL - weighted mean

Certified Density: 1.000 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

Assay Method #2 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.006076	M	Eu	<	0.001519	O	Na	<	0.010480	M	Se	<	0.005063	M	Zn	<	0.026834
M	Al		0.002201	M	Fe		0.000618	M	Nb	<	0.126574	i	Si	<		M	Zr	<	0.003797
M	As		0.010793	M	Ga		0.000472	i	Nd	<		M	Sm	<	0.005063				
M	Au	<	0.001519	M	Gd	<	0.002531	M	Ni	<	0.010126	M	Sn	<	0.002025				
M	B	<	0.016455	M	Ge	<	0.022277	M	Os	<	0.006077	O	Sr	<	0.001572				
M	Ba	<	0.012657	M	Hf	<	0.001519	i	P	<		M	Ta	<	0.001013				
M	Be	<	0.000506	M	Hg	<	0.015193	M	Pb	<	0.010632	M	Tb	<	0.000253				
M	Bi	<	0.000253	M	Ho	<	0.000506	M	Pd	<	0.040504	i	Te	<					
O	Ca		0.001735	M	In	<	0.025315	M	Pr	<	0.101259	M	Th	<	0.001013				
O	Cd	<	0.010480	M	Ir	<	0.001519	M	Pt	<	0.001519	O	Ti	<	0.001048				
M	Ce	<	0.063287	O	K		0.008228	M	Rb	<	0.010632	M	Tl	<	0.005569				
M	Co	<	0.006076	M	La	<	0.001519	M	Re		0.002232	M	Tm	<	0.000253				
M	Cr	<	0.011139	O	Li	<	0.005240	M	Rh	<	0.001013	M	U	<	0.002531				
M	Cs	<	0.006582	M	Lu	<	0.000253	M	Ru	<	0.001519	O	V	<					
M	Cu	<	0.014176	M	Mg		0.000566	i	S	<		M	W		0.111288				
M	Dy	<	0.010632	M	Mn	<	0.037972	M	Sb	<	0.012657	M	Y	<	0.000253				
M	Er	<	0.001519	s	Mo	<		O	Sc	<	0.010480	M	Yb	<	0.002025				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4] -2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5] -2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4] -2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br16O,190Os2+,190Pt
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

1000 Ni_00008

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
[illegible]

CERTIFICATE OF ANALYSIS

Tel: 800.669.6799 - 540.961.3050
Fax: 540.585.3012
info@inorganicventures.com

3540884
ID: 1000 Ni_00008
Exp: 02/24/18 Prpd: LRD
1000 Ni IV

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNI1
Lot Number:	J2-NI02095
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Ni
Starting Material:	Ni pieces
Starting Material Lot#:	1559
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 4 µg/mL - weighted mean

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1000 ± 4 µg/mL**
ICP Assay NIST SRM 3136 Lot Number: 120619

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.015884	M	Eu	<	0.023826	O	Na		0.000739	O	Se	<	0.006000	M	Zn	<	0.158844
O	Al	<	0.003000	O	Fe		0.001402	M	Nb	<	0.003971	O	Si		0.001784	M	Zr	<	0.039711
O	As	<	0.005400	M	Ga	<	0.007942	M	Nd	<	0.015884	M	Sm	<	0.007942				
M	Au	<	0.023826	M	Gd	<	0.007942	s	Ni	<	0.000900	M	Sn	<	0.039711				
O	B	<	0.009900	M	Ge	<	0.047653	n	Os	<		M	Sr	<	0.003971				
M	Ba	<	0.079422	M	Hf	<	0.015884	O	P	<	0.100000	M	Ta	<	0.055595				
O	Be	<	0.002000	O	Hg	<	0.011000	M	Pb	<	0.023826	M	Tb	<	0.002382				
M	Bi	<	0.003176	M	Ho	<	0.003971	M	Pd	<	0.039711	M	Te	<	0.238267				
O	Ca		0.002294	M	In	<	0.079422	M	Pr	<	0.002382	M	Th	<	0.007942				
M	Cd	<	0.023826	M	Ir	<	0.039711	M	Pt	<	0.015884	M	Ti	<	0.397111				
M	Ce	<	0.039711	O	K		0.000280	M	Rb	<	0.007942	M	Tl	<	0.007942				
O	Co		0.000446	M	La	<	0.003971	M	Re	<	0.007942	M	Tm	<	0.003176				
M	Cr	<	0.039711	O	Li	<	0.000020	M	Rh	<	0.007942	M	U	<	0.015884				
M	Cs	<	0.002382	M	Lu	<	0.003176	M	Ru	<	0.015884	M	V	<	0.015884				
M	Cu	<	0.047653	O	Mg		0.000025	O	S	<	0.025000	M	W	<	0.079422				
M	Dy	<	0.047653	M	Mn	<	0.031768	M	Sb	<	0.003971	M	Y	<	0.317689				
M	Er	<	0.039711	M	Mo	<	0.015884	M	Sc	<	0.079422	M	Yb	<	0.007942				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.69 +2 6 $Ni(H_2O)_6^{2+}$
Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.
Ni Containing Samples (Preparation and Solution) -Metal (Soluble in HNO_3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO_3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 60 amu	100 ppt	n/a	43Ca16O1H , 44Ca16O, 23Na37Cl
ICP-OES 221.647 nm	0.01 / 0.0009 µg/mL	1	Si
ICP-OES 231.604 nm	0.02 / 0.002 µg/mL	1	Sb, Ta, Co
ICP-OES 232.003 nm	0.02 / 0.006 µg/mL	1	Cr, Re, Os, Nb, Ag, Pt, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 24, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 24, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

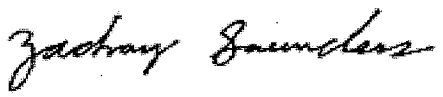
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

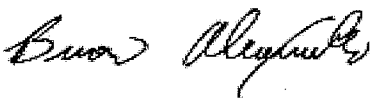
Certificate Prepared By:

Zach Saunders
Product Documentation Technician



Certificate Approved By:

Brian Alexander
PhD., Technical Process Director



Certifying Officer:

Paul Gaines
PhD., Senior Technical Director



Reagent

1000 Sb_00015

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 21, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 21, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES
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fax: 540.585.3012
inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB1
Lot Number:	J2-SB03037
Matrix:	1% (v/v) HNO3 3% Tartaric Acid
Value / Analyte(s):	1 000 µg/mL ea: Sb
Starting Material:	Sb Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9898%

4005196
ID: 1000 Sb_00015
Exp:07/19/17 Prpd:SJS Opn:07/19/16
1000 Sb IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 7 µg/mL

Certified Density: 1.022 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**996 ± 5 µg/mL** ICP Assay NIST SRM 3102A Lot Number: 061229
Assay Method #2	**1002 ± 5 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000101	M	Eu	<	0.000101	O	Na		0.007416	M	Se	<	0.003733	M	Zn		0.000243
O	Al		0.000971	O	Fe		0.002142	O	Nb	<	0.001814	O	Si		0.019082	M	Zr	<	0.001211
M	As	<	0.003228	M	Ga	<	0.000101	M	Nd	<	0.000101	M	Sm	<	0.000101				
M	Au	<	0.001994	M	Gd	<	0.000101	O	Ni		0.000525	M	Sn	<	0.001816				
O	B		0.003127	M	Ge	<	0.000807	M	Os	<	0.000100	O	Sr	<	0.000085				
O	Ba	<	0.001067	M	Hf	<	0.000101	O	P		0.006812	O	Ta	<	0.001014				
O	Be	<	0.000028	M	Hg	<	0.000299	M	Pb	<	0.000605	M	Tb	<	0.000101				
M	Bi	<	0.000101	M	Ho	<	0.000101	M	Pd	<	0.000202	M	Te	<	0.001110				
O	Ca		0.001111	M	In	<	0.000101	M	Pr	<	0.001009	M	Th	<	0.000101				
M	Cd	<	0.000101	M	Ir	<	0.000399	M	Pt	<	0.000101	O	Ti		0.001104				
O	Ce	<	0.007469	O	K		0.052182	M	Rb	<	0.002825	M	Tl	<	0.000101				
M	Co	<	0.000101	O	La	<	0.000760	M	Re	<	0.000101	M	Tm	<	0.000101				
O	Cr		0.010294	O	Li	<	0.000053	M	Rh	<	0.000101	M	U	<	0.000101				
M	Cs	<	0.002018	M	Lu	<	0.000101	M	Ru	<	0.000100	M	V	<	0.000101				
O	Cu	<	0.000598	O	Mg		0.000486	n	S	<		M	W	<	0.001009				
M	Dy	<	0.000404	O	Mn		0.000172	s	Sb	<		M	Y	<	0.000101				
M	Er	<	0.000101	M	Mo		0.000317	O	Sc	<	0.000049	O	Yb	<	0.000064				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

1000 Sn_00010

INORGANIC VENTURES™
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Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

3540885
ID: 1000 Sn_00010
Exp: 12/18/17 Prpd: LRD
1000 Sn IV

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSN1
Lot Number:	H2-SN02058R
Matrix:	tr. HNO3 / tr. HF
Value/Analyte(s):	1 000 µg/mL Tin
Starting Material:	Sn shot
Starting Material Lot#:	1744
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL - weighted mean

Certified Density: 1.000 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **1000 ± 3 µg/mL**
ICP Assay NIST SRM 3161a Lot Number: 070330

Assay Method #2 **1000 ± 3 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.005803	M	Eu	<	0.008705	O	Na		0.000347	O	Se	<	0.050000	O	Zn	<	0.000200
O	Al		0.001042	O	Fe		0.000173	M	Nb	<	0.001450	O	Si	<	0.003400	M	Zr	<	0.014509
O	As	<	0.005000	O	Ga	<	0.001600	M	Nd	<	0.005803	M	Sm	<	0.002901				
M	Au	<	0.008705	M	Gd	<	0.002901	O	Ni	<	0.010000	s	Sn	<					
O	B	<	0.012000	O	Ge	<	0.004000	n	Os	<		M	Sr	<	0.001450				
O	Ba	<	0.000700	M	Hf	<	0.005803	O	P	<	0.005000	M	Ta	<	0.020312				
M	Be	<	0.001450	O	Hg	<	0.015000	O	Pb	<	0.010000	M	Tb	<	0.000870				
M	Bi	<	0.001160	M	Ho	<	0.001450	M	Pd	<	0.014509	O	Te	<	0.050000				
O	Ca		0.000069	O	In	<	0.002000	M	Pr	<	0.000870	M	Th	<	0.002901				
O	Cd	<	0.005000	M	Ir	<	0.014509	M	Pt	<	0.005803	M	Ti	<	0.145091				
O	Ce	<	0.010000	O	K		0.000486	M	Rb	<	0.002901	M	Tl	<	0.002901				
O	Co	<	0.002000	M	La	<	0.001450	M	Re	<	0.002901	M	Tm	<	0.001160				
O	Cr	<	0.001000	O	Li	<	0.000020	M	Rh	<	0.002901	M	U	<	0.005803				
M	Cs	<	0.000870	M	Lu	<	0.001160	M	Ru	<	0.005803	O	V	<	0.001200				
M	Cu	<	0.017410	O	Mg		0.000138	n	S	<		M	W	<	0.029018				
M	Dy	<	0.017410	M	Mn	<	0.011607	O	Sb	<	0.010000	M	Y	<	0.116072				
M	Er	<	0.014509	M	Mo	<	0.005803	M	Sc	<	0.029018	M	Yb	<	0.002901				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 118.71 +4 4,5, 6,7,8 Sn(OH)xFy2-

Chemical Compatibility -Soluble in HCl and dilute HF / HNO_3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away. (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated.) Stable with most inorganic anions provided it is in the chemical form shown above.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Sn(OH)xFy2- for 1 year in 1% HNO_3 / LDPE container. 1-10,000 ppm single element solutions as the Sn(OH)xFy2- chemically stable for years in 2-5% HNO_3 / trace HF in a LDPE container.

Sn Containing Samples (Preparation and Solution) - Metal (Soluble in HF / HNO_3 or HCl); Oxides - SnO (soluble in HCl), SnO_2 -very resistant to all acids including HF(Fusion with equal parts of Na_2CO_3 and S. It is then soluble in water or dilute acids as the thiostannate.); Alloys (Treat first 0.1 g with 10 mL conc. H_2SO_4 to boiling until the alloy disintegrates and nearly all of the sulfuric acid is expelled. Then add 100 mL O_2 free water and 50 mL of conc HCl or transfer to a plastic container and add 1 mL HF in either case warming gently to bring about solution.); Organic Matrices (Volatility and precipitation of the insoluble stannic oxide are problems. Consultation of the literature should be made for individual matrices / Sn compounds.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe
ICP-MS 120 amu	5 ppt	N/A	120Te, 104Ru16O, 104Pd16O
ICP-OES 189.989 nm	0.03 / 0.003 µg/mL	1	
ICP-OES 242.949 nm	0.1 / 0.01 µg/mL	1	W, Mo, Rh ,Ta, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 18, 2014

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 18, 2017

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

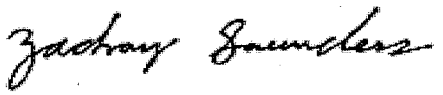
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

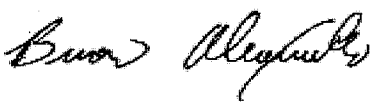
Certificate Prepared By:

Zach Saunders
Product Documentation Technician



Certificate Approved By:

Brian Alexander
PhD., Technical Process Director



Certifying Officer:

Paul Gaines
PhD., Senior Technical Director



Reagent

1000 Sr_00008

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 09, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 09, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

2809 Baytree Ridge Drive
Christiansburg, VA 24073 USA
Fax: 540.394.4212
Email: techsupport@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 863.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	J2-SR02053
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Sr
Starting Material:	SrCO3
Starting Material Lot#:	1716
Starting Material Purity:	99.9989%

3736422
ID: 1000 Sr_00008
Exp: 06/09/18 Prpd: CMK
1000 Sr IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Certified Density: 1.001 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 5 µg/mL** ICP Assay NIST SRM 3153a Lot Number: 990906
Assay Method #2	**1002 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2)^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.009865	M	Eu	<	0.014798	O	Na		0.000711	O	Se	<	0.050000	O	Zn	<	0.000400
O	Al		0.000325	O	Fe		0.000732	M	Nb	<	0.002466	O	Si		0.001423	M	Zr	<	0.024664
O	As	<	0.005000	M	Ga	<	0.004932	M	Nd	<	0.009865	M	Sm	<	0.004932				
M	Au	<	0.014798	M	Gd	<	0.004932	O	Ni	<	0.003000	M	Sn	<	0.024664				
O	B	<	0.000600	M	Ge	<	0.029597	n	Os	<		s	Sr	<					
O	Ba		0.009965	M	Hf	<	0.009865	O	P	<	0.004800	M	Ta	<	0.034530				
O	Be	<	0.000090	O	Hg	<	0.015000	M	Pb	<	0.014798	M	Tb	<	0.001479				
M	Bi	<	0.001973	M	Ho	<	0.002466	O	Pd	<	0.004000	O	Te	<	0.100000				
O	Ca		0.006101	O	In	<	0.002000	M	Pr	<	0.001479	M	Th	<	0.004932				
M	Cd	<	0.014798	M	Ir	<	0.024664	M	Pt	<	0.009865	M	Ti	<	0.246648				
M	Ce	<	0.024664	O	K	<	0.001700	i	Rb	<		M	Tl	<	0.004932				
M	Co	<	0.014798	M	La	<	0.002466	M	Re	<	0.004932	M	Tm	<	0.001973				
O	Cr	<	0.000800	O	Li	<	0.000030	O	Rh	<	0.006000	M	U	<	0.009865				
M	Cs	<	0.001479	M	Lu	<	0.001973	O	Ru	<	0.003000	M	V	<	0.009865				
O	Cu	<	0.001400	O	Mg		0.000101	n	S	<		M	W	<	0.049329				
M	Dy	<	0.029597	O	Mn	<	0.000030	M	Sb	<	0.002466	O	Y	<	0.000040				
M	Er	<	0.024664	M	Mo	<	0.009865	M	Sc	<	0.049329	M	Yb	<	0.004932				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62,+2 6 Sr(H2O)6+2
Chemical Compatibility - Soluble in HCl, and HNO3. Avoid H2SO4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container, 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO3 / LDPE container.
Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

1000 W IV_00010

INORGANIC VENTURES
[illegible]

CERTIFICATE OF ANALYSIS

[illegible]
Fax: 540.585.3012
[illegible]

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGW1
Lot Number:	J2-W02027
Matrix:	0.2% (v/v) HNO3 2% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: W
Starting Material:	W Powder
Starting Material Lot#:	1898
Starting Material Purity:	99.9953%

3913301
ID: 1000 W IV_00010
Exp: 08/19/18 Prpd: LMT
1000 Tungsten IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 997 ± 6 µg/mL

Certified Density: 1.007 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **997 ± 4 µg/mL**
ICP Assay NIST SRM 3163 Lot Number: 080331

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000742	M	Eu	<	0.000185	O	Na		0.001855	M	Se	<	0.022259	M	Zn	<	0.027823	
M	Al	<	0.037098	O	Fe	<	0.021300	M	Nb	<	0.020404	i	Si	<		O	Zr	<	0.006846	
M	As	<	0.018549	M	Ga	<	0.000927	M	Nd	<	0.005565	M	Sm	<	0.000185					
O	Au	<	0.053249	M	Gd	<	0.000185	M	Ni	<	0.009274	M	Sn	<	0.004637					
M	B	<	0.007420	M	Ge	<	0.000927	n	Os	<		M	Sr	<	0.000371					
M	Ba	<	0.003710	M	Hf	<	0.003710	i	P	<		M	Ta		0.001630					
M	Be	<	0.002782	i	Hg	<		M	Pb	<	0.000927	M	Tb	<	0.000185					
M	Bi	<	0.003710	M	Ho	<	0.000185	M	Pd	<	0.000742	M	Te	<	0.004637					
O	Ca		0.000808	M	In	<	0.000927	M	Pr	<	0.000927	M	Th	<	0.032460					
M	Cd	<	0.000927	M	Ir	<	0.000185	M	Pt	<	0.000927	M	Ti	<	0.002782					
M	Ce	<	0.000742	O	K		0.046962	M	Rb	<	0.013912	M	Tl	<	0.001855					
M	Co	<	0.001855	M	La	<	0.000185	M	Re	<	0.126132	M	Tm	<	0.000185					
M	Cr	<	0.009274	O	Li	<	0.000400	M	Rh	<	0.000185	M	U	<	0.000927					
M	Cs		0.000474	M	Lu	<	0.000185	M	Ru	<	0.001855	M	V	<	0.009274					
M	Cu	<	0.003710	O	Mg	<	0.004004	i	S	<		s	W	<						
M	Dy	<	0.000185	M	Mn	<	0.004637	M	Sb	<	0.001855	M	Y	<	0.000185					
M	Er	<	0.000185	M	Mo	<	0.004637	O	Sc	<	0.004004	M	Yb	<	0.000185					

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 183.85 +6 6,7,8,9 WOF5-2(chemical form as received)

Chemical Compatibility -W is very readily hydrolyzed requiring 0.1 to 1% HF solutions for stabile acidic solutions. The [WOF5]-2 is soluble in % levels of HCl and HNO3 provided it is in the [WOF5]-2 form. Stable at ppm levels with some metals provided it is fluorinated. <U>Do not mix with Alkaline or Rare Earths</U>. W is best to be mixed only with other fluorinated metals (Ti, Zr, Hf, Nb, Ta, Mo, Si, Sn, Ge). Look for yellow WO3 precipitate if mixed with other transitions at higher levels indicating instability. The yellow WO3 will form over a period of weeks even in trace HF, therefore, <U>HF levels of W multi-element blends should be ∼ 1%</U>.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [WOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [WOF5]-2 chemically stable for years in 1% HF in a LDPE container.

W Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3); Oxide (soluble in HF or NH4OH) ; Organic Matrices (dry ash at 450 0C in Pt0 and dissolve oxide with HF).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 182 amu	5 ppt	N/A	166Er16O
ICP-OES 207.911 nm	0.03/0.001 µg/mL	1	Ru, In
ICP-OES 209.475 nm	0.05/0.008 µg/mL	1	Mo
ICP-OES 224.875 nm	0.05/0.005 µg/mL	1	Co, Rh, Ag

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 19, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 19, 2018**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: NA - will update in this

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

1000 Zn_00015

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 21, 2014

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 21, 2017

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Brian Alexander

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Paul R Gaines

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

3730987
ID: 1000 Zn_00015
Exp: 02/15/17 Prpd: SJS
1000 Zn IV

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN1
Lot Number:	H2-ZN02100
Matrix:	2% (v/v) HNO3
Value/Analyte(s):	1 000 µg/mL Zinc
Starting Material:	Zn shot
Starting Material Lot#:	1751
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 4 µg/mL - weighted mean

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 3 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **999 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.015051	M	Eu	<	0.000502	O	Na		0.000520	M	Se	<	0.025084	s	Zn	<	
O	Al	<	0.000700	O	Fe		0.000160	M	Nb	<	0.005017	O	Si	<	0.050000	M	Zr	<	0.000502
M	As	<	0.001003	M	Ga	<	0.005017	M	Nd	<	0.000502	M	Sm	<	0.000502				
M	Au	<	0.000502	M	Gd	<	0.000502	O	Ni	<	0.003000	O	Sn	<	0.003000				
O	B		0.000080	M	Ge	<	0.005017	n	Os	<		O	Sr	<	0.000110				
O	Ba	<	0.000330	M	Hf	<	0.002508	O	P	<	0.010000	M	Ta	<	0.002508				
O	Be	<	0.000200	O	Hg	<	0.004000	M	Pb	<	0.000502	M	Tb	<	0.000502				
M	Bi	<	0.010034	M	Ho	<	0.000502	M	Pd	<	0.000502	O	Te	<	0.050000				
O	Ca		0.000480	M	In	<	0.001003	M	Pr	<	0.000502	M	Th	<	0.000502				
O	Cd		0.002860	M	Ir	<	0.000502	M	Pt	<	0.000502	O	Ti	<	0.000600				
M	Ce	<	0.000502	O	K		0.000200	M	Rb	<	0.001505	M	Tl	<	0.001003				
M	Co	<	0.001003	M	La	<	0.000502	M	Re	<	0.000502	M	Tm	<	0.000502				
O	Cr	<	0.002000	O	Li	<	0.000060	M	Rh	<	0.000502	M	U	<	0.000502				
M	Cs	<	0.000502	M	Lu	<	0.000502	M	Ru	<	0.002508	O	V	<	0.001300				
M	Cu	<	0.001003	O	Mg		0.000040	O	S	<	0.005000	M	W	<	0.030101				
M	Dy	<	0.000502	O	Mn	<	0.000400	M	Sb	<	0.001505	M	Y	<	0.000502				
M	Er	<	0.000502	M	Mo	<	0.010034	O	Sc	<	0.000500	M	Yb	<	0.000502				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

1000 Zr_00012

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 19, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 19, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZR1
Lot Number:	J2-ZR01108
Matrix:	tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Zr
Starting Material:	ZrO2
Starting Material Lot#:	1842
Starting Material Purity:	99.9913%

3650843
ID: 1000 Zr_00010
Exp:03/18/18 Prpd:SJS Opn:12/08/15
1000 Zr IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 997 ± 5 µg/mL

Certified Density: 1.000 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **996 ± 4 µg/mL**
ICP Assay NIST SRM 3169 Lot Number: 071226

Assay Method #2 **1000 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

n	Ag	<		M	Eu	<	0.000247	O	Na	<	0.314400	M	Se	<	0.494400	O	Zn	0.000103
O	Al	<	0.073360	O	Fe		0.004474	O	Nb	<	0.104800	O	Si	<	0.104800	s	Zr	<
M	As	<	0.012360	M	Ga	<	0.001236	M	Nd	<	0.000742	M	Sm	<	0.007416			
M	Au	<	0.012360	M	Gd	<	0.000247	O	Ni	<	0.003144	M	Sn	<	0.024720			
M	B	<	0.009888	M	Ge	<	0.000742	n	Os	<		M	Sr		0.000296			
M	Ba	<	0.007416	O	Hf		0.010738	O	P	<	0.052400	O	Ta	<	0.104800			
M	Be	<	0.000247	O	Hg	<	0.001048	M	Pb		0.000317	M	Tb	<	0.000247			
M	Bi	<	0.017304	M	Ho	<	0.000247	M	Pd	<	0.024720	M	Te	<	0.247200			
O	Ca	<	0.104800	M	In	<	0.002472	M	Pr	<	0.000247	M	Th	<	0.012360			
O	Cd		0.059059	M	Ir	<	0.012360	M	Pt	<	0.024720	M	Ti	<	0.017304			
M	Ce	<	0.002472	O	K	<	0.157200	M	Rb	<	0.002472	M	Tl	<	0.000247			
M	Co	<	0.002472	M	La	<	0.000247	M	Re	<	0.000247	M	Tm	<	0.000247			
O	Cr	<	0.010480	M	Li	<	0.009888	M	Rh	<	0.000247	M	U	<	0.001236			
M	Cs	<	0.012360	M	Lu	<	0.000247	M	Ru	<	0.000247	M	V	<	0.019776			
O	Cu		0.002237	O	Mg		0.000112	O	S		0.044742	M	W	<	0.024720			
M	Dy	<	0.000247	M	Mn	<	0.012360	M	Sb	<	0.002472	M	Y	<	0.000247			
M	Er	<	0.000247	O	Mo		0.001655	O	Sc	<	0.002096	M	Yb	<	0.000247			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 91.22 +4 6,7,8 Zr(F)6-2

Chemical Compatibility -Soluble in concentrated HCl, HF, H2SO4 (very hot) and HNO3. Avoid H3PO4and neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions but precipitation with phosphate, oxalate, and tartrate with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Zr(F)6-2 + Zr(OH)4F2-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Zr(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in a LDPE container.

Zr Containing Samples (Preparation and Solution) -Metal (Soluble in H2O / HF / HNO3); Oxide unlike TiO2 the ZrO2 is best fused in one of the following ways (Na2O2 in Ni0, Na2CO3 in Pt0 or Borax in Pt0); Organic Matrices (dry ash at 450 0C in Pt0 and dissolve by fusing with Na2CO3 and dissolving in HF / HNO3 / H2O).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 90 amu	2 ppt	N/A	74Ge16O, 74Se16O, [180X+2 (where X = Hf, Ta, W)]
ICP-OES 272.261 nm	0.018/0.001 µg/mL	1	Cr, V, Th, W
ICP-OES 339.198 nm	0.008/0.0007 µg/mL	1	Th, Mo
ICP-OES 343.823 nm	0.007/0.0004 µg/mL	1	Hf, Nb

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

10000 Al_00015

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 06, 2014

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- May 06, 2017

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 • USA
inorganicventures.com

tel: 800-669-6799 • 540-585-3030
fax: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	H2-AL04147
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Al Shot
Starting Material Lot#:	1758,1824
Starting Material Purity:	99.9975%

3736407
ID: 10000 Al_00015
Exp: 05/06/17 Prpd: CMK
10000 Al IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10 003 ± 36 µg/mL

Certified Density: 1.082 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **9979 ± 43 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 060502

Assay Method #2 **10017 ± 33 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.003221	M	Eu	<	0.000644	O	Na		0.013037	M	Se	<	0.032210	O	Zn	0.015338
s	Al	<		O	Fe		0.056750	M	Nb	<	0.006442	O	Si		0.053683	O	Zr	0.001303
M	As	<	0.012884	M	Ga		0.039523	M	Nd	<	0.012884	M	Sm	<	0.001288			
M	Au	<	0.000644	M	Gd	<	0.003221	O	Ni		0.001533	M	Sn	<	0.019326			
O	B		0.005828	M	Ge	<	0.003221	n	Os	<		O	Sr	<	0.000080			
M	Ba	<	0.003865	M	Hf	<	0.012884	O	P	<	0.020000	M	Ta	<	0.006442			
O	Be	<	0.000070	O	Hg	<	0.005000	M	Pb	<	0.019326	M	Tb	<	0.001932			
M	Bi	<	0.032210	M	Ho	<	0.000644	M	Pd	<	0.001932	M	Te	<	0.193260			
O	Ca		0.021013	M	In	<	0.003221	M	Pr	<	0.003221	M	Th	<	0.006442			
M	Cd	<	0.002576	M	Ir	<	0.000644	M	Pt	<	0.000644	O	Ti		0.002454			
M	Ce	<	0.032210	O	K		0.006902	M	Rb	<	0.000644	M	Tl	<	0.006442			
M	Co	<	0.001288	M	La	<	0.032210	M	Re	<	0.000644	M	Tm	<	0.000644			
O	Cr	<	0.010000	O	Li	<	0.000040	M	Rh	<	0.000644	M	U	<	0.006442			
M	Cs	<	0.002576	M	Lu	<	0.000644	M	Ru	<	0.000644	O	V		0.007055			
O	Cu		0.018405	O	Mg		0.011810	O	S	<	0.100000	O	W		0.007669			
M	Dy	<	0.001932	O	Mn		0.006902	M	Sb	<	0.025768	M	Y	<	0.003221			
M	Er	<	0.001288	M	Mo	<	0.096630	O	Sc	<	0.003000	M	Yb	<	0.000644			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3
Chemical Compatibility -Soluble in HCl, HNO3, HF and H2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

10000 Fe_00015

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com
tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGFE10
Lot Number:	J2-FE04047
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Fe
Starting Material:	Fe pieces
Starting Material Lot#:	1820
Starting Material Purity:	99.9965%

3628328
ID: 10000 Fe_00015
Exp:02/13/18 Prpd:SJS Opn:11/20/15
10000 Fe IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10 008 ± 23 µg/mL - weighted mean

Certified Density: 1.045 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **9992 ± 31 µg/mL**
ICP Assay NIST SRM 3126a Lot Number: 140812

Assay Method #2 **10 020 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.003345	M	Eu	<	0.000669	O	Na		0.010415	M	Se	<	0.020072	M	Zn		0.053570
M	Al		0.038176	s	Fe	<		M	Nb	<	0.013382	O	Si		0.054441	M	Zr	<	0.006691
M	As	<	0.053526	M	Ga	<	0.033454	M	Nd	<	0.000669	M	Sm	<	0.006691				
M	Au	<	0.000669	M	Gd	<	0.000669	M	Ni		0.032758	M	Sn	<	0.006691				
O	B	<	0.012860	i	Ge	<		n	Os	<		O	Sr	<	0.001286				
O	Ba	<	0.003858	M	Hf	<	0.003345	i	P	<		M	Ta	<	0.000669				
O	Be	<	0.000257	O	Hg	<	0.007716	M	Pb	<	0.003345	M	Tb	<	0.000669				
M	Bi	<	0.001338	M	Ho	<	0.000669	M	Pd	<	0.000669	M	Te	<	0.033454				
O	Ca		0.017989	M	In	<	0.026763	M	Pr	<	0.000669	M	Th	<	0.000669				
M	Cd	<	0.000669	M	Ir	<	0.000669	M	Pt	<	0.001338	O	Ti	<	0.002572				
M	Ce	<	0.001338	O	K		0.006628	M	Rb	<	0.000669	M	Tl	<	0.000669				
M	Co		0.018103	M	La	<	0.000669	M	Re	<	0.000669	M	Tm	<	0.000669				
O	Cr		0.023670	O	Li	<	0.000077	M	Rh	<	0.000669	M	U	<	0.000669				
M	Cs	<	0.006691	M	Lu	<	0.000669	M	Ru	<	0.000669	M	V	<	0.006691				
M	Cu		0.019950	O	Mg		0.001183	O	S		0.035505	M	W	<	0.020072				
M	Dy	<	0.000669	O	Mn		0.085212	M	Sb		0.033250	M	Y	<	0.000669				
M	Er	<	0.000669	M	Mo	<	0.066908	M	Sc	<	0.001338	M	Yb	<	0.000669				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference

n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 55.85 +3 6 Fe(H2O)63+

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF and H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Fe Containing Samples (Preparation and Solution) - Metal (Soluble in HCl); Oxides (If the oxide has been at a high temperature then Na2CO3 fusion in Pt0 followed by HCl dissolution otherwise dissolve in dilute HCl); Ores (See Oxides above using only the fusion approach).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 56 amu	970 ppt	N/A	40Ar15N1H, 40Ar16O, 36Ar17O1H , 38Ar18O, 37Cl18O1H, 40Ca16O
ICP-OES 238.204 nm	0.005/0.001 µg/mL	1	Ru, Co
ICP-OES 239.562 nm	0.005/0.001 µg/mL	1	Co, W, Cr
ICP-OES 259.940 nm	0.006/0.001 µg/mL	1	Hf, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

10000 Na_00051

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 01, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- October 01, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 · ACCREDITED Reference Material Producer Certificate 883.02

4060916
ID: 10000 Na_00051
Exp: 07/28/17 Prpd: SJS
10000 Na IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	J2-NA03138
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Na
Starting Material:	Na2CO3
Starting Material Lot#:	1628 and 1870
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9991 ± 18 µg/mL

Certified Density: 1.033 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **10015 ± 47 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 120715

Assay Method #2 **9987 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

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Characterization of CRM/RM by One Method

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$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000918	M	Eu	<	0.000918	s	Na	<		M	Se	<	0.022938	O	Zn		0.000610
O	Al		0.001264	O	Fe		0.000544	M	Nb	<	0.000918	O	Si		0.011060	O	Zr	<	0.000676
M	As	<	0.003670	M	Ga	<	0.000918	M	Nd	<	0.000918	M	Sm	<	0.000918				
M	Au	<	0.002766	M	Gd	<	0.000918	O	Ni	<	0.001094	M	Sn	<	0.000918				
O	B	<	0.001824	M	Ge	<	0.000918	M	Os	<	0.000922	O	Sr		0.000167				
O	Ba		0.000350	M	Hf	<	0.000918	O	P	<	0.024320	M	Ta	<	0.000918				
O	Be	<	0.000061	M	Hg	<	0.001844	O	Pb	<	0.006080	M	Tb	<	0.000918				
M	Bi	<	0.000918	M	Ho	<	0.000918	M	Pd	<	0.000918	M	Te	<	0.003670				
O	Ca		0.013026	M	In	<	0.000918	M	Pr	<	0.000918	M	Th	<	0.000918				
O	Cd	<	0.000202	M	Ir	<	0.000922	M	Pt	<	0.000918	O	Ti	<	0.000365				
M	Ce	<	0.000918	O	K		0.102256	M	Rb		0.007387	M	Tl	<	0.000918				
O	Co	<	0.000608	M	La	<	0.000918	M	Re	<	0.000918	M	Tm	<	0.000918				
O	Cr	<	0.000652	O	Li	<	0.000243	M	Rh	<	0.000918	M	U	<	0.000918				
M	Cs		0.015360	M	Lu	<	0.000918	M	Ru	<	0.003689	O	V	<	0.000730				
O	Cu	<	0.000730	O	Mg		0.011918	O	S		0.013746	M	W	<	0.001835				
M	Dy	<	0.000918	O	Mn		0.000091	M	Sb	<	0.000918	O	Y	<	0.000730				
M	Er	<	0.000918	O	Mo	<	0.001180	O	Sc	<	0.000122	O	Yb	<	0.000036				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

Reagent

10000 Si_00012

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI10
Lot Number:	J2-SI03056
Matrix:	1% (v/v) HNO3 1.4% (v/v) HF
Value / Analyte(s):	10 000 µg/mL ea: Si
Starting Material:	Fumed Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9931%

3650842
ID: 10000 Si_00012
Exp:06/26/18 Prpd:SJS Opn:12/06/15
10000 Si IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 53 µg/mL

Certified Density: 1.046 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**9990 ± 60 µg/mL** ICP Assay NIST SRM 3150 Lot Number: 071204
Assay Method #2	**9994 ± 66 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000504	M	Eu	<	0.000252	O	Na		0.009659	M	Se	<	0.025180	O	Zn	<	0.022280
O	Al		0.067136	i	Fe	<		M	Nb	<	0.001007	s	Si	<		O	Zr	<	0.001114
O	As	<	0.222800	M	Ga	<	0.000252	M	Nd	<	0.002014	M	Sm	<	0.000252				
M	Au	<	0.000252	M	Gd	<	0.000252	O	Ni	<	0.005570	M	Sn	<	0.003777				
O	B		0.123710	O	Ge	<		n	Os	<		O	Sr	<	0.000334				
O	Ba		0.000719	M	Hf	<	0.001259	O	P	<	0.111400	M	Ta	<	0.005036				
O	Be	<	0.000045	i	Hg	<		M	Pb	<	0.000252	M	Tb	<	0.000252				
M	Bi	<	0.000252	M	Ho	<	0.000252	M	Pd	<	0.000252	M	Te	<	0.003777				
O	Ca		0.017415	M	In	<	0.000252	M	Pr	<	0.000252	M	Th	<	0.002518				
M	Cd	<	0.000252	M	Ir	<	0.000252	M	Pt	<	0.000252	O	Ti		0.002199				
M	Ce	<	0.001259	O	K		0.045202	M	Rb	<	0.050360	M	Tl	<	0.000252				
M	Co	<	0.000755	M	La	<	0.000252	M	Re	<	0.000252	M	Tm	<	0.000252				
M	Cr	<	0.003777	O	Li	<	0.000111	M	Rh	<	0.000252	M	U	<	0.000252				
M	Cs	<	0.002014	M	Lu	<	0.000252	M	Ru	<	0.000252	O	V	<	0.001114				
O	Cu	<	0.001114	O	Mg		0.001727	O	S		1.317984	M	W	<	0.000252				
M	Dy	<	0.000252	M	Mn	<	0.007554	M	Sb	<	0.000252	M	Y	<	0.000252				
M	Er	<	0.000252	M	Mo	<	0.001259	O	Sc	<	0.000111	M	Yb	<	0.000252				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-
Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.
Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.
Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si-O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 26, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 26, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

570666_00025

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00026

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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CERTIFIED REFERENCE MATERIAL

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00027

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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Certificate of Analysis

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00030

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00031

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/- 5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/- 11.9604	µg/mL	Unstressed
	Purity 99%				+/- 19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/- 5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/- 11.9512	µg/mL	Unstressed
	Purity 98%				+/- 19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/- 5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/- 11.9596	µg/mL	Unstressed
	Purity 99%				+/- 19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/- 5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/- 11.9720	µg/mL	Unstressed
	Purity 99%				+/- 19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/- 5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/- 11.9565	µg/mL	Unstressed
	Purity 99%				+/- 19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/- 5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/- 11.9756	µg/mL	Unstressed
	Purity 99%				+/- 19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/- 11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/- 23.9061	µg/mL	Unstressed
	Purity 99%				+/- 38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/- 5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/- 11.9620	µg/mL	Unstressed
	Purity 99%				+/- 19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/- 5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/- 11.9632	µg/mL	Unstressed
	Purity 99%				+/- 19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/- 5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 11.9724	µg/mL	Unstressed
	Purity 99%				+/- 19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/- 11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/- 23.9113	µg/mL	Unstressed
	Purity 99%				+/- 38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/- 5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/- 11.9541	µg/mL	Unstressed
	Purity 99%				+/- 19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/- 5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/- 11.9587	µg/mL	Unstressed
	Purity 98%				+/- 19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/- 5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/- 11.9664	µg/mL	Unstressed
	Purity 99%				+/- 19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/- 5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/- 11.9620	µg/mL	Unstressed
	Purity 99%				+/- 19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/- 5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/- 11.9648	µg/mL	Unstressed
	Purity 99%				+/- 19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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Certificate of Analysis

ilac-MRA

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00032

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Reagent

570666_00033

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane CAS # 123-91-1 Purity 99%	(Lot SHBG1461V)	1,000.9 µg/mL	+/- 5.8193 +/- 11.9648 +/- 19.0418	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Pyridine CAS # 110-86-1 Purity 99%	(Lot SHBC7174V)	1,004.7 µg/mL	+/- 5.8416 +/- 12.0106 +/- 19.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine CAS # 62-75-9 Purity 99%	(Lot 4370100)	1,002.6 µg/mL	+/- 5.8294 +/- 11.9855 +/- 19.0748	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Aniline CAS # 62-53-3 Purity 99%	(Lot K22Z462)	1,001.8 µg/mL	+/- 5.8246 +/- 11.9756 +/- 19.0590	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether CAS # 111-44-4 Purity 99%	(Lot SHBD4430V)	1,000.2 µg/mL	+/- 5.8152 +/- 11.9565 +/- 19.0285	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol CAS # 95-57-8 Purity 99%	(Lot STBF2690V)	1,001.6 µg/mL	+/- 5.8236 +/- 11.9736 +/- 19.0558	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Phenol CAS # 108-95-2 Purity 99%	(Lot SHBF1351V)	1,000.6 µg/mL	+/- 5.8176 +/- 11.9612 +/- 19.0361	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 **Purity** 99%	(Lot 3299900)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2 **Purity** 99%	(Lot BCBH1617V)	1,002.2	µg/mL	+/- 5.8271 +/- 11.9808 +/- 19.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 98%	(Lot SHBC5541V)	1,000.1	µg/mL	+/- 5.8144 +/- 11.9547 +/- 19.0258	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBH4351V)	1,000.4	µg/mL	+/- 5.8164 +/- 11.9588 +/- 19.0323	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0 **Purity** 99%	(Lot MKBN2776V)	1,001.1	µg/mL	+/- 5.8205 +/- 11.9672 +/- 19.0456	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8 **Purity** 99%	(Lot 12528PH)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9624 +/- 19.0380	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 98%	(Lot J31X013)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9626 +/- 19.0382	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2-Methylnaphthalene **CAS #** 91-57-6 **Purity** 99%	(Lot 19399MJV)	1,001.3	µg/mL	+/- 5.8216 +/- 11.9696 +/- 19.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC0769V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0 **Purity** 99%	(Lot 525000-10)	1,001.1	µg/mL	+/- 5.8203 +/- 11.9668 +/- 19.0450	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3 **Purity** 99%	(Lot 06024AIV)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4 **Purity** 97%	(Lot 150909)	999.7	µg/mL	+/- 5.8126 +/- 11.9510 +/- 19.0199	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,001.4	µg/mL	+/- 5.8220 +/- 11.9704 +/- 19.0507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot 150806JLM)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot AJ2UI-TE)	1,000.9	µg/mL	+/- 5.8193 +/- 11.9648 +/- 19.0418	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,000.6	µg/mL	+/- 5.8178 +/- 11.9616 +/- 19.0368	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Azobenzene **CAS #** 103-33-3 **Purity** 99%	(Lot MKBS2559V)	1,001.2	µg/mL	+/- 5.8213 +/- 11.9688 +/- 19.0482	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	Diphenylamine **CAS #** 122-39-4 **Purity** 99%	(Lot MKBN8295V)	850.7	µg/mL	+/- 4.9460 +/- 10.1693 +/- 16.1843	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol) **CAS #** 534-52-1 **Purity** 99%	(Lot LC12394V)	2,000.9	µg/mL	+/- 11.6336 +/- 23.9193 +/- 38.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	4-Bromophenyl phenyl ether **CAS #** 101-55-3 **Purity** 98%	(Lot STBB9729V)	999.8	µg/mL	+/- 5.8131 +/- 11.9520 +/- 19.0215	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot LC10604V)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Pentachlorophenol **CAS #** 87-86-5 **Purity** 98%	(Lot 150902JLM)	2,000.5	µg/mL	+/- 11.6311 +/- 23.9142 +/- 38.0591	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	Phenanthrene **CAS #** 85-01-8 **Purity** 99%	(Lot MKBT8628V)	1,001.9	µg/mL	+/- 5.8249 +/- 11.9764 +/- 19.0602	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	n-Octadecane (C18) **CAS #** 593-45-3 **Purity** 99%	(Lot 27SOF)	1,000.8	µg/mL	+/- 5.8187 +/- 11.9636 +/- 19.0399	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Anthracene **CAS #** 120-12-7 **Purity** 99%	(Lot MKBK5208V)	1,001.4	µg/mL	+/- 5.8224 +/- 11.9712 +/- 19.0520	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	Carbazole **CAS #** 86-74-8 **Purity** 98%	(Lot 4017900)	1,000.4	µg/mL	+/- 5.8161 +/- 11.9583 +/- 19.0314	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	Di-n-butylphthalate **CAS #** 84-74-2 **Purity** 99%	(Lot MKBL8501V)	1,003.6	µg/mL	+/- 5.8348 +/- 11.9967 +/- 19.0926	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	Fluoranthene **CAS #** 206-44-0 **Purity** 98%	(Lot MKBQ6360V)	1,000.7	µg/mL	+/- 5.8184 +/- 11.9629 +/- 19.0389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	Pyrene **CAS #** 129-00-0 **Purity** 99%	(Lot BCBL6786V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Benzyl butyl phthalate **CAS #** 85-68-7 **Purity** 99%	(Lot 03027HV)	1,000.3	µg/mL	+/- 5.8158 +/- 11.9576 +/- 19.0304	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Benz(a)anthracene **CAS #** 56-55-3 **Purity** 99%	(Lot ER031412-01)	1,000.1	µg/mL	+/- 5.8147 +/- 11.9553 +/- 19.0266	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

570666_00034

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99% (Lot SHBG1461V)	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 **Purity** 99% (Lot SHBC7174V)	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 **Purity** 99% (Lot 4370100)	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 **Purity** 99% (Lot K22Z462)	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99% (Lot SHBD4430V)	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 **Purity** 99% (Lot STBF2690V)	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 **Purity** 99% (Lot SHBF1351V)	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 **Purity** 99%	(Lot 3299900)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2 **Purity** 99%	(Lot BCBH1617V)	1,002.2	µg/mL	+/- 5.8271 +/- 11.9808 +/- 19.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 98%	(Lot SHBC5541V)	1,000.1	µg/mL	+/- 5.8144 +/- 11.9547 +/- 19.0258	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBH4351V)	1,000.4	µg/mL	+/- 5.8164 +/- 11.9588 +/- 19.0323	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0 **Purity** 99%	(Lot MKBN2776V)	1,001.1	µg/mL	+/- 5.8205 +/- 11.9672 +/- 19.0456	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8 **Purity** 99%	(Lot 12528PH)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9624 +/- 19.0380	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 98%	(Lot J31X013)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9626 +/- 19.0382	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2-Methylnaphthalene **CAS #** 91-57-6 **Purity** 99%	(Lot 19399MJV)	1,001.3	µg/mL	+/- 5.8216 +/- 11.9696 +/- 19.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC0769V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0 **Purity** 99%	(Lot 525000-10)	1,001.1	µg/mL	+/- 5.8203 +/- 11.9668 +/- 19.0450	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3 **Purity** 99%	(Lot 06024AIV)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4 **Purity** 97%	(Lot 150909)	999.7	µg/mL	+/- 5.8126 +/- 11.9510 +/- 19.0199	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,001.4	µg/mL	+/- 5.8220 +/- 11.9704 +/- 19.0507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot 150806JLM)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot AJ2UI-TE)	1,000.9	µg/mL	+/- 5.8193 +/- 11.9648 +/- 19.0418	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,000.6	µg/mL	+/- 5.8178 +/- 11.9616 +/- 19.0368	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Azobenzene **CAS #** 103-33-3 **Purity** 99%	(Lot MKBS2559V)	1,001.2	µg/mL	+/- 5.8213 +/- 11.9688 +/- 19.0482	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	Diphenylamine **CAS #** 122-39-4 **Purity** 99%	(Lot MKBN8295V)	850.7	µg/mL	+/- 4.9460 +/- 10.1693 +/- 16.1843	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol) **CAS #** 534-52-1 **Purity** 99%	(Lot LC12394V)	2,000.9	µg/mL	+/- 11.6336 +/- 23.9193 +/- 38.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	4-Bromophenyl phenyl ether **CAS #** 101-55-3 **Purity** 98%	(Lot STBB9729V)	999.8	µg/mL	+/- 5.8131 +/- 11.9520 +/- 19.0215	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot LC10604V)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Pentachlorophenol **CAS #** 87-86-5 **Purity** 98%	(Lot 150902JLM)	2,000.5	µg/mL	+/- 11.6311 +/- 23.9142 +/- 38.0591	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	Phenanthrene **CAS #** 85-01-8 **Purity** 99%	(Lot MKBT8628V)	1,001.9	µg/mL	+/- 5.8249 +/- 11.9764 +/- 19.0602	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	n-Octadecane (C18) **CAS #** 593-45-3 **Purity** 99%	(Lot 27SOF)	1,000.8	µg/mL	+/- 5.8187 +/- 11.9636 +/- 19.0399	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Anthracene **CAS #** 120-12-7 **Purity** 99%	(Lot MKBK5208V)	1,001.4	µg/mL	+/- 5.8224 +/- 11.9712 +/- 19.0520	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	Carbazole **CAS #** 86-74-8 **Purity** 98%	(Lot 4017900)	1,000.4	µg/mL	+/- 5.8161 +/- 11.9583 +/- 19.0314	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	Di-n-butylphthalate **CAS #** 84-74-2 **Purity** 99%	(Lot MKBL8501V)	1,003.6	µg/mL	+/- 5.8348 +/- 11.9967 +/- 19.0926	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	Fluoranthene **CAS #** 206-44-0 **Purity** 98%	(Lot MKBQ6360V)	1,000.7	µg/mL	+/- 5.8184 +/- 11.9629 +/- 19.0389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	Pyrene **CAS #** 129-00-0 **Purity** 99%	(Lot BCBL6786V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Benzyl butyl phthalate **CAS #** 85-68-7 **Purity** 99%	(Lot 03027HV)	1,000.3	µg/mL	+/- 5.8158 +/- 11.9576 +/- 19.0304	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Benz(a)anthracene **CAS #** 56-55-3 **Purity** 99%	(Lot ER031412-01)	1,000.1	µg/mL	+/- 5.8147 +/- 11.9553 +/- 19.0266	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

570666_00035

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

40	4-Nitroaniline		1,000.5	µg/mL	+/-	5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9604	µg/mL	Unstressed
	Purity 99%				+/-	19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/-	5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/-	11.9512	µg/mL	Unstressed
	Purity 98%				+/-	19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/-	5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9720	µg/mL	Unstressed
	Purity 99%				+/-	19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/-	11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/-	23.9061	µg/mL	Unstressed
	Purity 99%				+/-	38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/-	5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9724	µg/mL	Unstressed
	Purity 99%				+/-	19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/-	11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/-	23.9113	µg/mL	Unstressed
	Purity 99%				+/-	38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/-	11.9541	µg/mL	Unstressed
	Purity 99%				+/-	19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/-	5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/-	11.9587	µg/mL	Unstressed
	Purity 98%				+/-	19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/-	5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/-	11.9664	µg/mL	Unstressed
	Purity 99%				+/-	19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/-	5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/-	11.9620	µg/mL	Unstressed
	Purity 99%				+/-	19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed

8	n-Decane (C10)		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBG1119V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
10	1,3-Dichlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed
12	Benzyl alcohol		1,000.5	µg/mL	+/-	5.8170	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	11.9600	µg/mL	Unstressed
	Purity 99%				+/-	19.0342	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 2-KMW-57-8)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
14	2-Methylphenol (o-cresol)		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
15	Hexachloroethane		1,001.7	µg/mL	+/-	5.8238	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9740	µg/mL	Unstressed
	Purity 99%				+/-	19.0564	µg/mL	Stressed
16	Acetophenone		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,001.5	µg/mL	+/-	5.8226	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	11.9716	µg/mL	Unstressed
	Purity 99%				+/-	19.0526	µg/mL	Stressed
18	4-Methylphenol (p-cresol)		500.4	µg/mL	+/-	2.9096	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9822	µg/mL	Unstressed
	Purity 99%				+/-	9.5206	µg/mL	Stressed
19	3-Methylphenol (m-cresol)		501.7	µg/mL	+/-	2.9167	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9970	µg/mL	Unstressed
	Purity 99%				+/-	9.5441	µg/mL	Stressed
20	Nitrobenzene		1,002.1	µg/mL	+/-	5.8265	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9796	µg/mL	Unstressed
	Purity 99%				+/-	19.0653	µg/mL	Stressed
21	Isophorone		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
22	2-Nitrophenol		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane CAS # 123-91-1 Purity 99% (Lot SHBG1461V)	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine CAS # 110-86-1 Purity 99% (Lot SHBC7174V)	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine CAS # 62-75-9 Purity 99% (Lot 4370100)	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline CAS # 62-53-3 Purity 99% (Lot K22Z462)	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether CAS # 111-44-4 Purity 99% (Lot SHBD4430V)	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol CAS # 95-57-8 Purity 99% (Lot STBF2690V)	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol CAS # 108-95-2 Purity 99% (Lot SHBF1351V)	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 **Purity** 99%	(Lot 3299900)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2 **Purity** 99%	(Lot BCBH1617V)	1,002.2	µg/mL	+/- 5.8271 +/- 11.9808 +/- 19.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 98%	(Lot SHBC5541V)	1,000.1	µg/mL	+/- 5.8144 +/- 11.9547 +/- 19.0258	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBH4351V)	1,000.4	µg/mL	+/- 5.8164 +/- 11.9588 +/- 19.0323	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0 **Purity** 99%	(Lot MKBN2776V)	1,001.1	µg/mL	+/- 5.8205 +/- 11.9672 +/- 19.0456	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8 **Purity** 99%	(Lot 12528PH)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9624 +/- 19.0380	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 98%	(Lot J31X013)	1,000.7	µg/mL	+/- 5.8182 +/- 11.9626 +/- 19.0382	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2-Methylnaphthalene **CAS #** 91-57-6 **Purity** 99%	(Lot 19399MJV)	1,001.3	µg/mL	+/- 5.8216 +/- 11.9696 +/- 19.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC0769V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0 **Purity** 99%	(Lot 525000-10)	1,001.1	µg/mL	+/- 5.8203 +/- 11.9668 +/- 19.0450	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3 **Purity** 99%	(Lot 06024AIV)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4 **Purity** 97%	(Lot 150909)	999.7	µg/mL	+/- 5.8126 +/- 11.9510 +/- 19.0199	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot MKBH7393V)	1,001.4	µg/mL	+/- 5.8220 +/- 11.9704 +/- 19.0507	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot 150806JLM)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot AJ2UI-TE)	1,000.9	µg/mL	+/- 5.8193 +/- 11.9648 +/- 19.0418	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot 1277976)	1,000.6	µg/mL	+/- 5.8178 +/- 11.9616 +/- 19.0368	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Azobenzene **CAS #** 103-33-3 **Purity** 99%	(Lot MKBS2559V)	1,001.2	µg/mL	+/- 5.8213 +/- 11.9688 +/- 19.0482	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	Diphenylamine **CAS #** 122-39-4 **Purity** 99%	(Lot MKBN8295V)	850.7	µg/mL	+/- 4.9460 +/- 10.1693 +/- 16.1843	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol) **CAS #** 534-52-1 **Purity** 99%	(Lot LC12394V)	2,000.9	µg/mL	+/- 11.6336 +/- 23.9193 +/- 38.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	4-Bromophenyl phenyl ether **CAS #** 101-55-3 **Purity** 98%	(Lot STBB9729V)	999.8	µg/mL	+/- 5.8131 +/- 11.9520 +/- 19.0215	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot LC10604V)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Pentachlorophenol **CAS #** 87-86-5 **Purity** 98%	(Lot 150902JLM)	2,000.5	µg/mL	+/- 11.6311 +/- 23.9142 +/- 38.0591	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	Phenanthrene **CAS #** 85-01-8 **Purity** 99%	(Lot MKBT8628V)	1,001.9	µg/mL	+/- 5.8249 +/- 11.9764 +/- 19.0602	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	n-Octadecane (C18) **CAS #** 593-45-3 **Purity** 99%	(Lot 27SOF)	1,000.8	µg/mL	+/- 5.8187 +/- 11.9636 +/- 19.0399	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Anthracene **CAS #** 120-12-7 **Purity** 99%	(Lot MKBK5208V)	1,001.4	µg/mL	+/- 5.8224 +/- 11.9712 +/- 19.0520	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	Carbazole **CAS #** 86-74-8 **Purity** 98%	(Lot 4017900)	1,000.4	µg/mL	+/- 5.8161 +/- 11.9583 +/- 19.0314	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	Di-n-butylphthalate **CAS #** 84-74-2 **Purity** 99%	(Lot MKBL8501V)	1,003.6	µg/mL	+/- 5.8348 +/- 11.9967 +/- 19.0926	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	Fluoranthene **CAS #** 206-44-0 **Purity** 98%	(Lot MKBQ6360V)	1,000.7	µg/mL	+/- 5.8184 +/- 11.9629 +/- 19.0389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	Pyrene **CAS #** 129-00-0 **Purity** 99%	(Lot BCBL6786V)	1,000.2	µg/mL	+/- 5.8151 +/- 11.9561 +/- 19.0279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Benzyl butyl phthalate **CAS #** 85-68-7 **Purity** 99%	(Lot 03027HV)	1,000.3	µg/mL	+/- 5.8158 +/- 11.9576 +/- 19.0304	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Benz(a)anthracene **CAS #** 56-55-3 **Purity** 99%	(Lot ER031412-01)	1,000.1	µg/mL	+/- 5.8147 +/- 11.9553 +/- 19.0266	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

6860-ISStock1_00013

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

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

Lot Number: SDDG-013

Catalog Number: OLM-7310-S

3956404
ID: 6860-ISStock1_00013
Desc: Cat#OLM-7310-S, 100ug/mL Cl18O4
Exp: 2/27/2024 Prpd/Rcvd: 6/20/2016
Sol: Prpd: fiedlerh
Cat#OLM-7310-S, 100ug/mL Cl18O4

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number , Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

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

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

Reagent

6860ICVStock1_00007

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Certified Reference Material CRM

ISO 9001 QS Registered
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CERTIFIED WEIGHT REPORT:

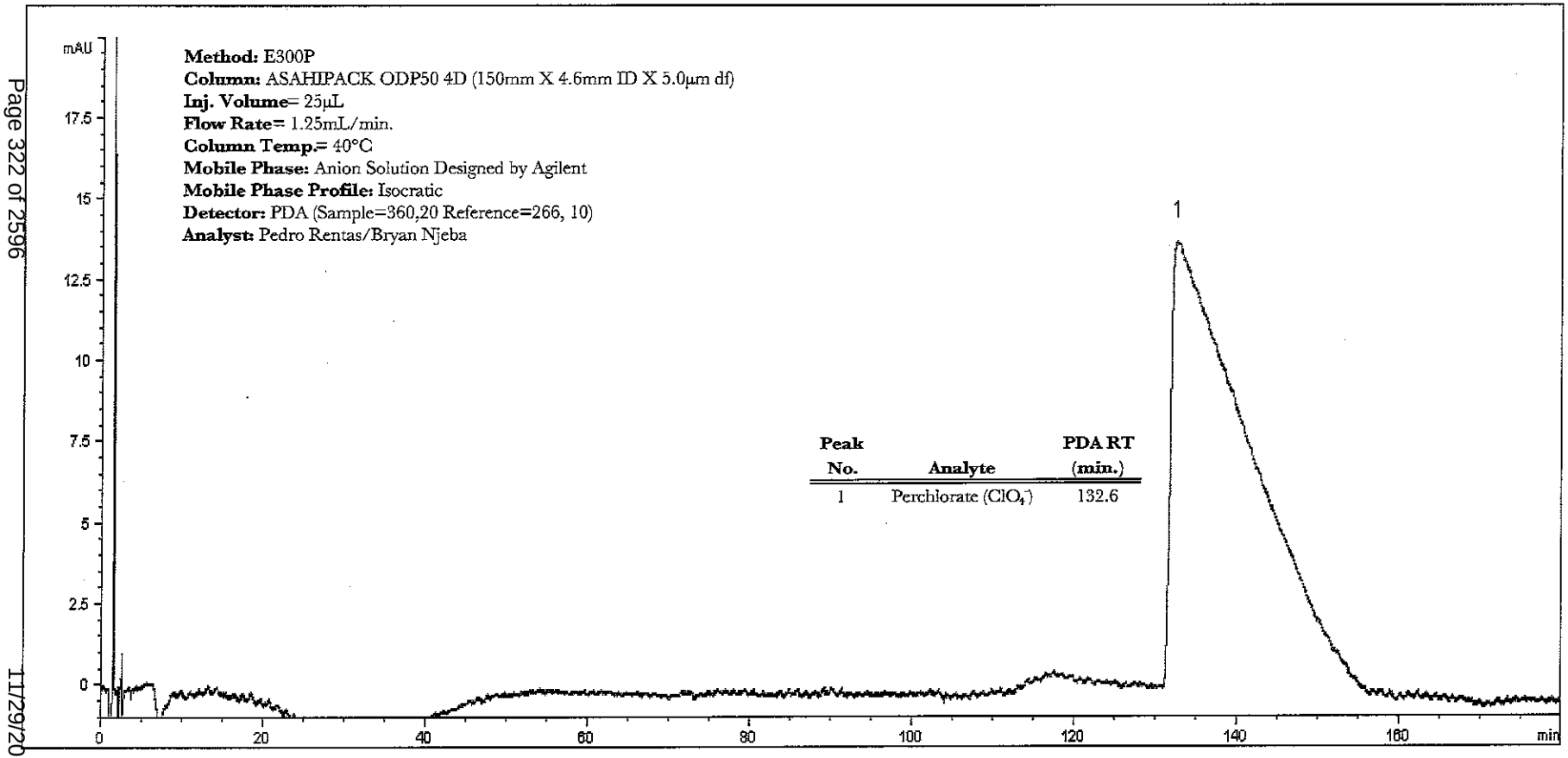
Part Number: 57001
Lot Number: 052715
Description: Perchlorate (ClO_4^-)

Lot #
Solvent: 052715 ASTM Type 1 Water

Expiration Date: 052718
Storage: 4 °C
Nominal Concentration (µg/mL): 1000
5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 999.86 0.116 Flask Uncertainty

Formulated By:	Giovanni Esposito	052715
Reviewed By:	Pedro L. Rentas	052715

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium Perchlorate (ClO4)	IN119	MKBN1540V	1000.0	98.0	0.10	81.2	1.25612	1.25620	**1000.1**	0.00206	07601-89-0	N/A	N/A	3152a



Method: E300P
Column: ASAHIPACK ODP50 4D (150mm X 4.6mm ID X 5.0µm df)
Inj. Volume= 25µL
Flow Rate= 1.25mL/min.
Column Temp.= 40°C
Mobile Phase: Anion Solution Designed by Agilent
Mobile Phase Profile: Isocratic
Detector: PDA (Sample=360,20 Reference=266, 10)
Analyst: Pedro Rentas/Bryan Njeba

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

Reagent

6860StockClO4_00010

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 215015113
Matrix: Water
Hazards: **POSSIBLE IRRITANT** - *Refer to SDS for safety info*



Warning 5

Date Certified: Feb 3, 2015
Expiration: Feb 3, 2017
Concentration: 1000 µg/mL

Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

Sample

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

The final solution was checked against an independent standard to verify its concentration.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

Balances used during preparation are calibrated regularly using NIST traceable weights.

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 its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Lydia Snyder

Lydia Snyder, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

8081/82 Surr_00089

TestAmerica
LEADER IN ENVIRONMENTAL TESTING

8081/82 Surr_00089

Reagent ID: 8081/82 Surr_00089

Description:	0.2ug/mL 8081/82 Surrogate	Expiration Date:	04/16/2017
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	Wisniewski, Jared D
Reagent Volume:	1000.000 mL	Solvent:	ACETONE
Creation Date:	10/16/2016	Solvent Lot:	Acetone_00161
Open Date:			
Container(s):	4173076, 4173077, 4173078, 4173079		
Comment:	Take 1 mL of AR_SURR_RES (Restek Cat# 32000) or 8081 SurStock and dilute to 1000 mL in Acetone. Expires after 6 months.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
DCB Decachlorobiphenyl	AR_SURR_RES_00053	10/16/2017	200.00000	ug/mL	0.20000	ug/mL
Tetrachloro-m-xylene	AR_SURR_RES_00053	10/16/2017	200.00000	ug/mL	0.20000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
AR_SURR_RES_00053	Pesticide Surrogate Mix 200ppm	ASTD	10/16/17	RESTEK	A0117947	32000	1.00000	mL

Report Date: 19-Oct-2016 08:33:53 Chrom Revision: 2.2 17-Oct-2016 09:27:18

Preliminary Report

TestAmerica Denver

Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_C\20161018-52011.b\096F1401.D				
Lims ID:	8081/82 Surr_00089				
Client ID:					
Sample Type:	Client				
Inject. Date:	18-Oct-2016 16:21:14	ALS Bottle#:	96	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	8081/82_SURR				
Operator ID:	DAW	Instrument ID:	SGC_C		
Method:	\\ChromNA\Denver\ChromData\SGC_C\20161018-52011.b\C 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	19-Oct-2016 08:33:46	Calib Date:	11-Oct-2016 15:12:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_C\20161011-51750.b\10110018.D				
Column 1 :	Rxi-35Sil MS (0.32 mm)		Det: GC ECD1A		
Column 2 :	Rxi-XLB (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK012				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	20.0	19.5	97.62
$ 40 DCB Decachlorobiphenyl	20.0	20.2	100.91

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	20.0	20.5	102.47
$ 40 DCB Decachlorobiphenyl	20.0	19.7	98.31

Reagent

8082 LCS_00044

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8082 LCS _ 00044

Reagent ID: 8082 LCS_00044

Description:	2 ug/mL	Expiration Date:	07/07/2017
No. of Bottles:	2	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	Bourgery, David F
Reagent Volume:	500.000 mL	Solvent:	ACETONE
Creation Date:	07/07/2016	Solvent Lot:	Acetone_000151
Open Date:			
Container(s):	3985865, 3985866		
Comment:	Take 1mL 8082LCSStock and dilute to 500mL in Acetone. 6 Month epxiration date. Divide into 2 bottles.		

Reagent Analyte Information

Analyte	%R	%D	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
PCB-1016	96	-3.9	8082LCSSTOCK_00032	06/30/2021	1000.00000	ug/mL	2.00000	ug/mL
PCB-1260	97	-3.5	8082LCSSTOCK_00032	06/30/2021	1000.00000	ug/mL	2.00000	ug/mL

PASS
KMM 12 JULY 2016

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8082LCSSTOCK_00032	Aroclor 1016/1260 1000UG/ML	ASTD	06/30/21	RESTEK	A0109664	32039	1.00000	mL

7-15-16
YJC

Report Date: 11-Jul-2016 08:17:00 Chrom Revision: 2.2 04-Mar-2016 14:36:24

Preliminary Report

TestAmerica Denver

Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20160708-48642.b\07081604.D
Lims ID: 8082 LCS_00044 Lab Sample ID: Client 280-332889/4-A
Client ID:
Sample Type: Client
Inject. Date: 08-Jul-2016 11:25:53 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 10.0000
Sample Info: 8082 LCS_00044
Misc. Info.: 280-0048642-004
Operator ID: JAX Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20160708-48642.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 11-Jul-2016 08:16:26 Calib Date: 25-Jun-2016 23:29:09
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20160625-48261.b\06251635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK016

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.871	1.868	0.003	576586325	1000.0	
2	1.701	1.698	0.003	283436587	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						U
1		2.808			ND	
2		2.748				
3 PCB-1221						U
1		3.024			ND	
1		3.167				
1		3.204				
2		3.067				
2		3.193				
2		3.247				
1 PCB-1016						
1	3.205	3.205	0.000	21704449	190.1	
1	3.558	3.558	0.000	42061616	200.7	
1	4.031	4.032	-0.001	92540221	196.0	
1	4.175	4.175	0.000	40455596	193.9	
1	4.631	4.632	-0.001	40623900	192.4	
		Average of Peak Amounts =			194.6	
2	3.634	3.634	0.000	22496696	198.6	
2	4.087	4.088	-0.001	48412628	193.4	
2	4.231	4.231	0.000	19848214	190.4	
2	4.461	4.461	0.000	10368506	185.0	
2	4.751	4.751	0.000	15939518	194.7	
		Average of Peak Amounts =			192.4	
					RPD = 1.14	

%R %D

+96 -3.9

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20160708-48642.b\07081604.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
7 PCB-1232						U
1	3.205				ND	
1	3.559					
1	4.032					
1	4.175					
1	4.632					
2	3.248					
2	3.635					
2	4.088					
2	4.231					
2	5.248					
10 PCB-1242						iU
1	3.557				ND	
1	4.033					
1	4.173					
1	5.153					
1	5.180					
2	3.636					
2	4.089					
2	4.233					
2	5.203					
2	5.249					
4 PCB-1248						U
1	4.026				ND	
1	4.392					
1	4.632					
1	5.129					
1	5.152					
2	4.085					
2	4.752					
2	4.888					
2	5.202					
2	5.248					
9 PCB-1254						U
1	5.397				ND	
1	5.731					
1	5.884					
1	6.244					
1	6.864					
2	5.490					
2	5.910					
2	6.057					
2	6.360					
2	7.070					

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20160708-48642.b\07081604.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
12 PCB-1260						
1	6.125	6.125	0.000	59596072	187.3	
1	6.861	6.862	-0.001	104797607	177.3	
1	7.355	7.355	0.000	58469881	208.1	
1	7.788	7.792	-0.004	126765201	205.5	
1	8.178	8.178	0.000	66531454	189.3	
		Average of Peak Amounts =			193.5	
2	6.604	6.601	0.003	37593149	185.7	
2	7.067	7.064	0.003	53893330	171.7	
2	7.594	7.594	0.000	29819866	212.3	
2	7.961	7.961	0.000	68207339	203.1	
2	8.464	8.464	0.000	49841650	193.1	
		Average of Peak Amounts =			193.2	
					RPD = 0.17	
5 PCB-1262						U
1		6.495			ND	
1		7.025				
1		7.355				
1		7.792				
1		8.179				
2		6.605				
2		7.201				
2		7.595				
2		7.965				
2		8.465				
13 PCB-1268						U
1		8.240			ND	
1		8.293				
1		8.567				
1		9.077				
1		9.490				
2		8.463				
2		8.526				
2		8.876				
2		9.309				
2		9.769				
$ 15 DCB Decachlorobiphenyl						U
1		9.762			ND	
2		10.128				
S 8 Polychlorinated biphenyls, Total						
1					388.1	
2					385.6	
					RPD = 0.66	

%R %D

+97 −3.5

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20160708-48642.b\07081604.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						iU
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						6iU
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						6iU
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Processing Flags

6 - Missing Quant Standard

i - Failed Initial Calibration Limits

Review Flags

U - Marked Undetected

Reagents:

8082 LCS_00044	Amount Added:	1.00	Units: mL	
BNB IS_00007	Amount Added:	1.00	Units: mL	Run Reagent

Reagent

8082LCSSTOCK_00032

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0109664

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1016	1,007.4 µg/mL	+/- 5.8705 µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot W-125-01)		+/- 31.3443 µg/mL	Unstressed
	Purity ----%		+/- 41.6988 µg/mL	Stressed
2	Aroclor 1260	1,009.8 µg/mL	+/- 5.8846 µg/mL	Gravimetric
	CAS # 11096-82-5 (Lot W-129-06)		+/- 31.4196 µg/mL	Unstressed
	Purity ----%		+/- 41.7990 µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

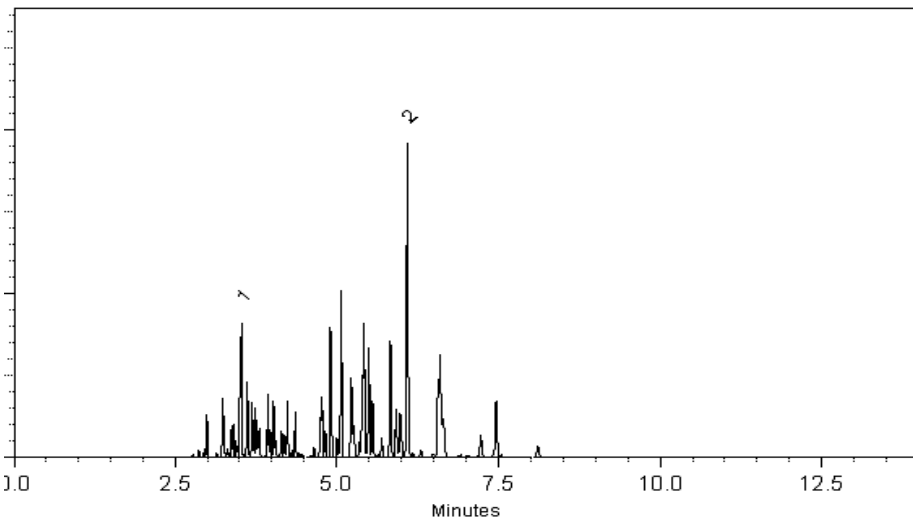
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 14-Mar-2015 **Balance:** B442140311

Diane Shaffer - QAAnalyst

Date Passed: 16-Mar-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270_LCS_Main_00036

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8270_LCS_Main_00036

		Expiration Date:	04/30/2017
Description:	USE IN CONJUCTION WITH 8270_LCS_S	Laboratory:	TestAmerica Denver
No. of Bottles:	4	Prepared By:	Isberg, Kyle
Storage Location:	North Prep	Solvent:	P&T Methanol
Reagent Volume:	500.000 mL	Solvent Lot:	MethanolP&T_00145
Creation Date:	08/23/2016		
Open Date:			
Container(s):	4073820, 4073821, 4073822, 4073823		
Comment:	Place all stocks in a sonication bath for 5 minutes before use. Dilute to 500mL in P&T MeOH 40mL of MS-570666 "8270 List 1 Std 1 MegaMix" 20mL of MS-569731 "Benzoic Acid" 1 year expiration Exchange /MeCl2 verification All Standards in fridge.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,1'-Biphenyl	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2,4,5-Tetrachlorobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2,4-Trichlorobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2-Dichlorobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2-Diphenylhydrazine	570666_00030	04/30/2017	1010.97500	ug/mL	80.87796	ug/mL
1,3-Dichlorobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,3-Dinitrobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dichlorobenzene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dioxane	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1-Methylnaphthalene	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,2'-oxybis[1-chloropropane]	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,3,4,6-Tetrachlorophenol	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4,5-Trichlorophenol	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4,6-Trichlorophenol	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dichlorophenol	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dimethylphenol	570666_00030	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20160919-51005.b\D17885.D

Lims ID: 8270_LCS_Main_00036 Inj. Date: 19-Sep-2016 13:27:30

Worklist ID: 280-0051005-043 Instrument: SMS_D

Method: SMSD_8270C

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
16 1,4-Dioxane	80.0	57.0	71.2	55-135
17 N-Nitrosodimethylamine	80.0	59.6	74.5	62-150
18 Pyridine	80.0	59.4	74.3	30-135
28 Phenol	80.0	60.4	75.5	61-135
30 Aniline	80.0	58.1	72.6	22-135
32 Bis(2-chloroethyl)ether	80.0	60.9	76.1	65-135
35 n-Decane	80.0	56.9	71.1	21-135
36 2-Chlorophenol	80.0	60.9	76.1	58-135
37 1,3-Dichlorobenzene	80.0	58.9	73.6	39-135
38 1,4-Dichlorobenzene	80.0	59.8	74.7	40-135
39 Benzyl alcohol	80.0	61.0	76.2	65-135
40 1,2-Dichlorobenzene	80.0	59.5	74.3	42-135
41 2-Methylphenol	80.0	59.8	74.7	62-135
43 2,2'-oxybis[1-chloropro	80.0	61.6	77.0	55-135
44 Indene	80.0	59.2	74.0	50-150
45 3-Methylphenol	80.0	62.0	77.5	65-135
46 3 & 4 Methylphenol	80.0	62.0	77.5	65-135
47 4-Methylphenol	80.0	62.0	77.5	65-135
48 N-Nitrosodi-n-propylami	80.0	61.6	77.0	65-135
50 Acetophenone	80.0	55.5	69.4	65-135
53 Hexachloroethane	80.0	59.9	74.9	32-135
54 Nitrobenzene	80.0	58.7	73.4	65-135
57 Isophorone	80.0	58.8	73.5	65-135
59 2-Nitrophenol	80.0	60.6	75.7	65-135
60 2,4-Dimethylphenol	80.0	59.4	74.3	44-135
63 Bis(2-chloroethoxy)meth	80.0	60.1	75.2	65-135
64 Benzoic acid	80.0	63.8	79.7	41-135
68 2,4-Dichlorophenol	80.0	59.7	74.6	62-135
70 1,2,4-Trichlorobenzene	80.0	58.5	73.1	44-135
72 Naphthalene	80.0	59.5	74.4	56-135
73 4-Chloroaniline	80.0	61.1	76.4	30-135
74 2,6-Dichlorophenol	80.0	60.8	76.0	50-150
76 Hexachlorobutadiene	80.0	59.7	74.6	35-135
83 4-Chloro-3-methylphenol	80.0	63.3	79.2	65-135
87 2-Methylnaphthalene	80.0	60.9	76.1	56-135
89 1-Methylnaphthalene	80.0	60.4	75.5	54-135
90 Hexachlorocyclopentadie	80.0	52.1	65.1	10-135
91 1,2,4,5-Tetrachlorobenz	80.0	60.6	75.8	52-135
94 2,4,6-Trichlorophenol	80.0	67.3	84.1	62-135
96 2,4,5-Trichlorophenol	80.0	63.1	78.9	64-135
100 1,1'-Biphenyl	80.0	61.8	77.2	61-135

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20160919-51005.b\D17885.D

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
102 2-Chloronaphthalene	80.0	61.7	77.2	59-135
105 2-Nitroaniline	80.0	63.6	79.5	65-135
111 Dimethyl phthalate	80.0	63.4	79.2	65-135
112 1,3-Dinitrobenzene	80.0	66.0	82.6	65-135
113 2,6-Dinitrotoluene	80.0	65.7	82.1	65-135
115 Acenaphthylene	80.0	60.4	75.5	63-135
117 3-Nitroaniline	80.0	63.3	79.1	38-135
119 Acenaphthene	80.0	61.6	76.9	61-135
120 2,4-Dinitrophenol	160.0	125.6	78.5	50-135
121 4-Nitrophenol	160.0	129.9	81.2	56-135
124 2,4-Dinitrotoluene	80.0	65.6	82.0	65-135
125 Dibenzofuran	80.0	63.0	78.8	64-135
129 2,3,4,6-Tetrachlorophen	80.0	66.2	82.7	64-135
131 Hexadecane	80.0	63.6	79.6	62-135
132 Diethyl phthalate	80.0	65.1	81.4	65-135
134 4-Chlorophenyl phenyl e	80.0	63.2	79.0	65-135
135 Fluorene	80.0	62.5	78.2	65-135
138 4-Nitroaniline	80.0	61.9	77.4	65-135
139 4,6-Dinitro-2-methylphe	160.0	128.8	80.5	63-135
140 Diphenylamine	68.2	54.7	80.2	50-150
141 N-Nitrosodiphenylamine	80.0	62.0	77.5	65-135
142 1,2-Diphenylhydrazine	80.9	64.6	79.9	65-135
143 Azobenzene	80.0	63.9	79.9	65-135
152 4-Bromophenyl phenyl et	80.0	62.4	78.0	65-135
153 Hexachlorobenzene	80.0	61.2	76.5	65-135
156 n-Octadecane	80.0	63.6	79.4	
157 Pentachlorophenol	160.0	133.2	83.3	52-135
163 Phenanthrene	80.0	62.2	77.8	65-135
164 Anthracene	80.0	62.1	77.6	65-135
165 Carbazole	80.0	62.0	77.5	65-135
169 Di-n-butyl phthalate	80.0	63.5	79.4	65-135
176 Fluoranthene	80.0	62.6	78.2	65-135
180 Pyrene	80.0	60.5	75.6	65-135
187 Butyl benzyl phthalate	80.0	61.4	76.8	65-135
192 Benzo[a]anthracene	80.0	60.9	76.1	65-135
193 Bis(2-ethylhexyl) phtha	80.0	61.9	77.4	65-135
194 Chrysene	80.0	62.4	78.0	65-135
197 Di-n-octyl phthalate	80.0	61.0	76.3	65-135
198 Benzo[b]fluoranthene	80.0	60.6	75.7	65-135
200 Benzo[k]fluoranthene	80.0	63.0	78.7	65-135
202 Benzo[a]pyrene	80.0	62.0	77.5	65-135
208 Indeno[1,2,3-cd]pyrene	80.0	58.3	72.9	65-135
209 Dibenz(a,h)anthracene	80.0	60.1	75.1	63-135
210 Benzo[g,h,i]perylene	80.0	60.2	75.3	65-135

Reagent

8270_LCS_Main_00039

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8270_LCS_Main_00039

		Expiration Date:	04/30/2017
Description:	USE IN CONJUCTION WITH 8270_LCS_S	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Arko, John R
Storage Location:	North Prep	Solvent:	P&T Methanol
Reagent Volume:	250.000 mL	Solvent Lot:	MethanolP&T_00145
Creation Date:	08/23/2016		
Open Date:			
Container(s):	4116378, 4116379		
Comment:	Place all stocks in a sonication bath for 5 minutes before use. Dilute to 500mL in P&T MeOH 40mL of MS-570666 "8270 List 1 Std 1 MegaMix" 20mL of MS-569731 "Benzoic Acid" 1 year expiration Exchange /MeCl2 verification All Standards in fridge.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,1'-Biphenyl	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2,4,5-Tetrachlorobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2,4-Trichlorobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2-Dichlorobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,2-Diphenylhydrazine	570666_00025	04/30/2017	1010.97500	ug/mL	80.87796	ug/mL
1,3-Dichlorobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,3-Dinitrobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dichlorobenzene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dioxane	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
1-Methylnaphthalene	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,2'-oxybis[1-chloropropane]	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,3,4,6-Tetrachlorophenol	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4,5-Trichlorophenol	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4,6-Trichlorophenol	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dichlorophenol	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dimethylphenol	570666_00025	04/30/2017	1000.00000	ug/mL	80.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20160920-51054.b\D17914.D
Lims ID: 8270_LCS_Main_00039 Inj. Date: 20-Sep-2016 13:42:30
Worklist ID: 280-0051054-007 Instrument: SMS_D
Method: SMSD_8270C

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
16 1,4-Dioxane	80.0	67.8	84.7	55-135
17 N-Nitrosodimethylamine	80.0	68.7	85.9	62-150
18 Pyridine	80.0	69.1	86.3	30-135
28 Phenol	80.0	70.0	87.5	61-135
30 Aniline	80.0	67.6	84.4	22-135
32 Bis(2-chloroethyl)ether	80.0	72.2	90.2	65-135
35 n-Decane	80.0	68.7	85.9	21-135
36 2-Chlorophenol	80.0	70.0	87.5	58-135
37 1,3-Dichlorobenzene	80.0	69.7	87.1	39-135
38 1,4-Dichlorobenzene	80.0	70.9	88.6	40-135
39 Benzyl alcohol	80.0	71.4	89.3	65-135
40 1,2-Dichlorobenzene	80.0	69.6	87.0	42-135
41 2-Methylphenol	80.0	71.1	88.9	62-135
43 2,2'-oxybis[1-chloropro	80.0	73.3	91.6	55-135
44 Indene	80.0	70.0	87.5	50-150
45 3-Methylphenol	80.0	71.8	89.8	65-135
46 3 & 4 Methylphenol	80.0	71.8	89.8	65-135
47 4-Methylphenol	80.0	71.8	89.8	65-135
48 N-Nitrosodi-n-propylami	80.0	71.8	89.8	65-135
50 Acetophenone	80.0	71.2	89.0	65-135
53 Hexachloroethane	80.0	71.5	89.4	32-135
54 Nitrobenzene	80.0	69.6	87.0	65-135
57 Isophorone	80.0	71.5	89.4	65-135
59 2-Nitrophenol	80.0	72.9	91.2	65-135
60 2,4-Dimethylphenol	80.0	71.2	89.0	44-135
63 Bis(2-chloroethoxy)meth	80.0	73.4	91.7	65-135
64 Benzoic acid	80.0	70.4	88.0	41-135
68 2,4-Dichlorophenol	80.0	72.6	90.8	62-135
70 1,2,4-Trichlorobenzene	80.0	70.4	88.1	44-135
72 Naphthalene	80.0	70.8	88.4	56-135
73 4-Chloroaniline	80.0	70.1	87.7	30-135
74 2,6-Dichlorophenol	80.0	72.7	90.9	50-150
76 Hexachlorobutadiene	80.0	72.6	90.8	35-135
83 4-Chloro-3-methylphenol	80.0	73.0	91.2	65-135
87 2-Methylnaphthalene	80.0	73.0	91.2	56-135
89 1-Methylnaphthalene	80.0	73.0	91.2	54-135
90 Hexachlorocyclopentadie	80.0	62.9	78.6	10-135
91 1,2,4,5-Tetrachlorobenz	80.0	72.2	90.3	52-135
94 2,4,6-Trichlorophenol	80.0	79.1	98.9	62-135
96 2,4,5-Trichlorophenol	80.0	74.2	92.7	64-135
100 1,1'-Biphenyl	80.0	73.0	91.2	61-135

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20160920-51054.b\D17914.D

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
102 2-Chloronaphthalene	80.0	73.0	91.3	59-135
105 2-Nitroaniline	80.0	72.0	90.1	65-135
111 Dimethyl phthalate	80.0	75.8	94.7	65-135
112 1,3-Dinitrobenzene	80.0	77.1	96.4	65-135
113 2,6-Dinitrotoluene	80.0	76.7	95.9	65-135
115 Acenaphthylene	80.0	70.4	88.0	63-135
117 3-Nitroaniline	80.0	72.7	90.8	38-135
119 Acenaphthene	80.0	72.7	90.9	61-135
120 2,4-Dinitrophenol	160.0	146.2	91.4	50-135
121 4-Nitrophenol	160.0	147.6	92.3	56-135
124 2,4-Dinitrotoluene	80.0	76.5	95.6	65-135
125 Dibenzofuran	80.0	73.4	91.7	64-135
129 2,3,4,6-Tetrachlorophen	80.0	77.4	96.8	64-135
131 Hexadecane	80.0	77.1	96.3	62-135
132 Diethyl phthalate	80.0	77.0	96.3	65-135
134 4-Chlorophenyl phenyl e	80.0	74.7	93.3	65-135
135 Fluorene	80.0	72.3	90.4	65-135
138 4-Nitroaniline	80.0	70.4	88.0	65-135
139 4,6-Dinitro-2-methylphe	160.0	150.3	93.9	63-135
140 Diphenylamine	68.0	63.9	94.0	50-150
141 N-Nitrosodiphenylamine	80.0	73.7	92.1	65-135
142 1,2-Diphenylhydrazine	80.9	77.3	95.6	65-135
143 Azobenzene	80.0	76.5	95.6	65-135
152 4-Bromophenyl phenyl et	80.0	74.8	93.6	65-135
153 Hexachlorobenzene	80.0	74.2	92.7	65-135
156 n-Octadecane	80.0	79.0	98.7	
157 Pentachlorophenol	160.0	159.1	99.4	52-135
163 Phenanthrene	80.0	73.0	91.3	65-135
164 Anthracene	80.0	73.1	91.3	65-135
165 Carbazole	80.0	72.2	90.3	65-135
169 Di-n-butyl phthalate	80.0	77.9	97.4	65-135
176 Fluoranthene	80.0	72.6	90.8	65-135
180 Pyrene	80.0	73.2	91.4	65-135
187 Butyl benzyl phthalate	80.0	77.1	96.4	65-135
192 Benzo[a]anthracene	80.0	72.2	90.3	65-135
193 Bis(2-ethylhexyl) phtha	80.0	78.7	98.3	65-135
194 Chrysene	80.0	73.4	91.8	65-135
197 Di-n-octyl phthalate	80.0	77.4	96.8	65-135
198 Benzo[b]fluoranthene	80.0	72.0	89.9	65-135
200 Benzo[k]fluoranthene	80.0	74.9	93.6	65-135
202 Benzo[a]pyrene	80.0	72.6	90.7	65-135
208 Indeno[1,2,3-cd]pyrene	80.0	70.1	87.6	65-135
209 Dibenz(a,h)anthracene	80.0	71.6	89.5	63-135
210 Benzo[g,h,i]perylene	80.0	70.9	88.7	65-135

Reagent

8270Surrogate_00100

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8270Surrogate_00100

Description:	8270 Surrogate 100ug/ml	Expiration Date:	10/24/2017
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	Vehonsky, Michael A
Reagent Volume:	1000.000 mL	Solvent:	ACETONE
Creation Date:	10/24/2016	Solvent Lot:	Acetone_000163
Open Date:			
Container(s):	4195757, 4195758, 4195759, 4195760		
Comment:	Take 20mL of 8270SurHL and dilute to 1000mL in acetone. One year expiration date. Split into 4x250mL bottles. Requires solvent exchange to MeCl2 prior to submission for verification.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,4,6 - Tribromophenol	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00185	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00186	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8270Surrogate_00100

Reagent ID: 8270Surrogate_00100

		Expiration Date:	10/24/2017
Description:	8270 Surrogate 100ug/ml	Laboratory:	TestAmerica Denver
No. of Bottles:	4	Prepared By:	Vehonsky, Michael A
Storage Location:	North Prep	Solvent:	ACETONE
Reagent Volume:	1000.000 mL	Solvent Lot:	Acetone_000163
Creation Date:	10/24/2016		
Open Date:			
Container(s):	4195757, 4195758, 4195759, 4195760		
Comment:	Take 20mL of 8270SurHL and dilute to 1000mL in acetone. One year expiration date. Split into 4x250mL bottles. Requires solvent exchange to MeCl2 prior to submission for verification.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2-Fluorobiphenyl	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00187	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00188	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8270SurStkHL_00185	5000 ug/ml of each compound	ASTD	06/30/19	Restek	A0103960	567685	5.00000	mL
8270SurStkHL_00186	5000 ug/ml of each compound	ASTD	06/30/19	Restek	A0103960	567685	5.00000	mL
8270SurStkHL_00187	5000 ug/ml of each compound	ASTD	06/30/19	Restek	A0103960	567685	5.00000	mL
8270SurStkHL_00188	5000 ug/ml of each compound	ASTD	06/30/19	Restek	A0103960	567685	5.00000	mL

Report Date: 26-Oct-2016 08:50:39 Chrom Revision: 2.2 17-Oct-2016 09:27:18

Preliminary Report

TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_Y\20161025-52271.b\Y11554.D
Lims ID: 8270Surrogate_00100
Client ID:
Sample Type: Client
Inject. Date: 25-Oct-2016 19:41:30 ALS Bottle#: 13 Worklist Smp#: 14
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 8270SURROGATE_00100
Operator ID: HOEFLERA Instrument ID: SMS_Y

Method: \\ChromNA\Denver\ChromData\SMS_Y\20161025-52271.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 26-Oct-2016 08:49:49 Calib Date: 13-Oct-2016 18:24:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_Y\20161013-51842.b\Y11249.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK033

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	86.3	86.34
$ 8 Phenol-d5	100.0	84.2	84.16
$ 9 Nitrobenzene-d5	100.0	77.1	77.09
$ 11 2-Fluorobiphenyl	100.0	86.8	86.80
$ 12 2,4,6-Tribromophenol	100.0	79.6	79.60
$ 13 Terphenyl-d14	100.0	88.1	88.06

Reagent

8270SurStkHL_00185

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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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Reference Material Producer
Certificate #3222.01

Certificate of Analysis

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBC5591V) **Purity** 99%	5,006.1 µg/mL	+/- 29.1044 µg/mL +/- 124.7363 µg/mL +/- 156.8636 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 (Lot X479P6) **Purity** 99%	5,002.5 µg/mL	+/- 29.0834 µg/mL +/- 124.6466 µg/mL +/- 156.7508 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-20474) **Purity** 99%	5,003.7 µg/mL	+/- 29.0901 µg/mL +/- 124.6753 µg/mL +/- 156.7868 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot B19Z016) **Purity** 99%	5,002.4 µg/mL	+/- 29.0826 µg/mL +/- 124.6429 µg/mL +/- 156.7461 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	5,024.2 µg/mL	+/- 29.2093 µg/mL +/- 125.1861 µg/mL +/- 157.4292 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-20577) **Purity** 99%	5,010.4 µg/mL	+/- 29.1291 µg/mL +/- 124.8422 µg/mL +/- 156.9968 µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00186

RESTEK®
110 Benner Circle
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Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

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Testing Laboratory
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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBC5591V) **Purity** 99%	5,006.1 µg/mL	+/- 29.1044 +/- 124.7363 +/- 156.8636	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 (Lot X479P6) **Purity** 99%	5,002.5 µg/mL	+/- 29.0834 +/- 124.6466 +/- 156.7508	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-20474) **Purity** 99%	5,003.7 µg/mL	+/- 29.0901 +/- 124.6753 +/- 156.7868	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot B19Z016) **Purity** 99%	5,002.4 µg/mL	+/- 29.0826 +/- 124.6429 +/- 156.7461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	5,024.2 µg/mL	+/- 29.2093 +/- 125.1861 +/- 157.4292	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-20577) **Purity** 99%	5,010.4 µg/mL	+/- 29.1291 +/- 124.8422 +/- 156.9968	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00187

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Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBC5591V) **Purity** 99%	5,006.1 µg/mL	+/- 29.1044 +/- 124.7363 +/- 156.8636	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 (Lot X479P6) **Purity** 99%	5,002.5 µg/mL	+/- 29.0834 +/- 124.6466 +/- 156.7508	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-20474) **Purity** 99%	5,003.7 µg/mL	+/- 29.0901 +/- 124.6753 +/- 156.7868	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot B19Z016) **Purity** 99%	5,002.4 µg/mL	+/- 29.0826 +/- 124.6429 +/- 156.7461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot 29699MJV) **Purity** 99%	5,024.2 µg/mL	+/- 29.2093 +/- 125.1861 +/- 157.4292	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-20577) **Purity** 99%	5,010.4 µg/mL	+/- 29.1291 +/- 124.8422 +/- 156.9968	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

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Reagent

8330 LCS_00071

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS _ 00071

Reagent ID: 8330 LCS_00071

Description:	10+100 ug/mL KEEP IN FREEZER	Expiration Date:	02/16/2017
No. of Bottles:	2	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Choi, Yu J
Reagent Volume:	100.000 mL	Solvent:	Acetonitrile
Creation Date:	08/16/2016	Solvent Lot:	ACN_00192
Open Date:			
Container(s):	4062585, 4062586		
Comment:	Take 1mL 8330 LCSMix1, 1mL 8330 LCSMix2, 1mL PicricARestek, 2 x1 mL 8330_NG_Stk, 2 x1mL 8330_PETN_Stk, and correct mL MNXStckPS to get 10 ug/mL, dilute to 100mL in Acetonitrile. 6 month exp date. Store frozen, do not take out of freezer. Aliquot Amt needed for extraction batch stock bottle.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00091	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00046	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00048	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00042	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00050	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00089	08/31/2020	1000.00000	ug/mL	10.00000	ug/mL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8330 LCS_00071

		Expiration Date:	02/16/2017
Description:	10+100 ug/mL KEEP IN FREEZER	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Choi, Yu J
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	100.000 mL	Solvent Lot:	ACN_00192
Creation Date:	08/16/2016		
Open Date:			
Container(s):	4062585, 4062586		
Comment:	Take 1mL 8330 LCSMix1, 1mL 8330 LCSMix2, 1mL PicricARestek, 2 x1 mL 8330_NG_Stk, 2 x1mL 8330_PETN_Stk, and correct mL MNXStckPS to get 10 ug/mL, dilute to 100mL in Acetonitrile. 6 month exp date. Store frozen, do not take out of freezer. Aliquot Amt needed for extraction batch stock bottle.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
MNX	8330MNXStckPS_00014	03/02/2017	1058.23000	ug/mL	10.05319	ug/mL
2,4,6-Trinitrophenol	PicricARestek_00075	09/27/2019	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330 LCSMix2_00091	31451 1000ug/mL 8330 Calibration Mix#2	ASTD	08/31/20	Restek	A0113065	31451	1.00000	mL
8330_NG_Stk_00046	Cat#568871 5,000ug/mL	ASTD	07/31/19	Restek	A0120172	568871	1.00000	mL
8330_NG_Stk_00048	Cat#568871 5,000ug/mL	ASTD	07/31/19	Restek	A0120172	568871	1.00000	mL
8330_PETN_Stk_00042	Cat#568872 5,000ug/mL	ASTD	06/30/19	Restek	A0120082	568872	1.00000	mL
8330_PETN_Stk_00050	Cat#568872 5,000ug/mL	ASTD	06/30/19	Restek	A0120082	568872	1.00000	mL
8330LCSMix1_00089	Cat#31450, 1000ug/mL Restek	ASTD	08/31/20	Restek	A094176	31450	1.00000	mL
8330MNXStckPS_00014	8330 MNX Stock PS @ 1070 ug/mL		03/02/17				0.95000	mL
PicricARestek_00075	Cat# 31499	ASTD	09/27/19	Restek	A0105913	31499	1.00000	mL

Report Date: 18-Aug-2016 10:28:34 Chrom Revision: 2.2 04-Mar-2016 14:36:24

Pass! 11

Preliminary Report

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\X4_C18\20160817-49980.b\003-0901.D
Lims ID: 8330LCS_00071 Lab Sample ID: Client 280-338334/8-A
Client ID:
Sample Type: Client
Inject. Date: 17-Aug-2016 18:49:15 ALS Bottle#: 3 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330LCS
Operator ID: ACF Instrument ID: CHHPLCX4_C18

Method: \\ChromNA\Denver\ChromData\X4_C18\20160817-49980.b\8330_X4.m
Limit Group: GCSV - 8330
Last Update: 18-Aug-2016 07:23:19 Calib Date: 06-Jun-2016 20:22:29
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\X4_C18\20160606-47566.b\06060024.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK034

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.647			ND	
	2 HMX	1	6.778	6.778	0.000	88686	0.9123	
	3 2,4-diamino-6-nitrotoluene	1		6.827			ND	1
	4 MNX	1	7.411	7.418	-0.007	130824	0.9319	
	5 RDX	1	7.791	7.792	-0.001	102187	0.9338	
	6 2,4,6-Trinitrophenol	1	8.038	8.065	-0.027	81948	0.8955	
E	8 1,2-Dinitrobenzene	1		8.712			ND	1
	7 1,3,5-Trinitrobenzene	1	8.865	8.872	-0.007	228083	0.9194	
	9 1,3-Dinitrobenzene	1	9.485	9.485	0.000	305573	1.02	
	12 Nitrobenzene	1	9.838	9.845	-0.007	205627	0.9543	
	10 Tetryl	1	10.065	10.065	0.000	175478	0.9452	
	11 3,5-Dinitroaniline	1		10.060			ND	1
	13 Nitroglycerin	2	10.518	10.525	-0.007	691927	9.53	
	14 2,4,6-Trinitrotoluene	1	10.965	10.972	-0.007	212358	1.05	
	15 4-Amino-2,6-dinitrotoluene	1	11.111	11.118	-0.007	146087	0.8475	
	16 2-Amino-4,6-dinitrotoluene	1	11.378	11.385	-0.007	206792	0.9477	
	17 2,6-Dinitrotoluene	1	11.511	11.518	-0.007	141717	0.8916	
	18 2,4-Dinitrotoluene	1	11.698	11.705	-0.007	286736	0.9360	
	19 o-Nitrotoluene	1	12.451	12.458	-0.007	128491	0.8942	
	20 p-Nitrotoluene	1	12.851	12.858	-0.007	114225	0.9631	
	22 m-Nitrotoluene	1	13.371	13.385	-0.014	140494	0.9294	
	21 PETN	2	14.151	14.165	-0.014	776365	9.26	
	23 Ammonium Picrate	1		0.000			ND	1

QC Flag Legend

Processing Flags
1 - Missing Peaks

Reagents:

8330 LCS_00071 Amount Added: 0.10 Units: mL

Reagent

8330 LCS_00072

Report Date: 21-Oct-2016 15:09:52 Chrom Revision: 2.2 17-Oct-2016 09:27:18

Preliminary Report

TestAmerica Denver
LCS, Lab Control Sample Report

Pass! Finally

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161021-52147.b\001-0901.D				
Lims ID:	8330_LCS_00072				
Client ID:					
Sample Type:	LCS				
Inject. Date:	18-Oct-2016 15:15:38	ALS Bottle#:	1	Worklist Smp#:	7
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	Phenyl:562555-2				
Misc. Info.:	280-0051661-018				
Operator ID:	ACF	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20161021-52147.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	21-Oct-2016 15:09:47	Calib Date:	19-Oct-2016 16:18:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	XAWRK032				

Compound	Amount Added	Amount Recovered	%Rec
5 HMX	1.00	0.9210	92.10
6 MNX	1.01	0.9610	95.59
4 2,4,6-Trinitrophenol	1.00	0.9517	95.17
7 RDX	1.00	0.9765	97.65
8 Nitrobenzene	1.00	0.9451	94.51
11 1,3-Dinitrobenzene	1.00	1.00	100.14
12 Nitroglycerin	10.0	9.60	96.01
13 o-Nitrotoluene	1.00	0.9621	96.21
14 p-Nitrotoluene	1.00	1.02	102.45
15 4-Amino-2,6-dinitrotoluene	1.00	0.9718	97.18
16 m-Nitrotoluene	1.00	0.9823	98.23
17 2-Amino-4,6-dinitrotoluene	1.00	0.9246	92.46
18 1,3,5-Trinitrobenzene	1.00	0.9541	95.41
19 2,6-Dinitrotoluene	1.00	0.9428	94.28
20 2,4-Dinitrotoluene	1.00	0.9585	95.85
21 Tetryl	1.00	0.9613	96.13
22 2,4,6-Trinitrotoluene	1.00	1.00	99.55
23 PETN	10.0	10.2	101.93

Report Date: 21-Oct-2016 15:10:18 Chrom Revision: 2.2 17-Oct-2016 09:27:18

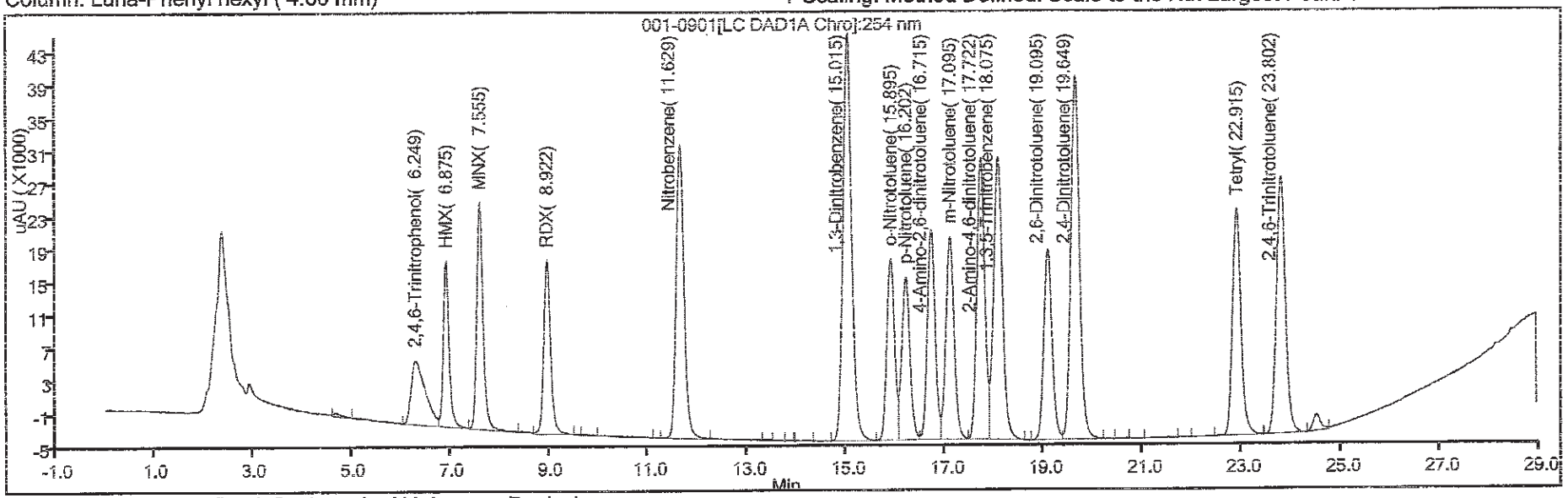
Preliminary Report

TestAmerica Denver

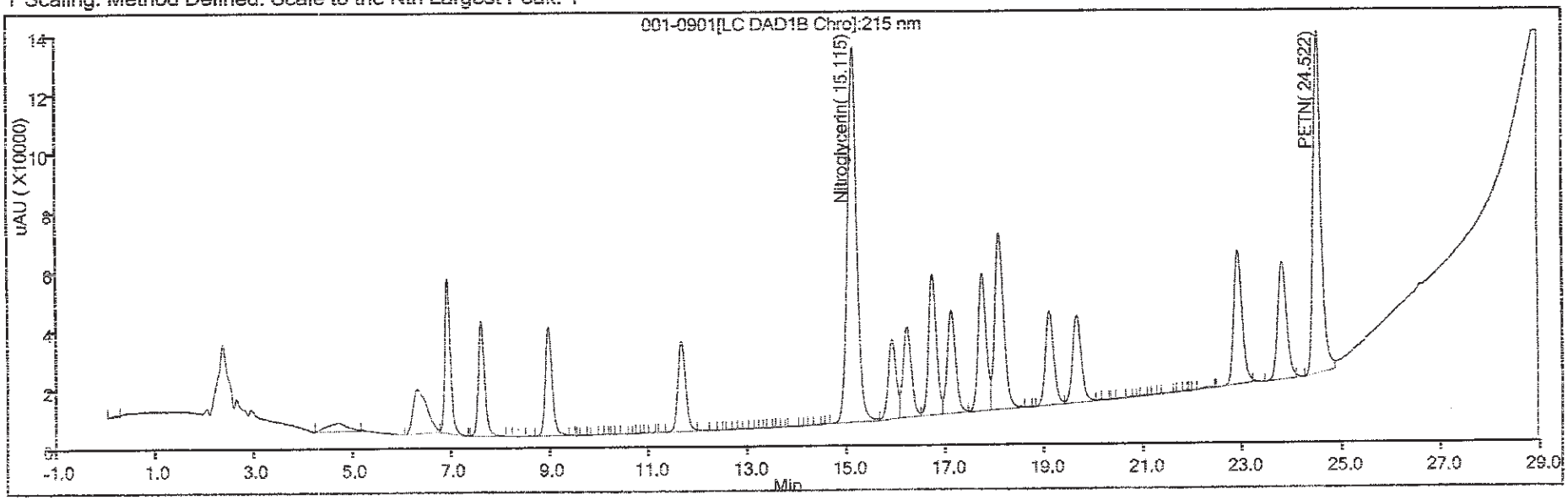
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161021-52147.b\001-0901.D				
Injection Date:	18-Oct-2016 15:15:38	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	ACF
Lims ID:	8330_LCS_00072			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Reagent

8330 LCSMix2_00088

RESTEK

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

ACCREDITED
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A087152

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000ug/mL, Acetonitrile, 1mL/ampul *PGI BOX REQUIRED* SHIP FED EX GROUND ONLY

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 2017 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Tetryl	1,000.0 ug/mL	+/- 5.9397	ug/mL	Gravimetric
	CAS # 479-45-8		+/- 32.2037	ug/mL	Unstressed
	Purity 99%		+/- 44.7693	ug/mL	Stressed
2	4-Amino-2,6-dinitrotoluene	999.6 ug/mL	+/- 5.9373	ug/mL	Gravimetric
	CAS # 19406-51-0		+/- 32.1908	ug/mL	Unstressed
	Purity 98%		+/- 44.7514	ug/mL	Stressed
3	2-Amino-4,6-dinitrotoluene	1,000.0 ug/mL	+/- 5.9397	ug/mL	Gravimetric
	CAS # 35572-78-2		+/- 32.2037	ug/mL	Unstressed
	Purity 99%		+/- 44.7693	ug/mL	Stressed
4	2,6-Dinitrotoluene	1,000.0 ug/mL	+/- 5.9397	ug/mL	Gravimetric
	CAS # 606-20-2		+/- 32.2037	ug/mL	Unstressed
	Purity 99%		+/- 44.7693	ug/mL	Stressed
5	2-Nitrotoluene	1,000.0 ug/mL	+/- 5.9397	ug/mL	Gravimetric
	CAS # 88-72-2		+/- 32.2037	ug/mL	Unstressed
	Purity 99%		+/- 44.7693	ug/mL	Stressed
6	4-Nitrotoluene	1,000.0 ug/mL	+/- 5.9395	ug/mL	Gravimetric
	CAS # 99-99-0		+/- 32.2029	ug/mL	Unstressed
	Purity 97%		+/- 44.7681	ug/mL	Stressed
7	3-Nitrotoluene	1,000.0 ug/mL	+/- 5.9395	ug/mL	Gravimetric
	CAS # 99-08-1		+/- 32.2029	ug/mL	Unstressed
	Purity 97%		+/- 44.7681	ug/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

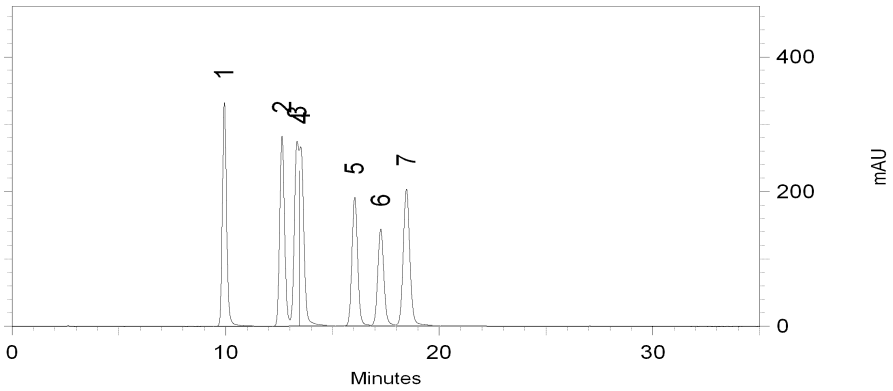
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Comp

Det. Type:
Wavelength: 210 nm



Valerie N. Walters - QA Analyst

Date Passed: 06-Apr-2012 **Balance:** 1128342314

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 LCSMix2_00091

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0113065

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Tetryl **CAS #** 479-45-8 (Lot 091120JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	4-Amino-2,6-dinitrotoluene **CAS #** 19406-51-0 (Lot ER070908-01) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 +/- 53.9873 +/- 58.7028	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	2-Amino-4,6-dinitrotoluene **CAS #** 35572-78-2 (Lot 29550-55) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2,6-Dinitrotoluene **CAS #** 606-20-2 (Lot 1437483V) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 +/- 53.8260 +/- 58.5274	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	2-Nitrotoluene **CAS #** 88-72-2 (Lot GA01) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 +/- 53.7722 +/- 58.4689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	4-Nitrotoluene **CAS #** 99-99-0 (Lot 15417TR) **Purity** 99%	1,006.0 µg/mL	+/- 5.9753 +/- 54.0948 +/- 58.8197	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	3-Nitrotoluene **CAS #** 99-08-1 (Lot 07329LG) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 +/- 53.7722 +/- 58.4689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 Stock_TS_00005

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION — ISO 17025 • ISO GUIDE 34 • ISO 9001 — ULTRA

ISO Guide 34 Reference Material

Product Number: NAIM-833E
Lot Number: CM-1321

Lot Issue Date: 18-Mar 2015
Expiration Date: 30-Apr 2018

Product Name: Combined Stock Solution

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	CAS#	Analyte Lot	Calculated Value	True Value	Traceability & Method
HMX	002691-41-0	RM06237	999.9 µg/mL	1006 ± 4.1 µg/mL	CJ-4135A; LC/DAD
RDX	000121-82-4	RM05682	1000 µg/mL	998.9 ± 4.4 µg/mL	CJ-4135A; LC/DAD
1,3,5-trinitrobenzene	000099-35-4	RM06608	1000 µg/mL	969.3 ± 4.2 µg/mL	CJ-4135A; LC/DAD
m-dinitrobenzene	000099-65-0	RM04448	1001 µg/mL	932.5 ± 3.6 µg/mL	CJ-4135A; LC/DAD
nitrobenzene	000098-95-3	RM01293	1003 µg/mL	1001 ± 4.2 µg/mL	CJ-4135A; LC/DAD
2,4,6-trinitrotoluene	000118-96-7	RM06889	1003 µg/mL	1007 ± 3.4 µg/mL	CJ-4135A; LC/DAD
2,4-dinitrotoluene	000121-14-2	RM01209	1003 µg/mL	1001 ± 3.2 µg/mL	CJ-4135A; LC/DAD
tetryl	000479-45-8	RM06942	1000 µg/mL	998.3 ± 3.9 µg/mL	CK-2749; LC/DAD
2,6-dinitrotoluene	000606-20-2	NT00450	1003 µg/mL	999.0 ± 3.8 µg/mL	CK-2749; LC/DAD
2-nitrotoluene	000088-72-2	NT01996	1004 µg/mL	1003 ± 4.0 µg/mL	CK-2749; LC/DAD
3-nitrotoluene	000099-08-1	NT02212	1004 µg/mL	1003 ± 3.4 µg/mL	CK-2749; LC/DAD
4-nitrotoluene	000099-99-0	NT02096	1001 µg/mL	997.3 ± 4.0 µg/mL	CK-2749; LC/DAD
2-amino-4,6-dinitrotoluene	035572-78-2	RM04229	1002 µg/mL	982.9 ± 4.0 µg/mL	CK-2749; LC/DAD
4-amino-2,6-dinitrotoluene	019406-51-0	RM04226	1003 µg/mL	982.9 ± 4.0 µg/mL	CK-2749; LC/DAD

Solvent: acetonitrile

Storage: Store at Room Temperature (15° - 30°C)

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

3843528
ID: 8330 Stock_TS_00005
Exp: 04/30/18 Prpd: ACF
NAIM-833E Combined Stock

3843529
ID: 8330 Stock_TS_00006
Exp: 04/30/18 Prpd: ACF
NAIM-833E Combined Stock

ANAB ACCREDITED — REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED — TESTING LABORATORY

ISO 9001 Registered Quality System – TUV USA

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION — ULTRA — ISO 17025 • ISO GUIDE 34 • ISO 9001

ISO Guide 34 Reference Material

Product Number: NAIM-833E
Lot Number: CM-1321

Lot Issue Date: 18-Mar 2015
Expiration Date: 30-Apr 2018

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Each unit contains slightly more than the stated labeled volume to facilitate transfer of the material for testing.

Should crystallization occur after refrigeration, gentle warming (<40°C) and shaking of the container is usually sufficient to re-dissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing volatile components (such as gases) should be chilled prior to opening to minimize headspace problems.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

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ANAB ACCREDITED ISO 17025 TESTING LABORATORY

ISO 9001 Registered Quality System – TUV USA

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0112817

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitroglycerin	5,016.0 µg/mL	+/- 46.6461 µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 150612JLM)		+/- 272.0989 µg/mL	Unstressed
	Purity 99%		+/- 295.4680 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

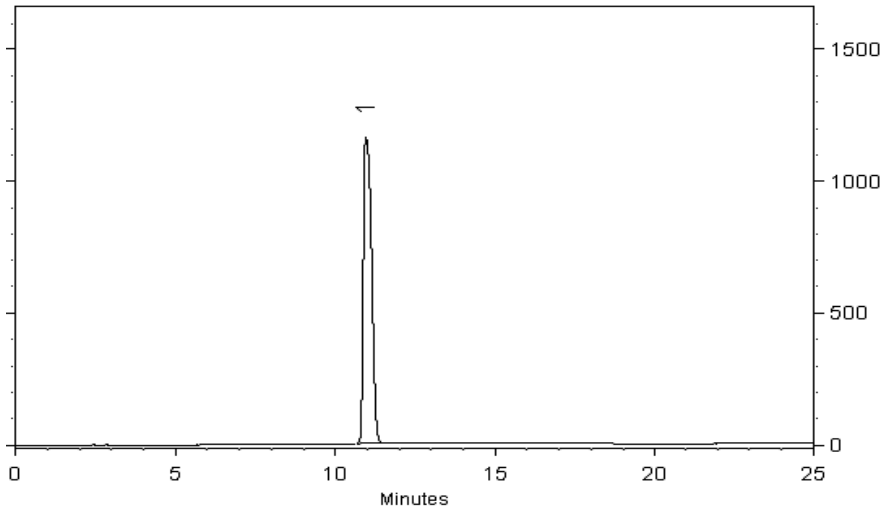
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 24-Jul-2015 **Balance:** 1128360905

Jennifer L. Pollino - QC Analyst

Date Passed: 29-Jul-2015

REVIEWED
By Amanda Miller at 8:29 am, Jul 29, 2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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Certificate of Composition

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0112817

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitroglycerin	5,016.0 µg/mL	+/- 46.6461 µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 150612JLM)		+/- 272.0989 µg/mL	Unstressed
	Purity 99%		+/- 295.4680 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

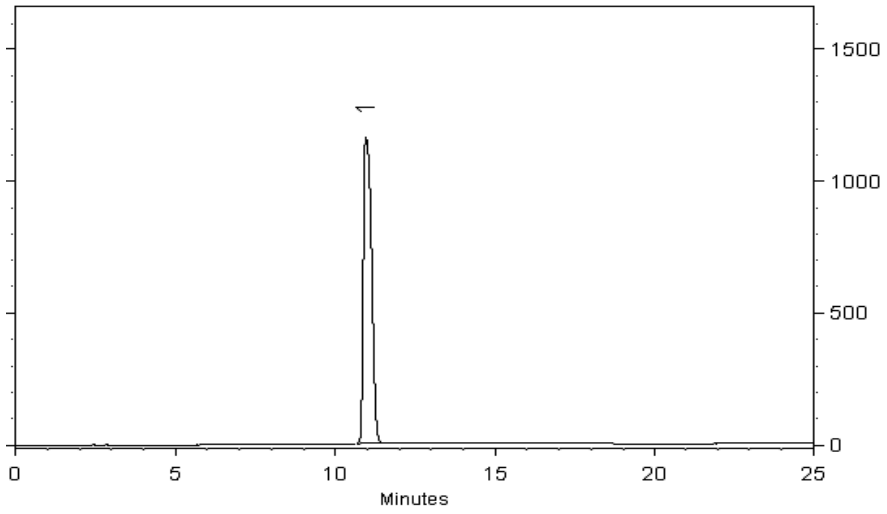
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 24-Jul-2015 **Balance:** 1128360905

Jennifer L. Pollino - QC Analyst

Date Passed: 29-Jul-2015

REVIEWED
By Amanda Miller at 8:29 am, Jul 29, 2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0120172

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,016.0 µg/mL	+/- 46.6461	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 150612JLM)		+/- 277.1256	µg/mL	Unstressed
	Purity 99%		+/- 322.4378	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-15-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

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Reagent

8330_NG_Stk_00048

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Certificate of Composition

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0120172

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,016.0 µg/mL	+/- 46.6461	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 150612JLM)		+/- 277.1256	µg/mL	Unstressed
	Purity 99%		+/- 322.4378	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-15-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
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- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00037

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CERTIFIED REFERENCE MATERIAL

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Certificate of Composition

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0113079

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2018 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	PETN	5,020.0 µg/mL	+/- 46.6833 µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 272.3159 µg/mL	Unstressed
	Purity 99%		+/- 295.7036 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

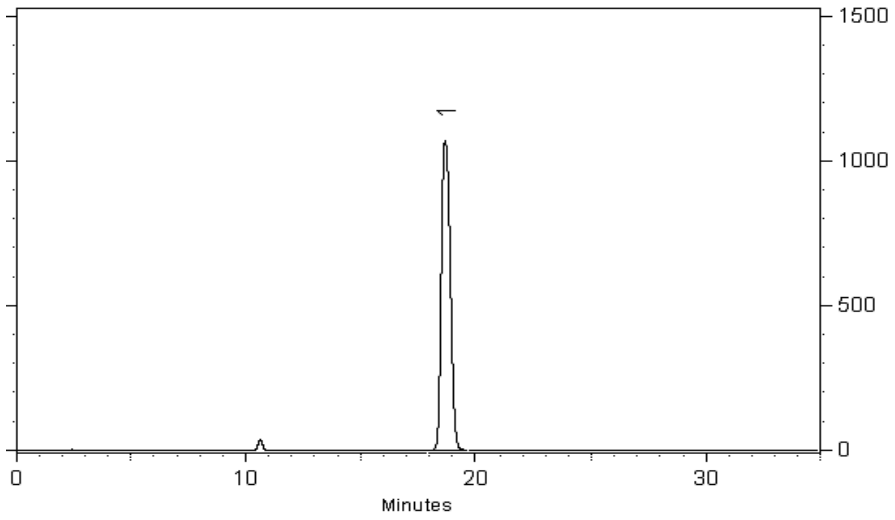
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 05-Aug-2015 **Balance:** B345965662

Diane Shaffer - QAAnalyst

Date Passed: 10-Aug-2015

REVIEWED
By jbreon at 1:48 pm, Aug 10, 2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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Manufacturing Notes:

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Handling Notes:

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Reagent

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CERTIFIED REFERENCE MATERIAL

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Certificate of Composition

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Catalog No. : 568872 **Lot No.:** A0113079

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2018 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	PETN	5,020.0 µg/mL	+/- 46.6833 µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 272.3159 µg/mL	Unstressed
	Purity 99%		+/- 295.7036 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

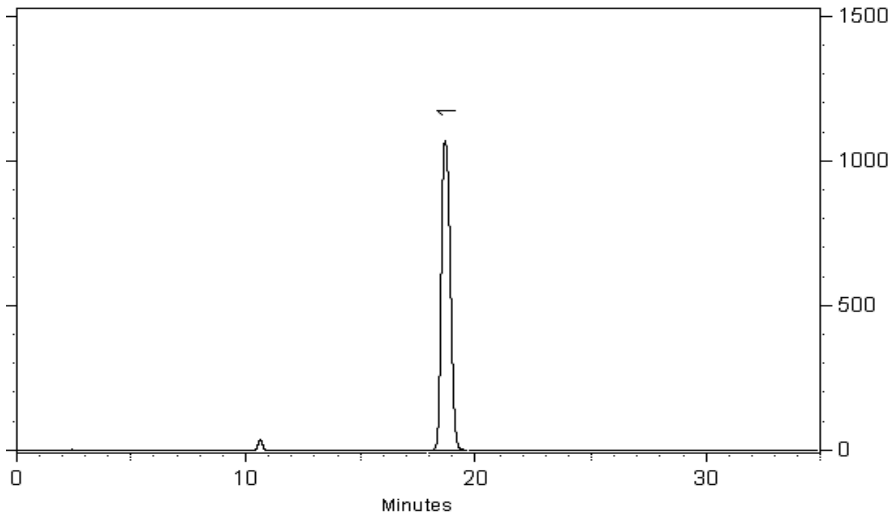
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 05-Aug-2015 **Balance:** B345965662

Diane Shaffer - QAAnalyst

Date Passed: 10-Aug-2015

REVIEWED
By jbreon at 1:48 pm, Aug 10, 2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00042

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Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

ilac-MRA

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Composition

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0120082

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	PETN		5,044.0	µg/mL	+/- 46.9065	µg/mL	Gravimetric
	CAS # 78-11-5	(Lot 051108JLM)			+/- 278.6726	µg/mL	Unstressed
	Purity 99%				+/- 324.2377	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-6-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00050

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CERTIFIED REFERENCE MATERIAL

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Certificate of Composition

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0120082

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	PETN		5,044.0	µg/mL	+/- 46.9065	µg/mL	Gravimetric
	CAS # 78-11-5	(Lot 051108JLM)			+/- 278.6726	µg/mL	Unstressed
	Purity 99%				+/- 324.2377	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-6-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330LCSMix1_00089

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.01

Certificate of Analysis

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0113652

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	HMX		1,004.5 µg/mL	+/- 5.9664	µg/mL	Gravimetric
	CAS # 2691-41-0	(Lot 111005JLM)		+/- 54.0142	µg/mL	Unstressed
	Purity 98%			+/- 58.7320	µg/mL	Stressed
2	RDX		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 121-82-4	(Lot 080228JLM)		+/- 53.8260	µg/mL	Unstressed
	Purity 99%			+/- 58.5274	µg/mL	Stressed
3	1,3,5-Trinitrobenzene		1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 99-35-4	(Lot UNVVB)		+/- 53.9873	µg/mL	Unstressed
	Purity 99%			+/- 58.7028	µg/mL	Stressed
4	1,3-Dinitrobenzene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)		+/- 53.8797	µg/mL	Unstressed
	Purity 99%			+/- 58.5858	µg/mL	Stressed
5	Nitrobenzene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)		+/- 53.8797	µg/mL	Unstressed
	Purity 99%			+/- 58.5858	µg/mL	Stressed
6	2,4,6-Trinitrotoluene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 118-96-7	(Lot 2554100)		+/- 53.8797	µg/mL	Unstressed
	Purity 99%			+/- 58.5858	µg/mL	Stressed
7	2,4-Dinitrotoluene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/- 53.8797	µg/mL	Unstressed
	Purity 99%			+/- 58.5858	µg/mL	Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330LCSMix1_00090

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.01

Certificate of Analysis

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0113652

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	HMX **CAS #** 2691-41-0 **Purity** 98%	(Lot 111005JLM)	1,004.5 µg/mL	+/- 5.9664 +/- 54.0142 +/- 58.7320	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	RDX **CAS #** 121-82-4 **Purity** 99%	(Lot 080228JLM)	1,001.0 µg/mL	+/- 5.9456 +/- 53.8260 +/- 58.5274	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	1,3,5-Trinitrobenzene **CAS #** 99-35-4 **Purity** 99%	(Lot UNVVB)	1,004.0 µg/mL	+/- 5.9635 +/- 53.9873 +/- 58.7028	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBB1436V)	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBF2348V)	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	2,4,6-Trinitrotoluene **CAS #** 118-96-7 **Purity** 99%	(Lot 2554100)	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,002.0 µg/mL	+/- 5.9516 +/- 53.8797 +/- 58.5858	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330MNXNeatPS_00014

TestAmerica Denver
4955Yarrow Street
Arvada, CO 80002

March 10, 2015

Att'n: LC/MS

Dear LC/MS

Enclosed please find one (1) 10-mg sample of 1-nitroso=3,5-dinitro-1,3,5-triazacyclohexane (MNX) as requested viae-mail under Purchase Order 2601686. This material is 98.9% pure with 0.49% RDX based on chromatographic analysis. I hope this information helps you.

If you have any questions regarding this material, please don't hesitate to contact me.

Sincerely,

Ronald Spanggord

Ronald J. Spanggord, Ph.D.
Assoc. Dept. Director
Chemical Sciences and Technology Department
(650) 859-3822 (phone)
(650) 859-4321 (Fax)

Reagent

8330NG_PS_00011

125 Market Street
New Haven, CT 06513
USA

AccuStandard®, Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-1-10X
Description: Nitroglycerin
Lot: 215121015
Solvent: Ethanol (97%)
Methanol (3%)
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*

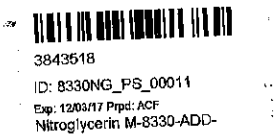


Danger 2

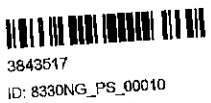
Date Certified: Dec 3, 2015
Expiration: Dec 3, 2017
Sample Size: 1 mL
Components: 1

Storage Condition: Refrig (0-5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Nitroglycerin	55-63-0	99.4	1003	997



3843518
ID: 8330NG_PS_00011
Exp: 12/03/17 Prpd: ACF
Nitroglycerin M-8330-ADD-



3843517
ID: 8330NG_PS_00010
Exp: 12/03/17 Prpd: ACF
Nitroglycerin M-8330-ADD-

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Reagent

8330PAStkPS_00041

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3
Description: Picric acid
Lot: 214121302-01
Solvent: Acetonitrile (50%)
Methanol (50%)
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*



Danger 2

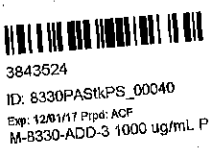
Date Certified: Dec 1, 2015
Expiration: Dec 1, 2017
Sample Size: 1 mL
Components: 1

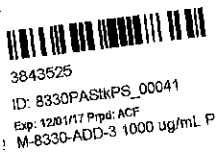
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Picric acid	88-89-1	99.1	100.1	99.2





A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

8330PETN_PS_00011

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-2-10X
Description: PETN in Methanol
Lot: 215061294
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Jun 16, 2015
Expiration: Jun 16, 2017
Sample Size: 1 mL
Components: 1
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
PETN	78-11-5	99.4	1001	995

3843522
ID: 8330PETN_PS_00010
Exp: 06/16/17 Prpd: ACF
Accustandard M-8330-ADD-2

3843523
ID: 8330PETN_PS_00011
Exp: 06/16/17 Prpd: ACF
Accustandard M-8330-ADD-2

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity X Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

Reagent

8330Surrogate_00089

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330Surrogate_00089

Reagent ID: 8330Surrogate_00089

		Expiration Date:	12/07/2016
Description:	10ug/mL 1,2-Dinitrobenzene	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Knaub, Gentry L
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	500.000 mL	Solvent Lot:	ACN_00182
Creation Date:	06/07/2016		
Open Date:			
Container(s):	3934804, 3934805		
Comment:	Stored Frozen. 6 month expiration date. Take 1mL of 1,2 Dinitrobenzene (8330SurrStock) and Dilute to 100 mL in ACN. Mulitply recipe as needed.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,2-Dinitrobenzene	8330SurrStkSS_00095	11/30/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00096	11/30/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00097	11/30/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00099	03/27/2020	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00100	03/27/2020	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330SurrStkSS_00095	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	11/30/19	Restek	A0107162	31453	1.00000	mL
8330SurrStkSS_00096	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	11/30/19	Restek	A0107162	31453	1.00000	mL
8330SurrStkSS_00097	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	11/30/19	Restek	A0107162	31453	1.00000	mL
8330SurrStkSS_00099	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/27/20	Restek	A0109837	31453	1.00000	mL
8330SurrStkSS_00100	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/27/20	Restek	A0109837	31453	1.00000	mL

Please Verify
-GK

Report Date: 09-Jun-2016 12:05:16 Chrom Revision: 2.2 04-Mar-2016 14:36:24

Preliminary Report

TestAmerica Denver
Recovery Report

Pass

Data File:	\\ChromNA\Denver\ChromData\X4_C18\20160609-47673.b\06090008.D				
Lims ID:	8330 Surrogate Verify	Lab Sample ID:	Client 280-329100/50-A		
Client ID:					
Sample Type:	Client				
Inject. Date:	09-Jun-2016 11:18:54	ALS Bottle#:	8	Worklist Smp#:	50
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	8330 Surrogate V				
Misc. Info.:	280-0047673-050				
Operator ID:	ACF	Instrument ID:	CHHPLCX4_C18		
Method:	\\ChromNA\Denver\ChromData\X4_C18\20160609-47673.b\8330_X4.m				
Limit Group:	GCSV - 8330				
Last Update:	09-Jun-2016 12:04:18	Calib Date:	06-Jun-2016 20:22:29		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\X4_C18\20160606-47566.b\06060024.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK013				

Compound	Amount Added	Amount Recovered	% Rec.
E 8 1,2-Dinitrobenzene	1.00	1.00	100.02

Talk to Alan

Reagent

8330Surrogate_00090

Report Date: 22-Sep-2016 11:05:52 Chrom Revision: 2.2 08-Sep-2016 14:45:52

Preliminary Report

TestAmerica Denver

Recovery Report

Data File:	\\ChromNA\Denver\ChromData\X4_C18\20160921-51107.b\09210006.D				
Lims ID:	8330Surrogate00090				
Client ID:					
Sample Type:	Client				
Inject. Date:	21-Sep-2016 15:39:17	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	8330Surrogate00090				
Misc. Info.:	280-0051107-006				
Operator ID:	ACF	Instrument ID:	CHHPLCX4_C18		
Method:	\\ChromNA\Denver\ChromData\X4_C18\20160921-51107.b\8330_X4.m				
Limit Group:	GCSV - 8330				
Last Update:	22-Sep-2016 10:50:53	Calib Date:	30-Aug-2016 22:16:09		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\X4_C18\20160901-50506.b\21.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK047				

Compound	Amount Added	Amount Recovered	% Rec.
E 8 1,2-Dinitrobenzene	1.00	0.9839	98.39

Passed

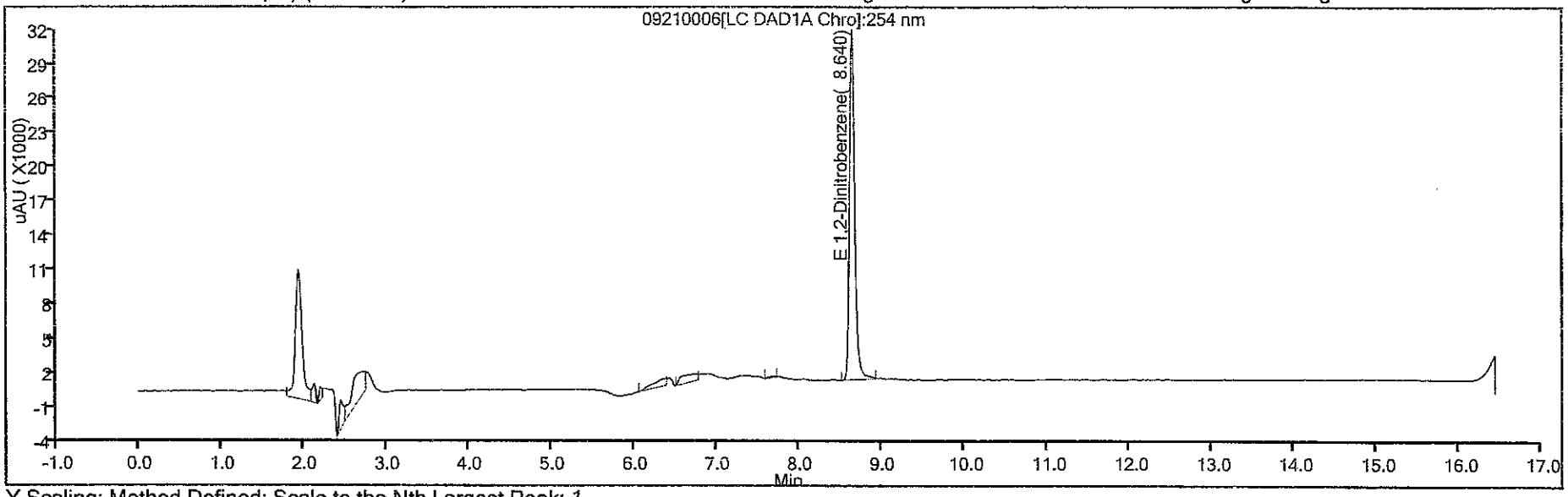
Report Date: 22-Sep-2016 11:11:11 Chrom Revision: 2.2 06-Sep-2016 14:45:52

Preliminary Report

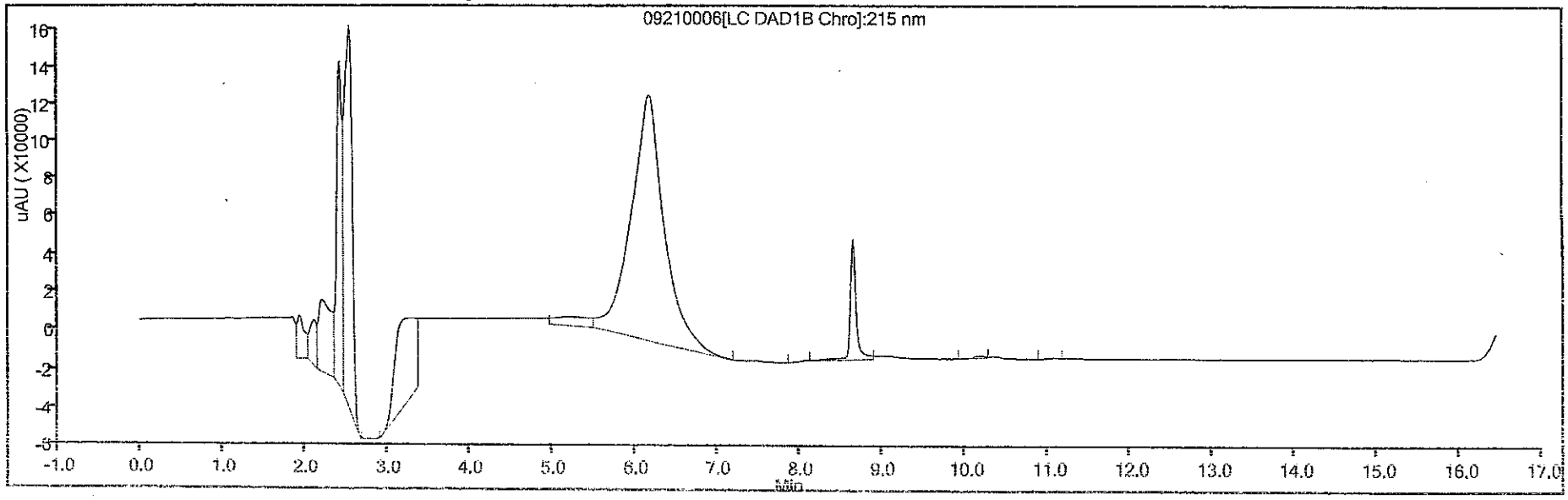
TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\X4_C18\20160921-51107.b\09210006.D				
Injection Date:	21-Sep-2016 15:39:17	Instrument ID:	CHHPLCX4_C18	Operator ID:	ACF
Lims ID:	8330Surrogate00090	Lab Sample ID:	Client 280-343153/6-A	Worklist Smp#:	6
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8330_X4	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Reagent

8330SurrStkSS_00095

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0107162

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3417	µg/mL	Unstressed
	Purity 99%		+/- 13.0327	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

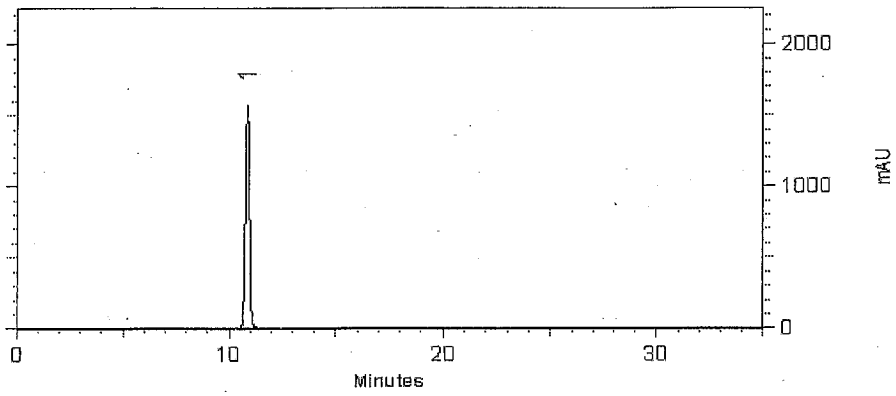
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 11-Nov-2014 **Balance:** B251644995

Diane Shaffer - QA Analyst

Date Passed: 13-Nov-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



Reagent

8330SurrStkSS_00096

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0107162

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3417	µg/mL	Unstressed
	Purity 99%		+/- 13.0327	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

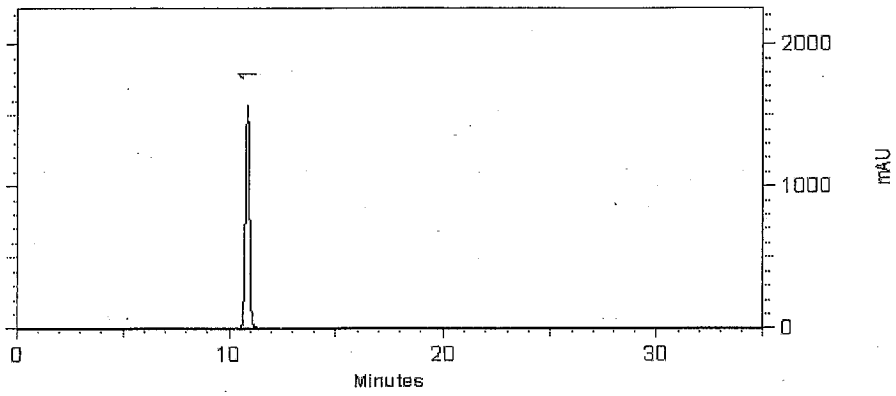
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 11-Nov-2014 **Balance:** B251644995

Diane Shaffer - QA Analyst

Date Passed: 13-Nov-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



Reagent

8330SurrStkSS_00097

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0107162

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,2-Dinitrobenzene	1,000.0 µg/mL	+/- 5.9397 µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3417 µg/mL	Unstressed
	Purity 99%		+/- 13.0327 µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

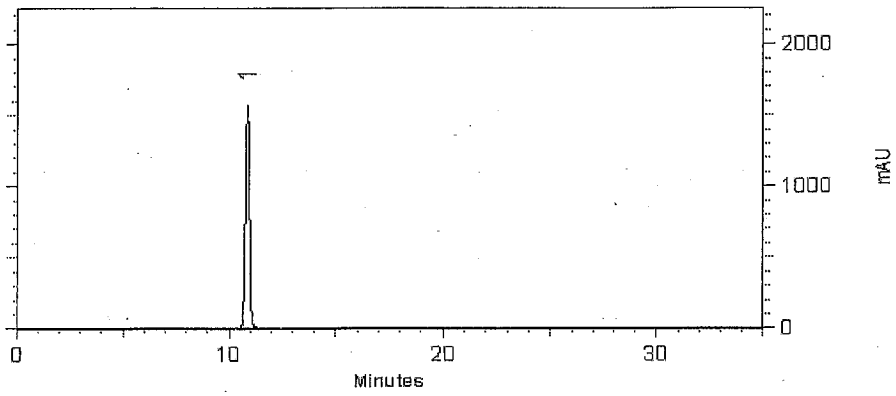
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 11-Nov-2014 **Balance:** B251644995

Diane Shaffer - QA Analyst

Date Passed: 13-Nov-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



Reagent

8330SurrStkSS_00099

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0109837

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3531	µg/mL	Unstressed
	Purity 99%		+/- 13.0457	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0109837

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3531	µg/mL	Unstressed
	Purity 99%		+/- 13.0457	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Catalog No. : 31453 **Lot No.:** A0109837

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3531	µg/mL	Unstressed
	Purity 99%		+/- 13.0457	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00102

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. : 31453 **Lot No.:** A0109837

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBK2313V)		+/- 11.3531	µg/mL	Unstressed
	Purity 99%		+/- 13.0457	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

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Handling Notes:

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Reagent

8330SurrStkSS_00109

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0113066

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene **CAS #** 528-29-0 **Purity** 99% (Lot MKBK2313V)	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
			+/- 11.3644	µg/mL	Unstressed
			+/- 13.0587	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

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Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
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Reagent

8330SurrStkSS_00111

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0113066

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene **CAS #** 528-29-0 **Purity** 99% (Lot MKBK2313V)	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
			+/- 11.3644	µg/mL	Unstressed
			+/- 13.0587	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStkSS_00113

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0113066

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene **CAS #** 528-29-0 **Purity** 99% (Lot MKBK2313V)	1,002.0 µg/mL	+/- 5.9516 +/- 11.3644 +/- 13.0587	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330SurrStock_00159

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS
Description: 1,2-Dinitrobenzene Standard
Lot: 214081391
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Aug 15, 2014
Expiration: Aug 15, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002

3843526
ID: 8330SurrStock_00159
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

3843527
ID: 8330SurrStock_00160
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity X Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:
Larry Decker, Organic QC Manager

Page 1 of 1 - Rev. 1

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

Reagent

Alk stk std_00011

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

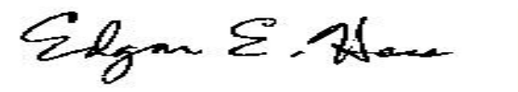
Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**SS148**	**Quality Test / Release Date**	**8/4/2015**
Lot Number	**152782**	**Expiration Date**	**Aug/17**
Description	**SODIUM CARBONATE SOLUTION, 1N**		
Country of Origin	**United States**		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	CLEAR COLORLESS LIQUID
COLOR	APHA	<= 5	<5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
NORMALITY		Inclusive Between 0.995 - 1.000	0.998





Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

AR_1016_RES_00008

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32006 **Lot No.:** A0112461

Description : Aroclor® 1016 Standard

Aroclor 1016 1000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016	1,003.5 µg/mL	+/- 5.8891	µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot W-125-01)		+/- 31.2313	µg/mL	Unstressed
	Purity ----%		+/- 41.5441	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1016_RES_00009

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32006 **Lot No.:** A0117379

Description : Aroclor® 1016 Standard

Aroclor 1016 1000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016	1,003.0 µg/mL	+/- 5.8862	µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot W-125-01)		+/- 31.7890	µg/mL	Unstressed
	Purity 99%		+/- 41.5271	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1221_RES_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32007 **Lot No.:** A0110245

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,000.5 µg/mL	+/- 5.8715	µg/mL	Gravimetric
	CAS # 11104-28-2 (Lot 1240100)		+/- 31.1379	µg/mL	Unstressed
	Purity ----%		+/- 41.4199	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1221_RESss_00006

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32007.sec **Lot No.:** A094157

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 2019 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11104-28-2.SEC		+/- 20.8959	µg/mL	Unstressed
	Purity ----%		+/- 34.3792	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1232_RES_00008

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32008 **Lot No.:** A0107138

Description : Aroclor® 1232 Standard

Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232	1,006.8 µg/mL	+/- 5.9085	µg/mL	Gravimetric
	CAS # 11141-16-5 (Lot W-107-05)		+/- 31.3340	µg/mL	Unstressed
	Purity 99%		+/- 41.6807	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1232_RESss_00006

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32008.sec **Lot No.:** A095877

Description : Aroclor® 1232 Standard

Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11141-16-5.SEC (Lot 130604JLM)		+/- 20.8959	µg/mL	Unstressed
	Purity ----%		+/- 34.3792	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1242_RES_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32009 **Lot No.:** A0112462

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,002.5 µg/mL	+/- 5.8832	µg/mL	Gravimetric
	CAS # 53469-21-9 (Lot 01141-A)		+/- 31.2001	µg/mL	Unstressed
	Purity ----%		+/- 41.5027	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1242_RESss_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32009.SEC **Lot No.:** A0105175

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,000.0 µg/mL	+/- 10.0737	µg/mL	Gravimetric
	CAS # 53469-21-9.SEC (Lot NTO1020)		+/- 32.1814	µg/mL	Unstressed
	Purity ----%		+/- 42.2011	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RES_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0110957

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,003.2 µg/mL	+/- 5.8873	µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.2219	µg/mL	Unstressed
	Purity ----%		+/- 41.5316	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RESss_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010.SEC **Lot No.:** A0107321

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 12672-29-6.SEC (Lot A7080364)		+/- 31.2604	µg/mL	Unstressed
	Purity -----%		+/- 41.5749	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1254_RES_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32011 **Lot No.:** A0112456

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1254	1,001.2 µg/mL	+/- 5.8756 µg/mL	Gravimetric
	CAS # 11097-69-1 (Lot 124-191-B)		+/- 31.1597 µg/mL	Unstressed
	Purity ----%		+/- 41.4488 µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1254_RESss_00006

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32011.SEC **Lot No.:** A0105373

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1254	1,004.0 µg/mL	+/- 10.1140	µg/mL	Gravimetric
	CAS # 11097-69-1.SEC (Lot RM00922)		+/- 32.3101	µg/mL	Unstressed
	Purity ----%		+/- 42.3699	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1260_RES_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32012 **Lot No.:** A0113625

Description : Aroclor® 1260 Standard

Aroclor 1260 1000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1260	1,002.0 µg/mL	+/- 5.8392	µg/mL	Gravimetric
	CAS # 11096-82-5 (Lot W-129-06)		+/- 31.1769	µg/mL	Unstressed
	Purity ----%		+/- 41.4761	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1260_RES_00011

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32012 **Lot No.:** A0116299

Description : Aroclor® 1260 Standard

Aroclor 1260 1000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1260	1,006.5 µg/mL	+/- 5.9067	µg/mL	Gravimetric
	CAS # 11096-82-5 (Lot W-129-06)		+/- 31.9000	µg/mL	Unstressed
	Purity ----%		+/- 41.6720	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1262_RES_00008

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32409 **Lot No.:** A0113548

Description : Aroclor® 1262 Standard

Aroclor® 1262 Standard 1,000 µg/mL, 1mL/ampul, Hexane

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1262	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 37324-23-5 (Lot 3067100)		+/- 31.1358	µg/mL	Unstressed
	Purity -----%		+/- 41.4093	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1268_RES_00007

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32410 **Lot No.:** A0110266

Description : Aroclor® 1268 Standard

Aroclor® 1268 Standard 1,000 µg/mL, 1mL/ampul, Hexane

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1268	1,005.0 µg/mL	+/- 5.9694	µg/mL	Gravimetric
	CAS # 11100-14-4 (Lot 390-50A)		+/- 31.2915	µg/mL	Unstressed
	Purity ----%		+/- 41.6163	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1660_RESss_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039.SEC **Lot No.:** A0114674

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016	1,000.7 µg/mL	+/- 5.9437	µg/mL	Gravimetric
	CAS # 12674-11-2.SEC (Lot 129)		+/- 31.7284	µg/mL	Unstressed
	Purity -----%		+/- 41.4406	µg/mL	Stressed
2	Aroclor 1260	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11096-82-5.SEC (Lot NTO1023)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%		+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_SURR_RES_00032

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0108779

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	200.7 µg/mL	+/- 1.1696 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.2448 µg/mL	Unstressed
	Purity 98%		+/- 8.3078 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	201.0 µg/mL	+/- 1.1713 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.2540 µg/mL	Unstressed
	Purity 99%		+/- 8.3201 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

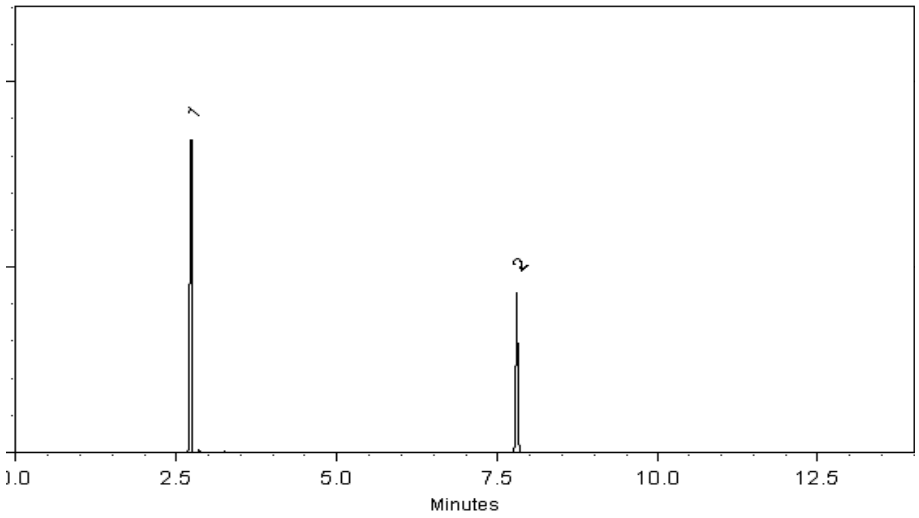
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 02-Feb-2015 **Balance:** 1127510105

Tyler Brown - QA Analyst

Date Passed: 05-Feb-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

AR_SURR_RES_00049

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0115723

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene	199.9 µg/mL	+/- 1.1794	µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3374	µg/mL	Unstressed
	Purity 98%		+/- 8.2781	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	200.0 µg/mL	+/- 1.1798	µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3399	µg/mL	Unstressed
	Purity 99%		+/- 8.2814	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

AR_SURR_RES_00053

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0117947

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		200.4 µg/mL	+/- 1.1679	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3503	µg/mL	Unstressed
	Purity 98%			+/- 8.2964	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		200.4 µg/mL	+/- 1.1678	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3500	µg/mL	Unstressed
	Purity 99%			+/- 8.2960	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

AR_SURR_RES_00055

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32410 **Lot No.:** A0114508

Description : Aroclor® 1268 Standard

Aroclor® 1268 Standard 1,000 µg/mL, 1mL/ampul, Hexane

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1268	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 11100-14-4 (Lot 2743900)		+/- 31.8975	µg/mL	Unstressed
	Purity ----%		+/- 41.6615	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0117947

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 (Lot 0052481) **Purity** 98%	200.4 µg/mL	+/- 1.1679 +/- 6.3503 +/- 8.2964	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 (Lot ER071509-01) **Purity** 99%	200.4 µg/mL	+/- 1.1678 +/- 6.3500 +/- 8.2960	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

BNB stock_00006

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0110081

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2018 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-nitrobenzene		1,000.0	µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 577-19-5	(Lot 643872/1)			+/- 11.3417	µg/mL	Unstressed
	Purity 99%				+/- 13.0327	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

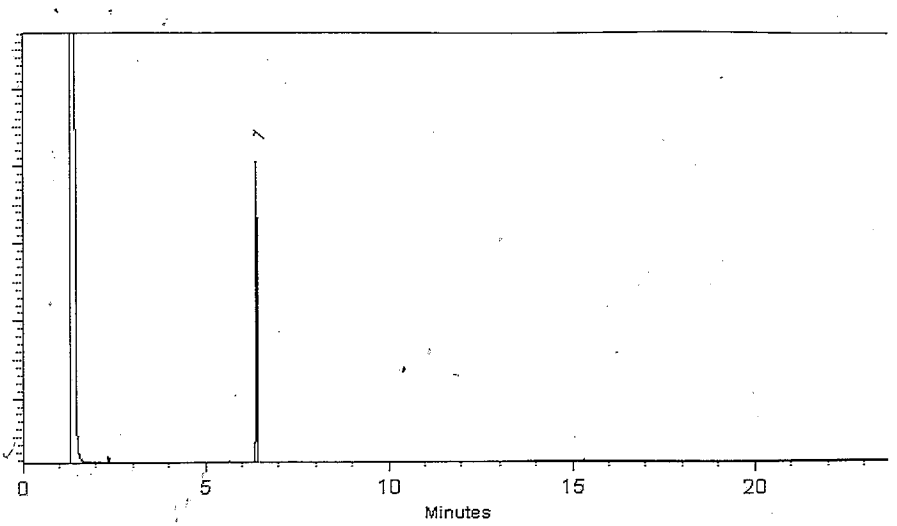
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 02-Apr-2015 **Balance:** B251644995

Diane Shaffer - QAAnalyst

Date Passed: 03-Apr-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

CN CAL Std_00052

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Cyanide Standard, 1000 ppm CN

Lot Number: 2609C92 **Product Number:** 2543

Manufacture Date: SEP 22, 2016
Expiration Date: MAR 2017

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM (D 4374)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

CN ICV Std_00038

USA

5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe

P.O. Box 2704 P: +31 20 638 05 97
1000 CS Amsterdam F: +31 20 420 28 36
The Netherlands

Certificate of Analysis

Rev 0

Comment:

Catalog No:	Lot No:	Expiration Date:	Matrix:	Description:
Z-G34-4400-IC9M	1097445	16-Apr-2018	0.179% NaOH	ISO Guide 34 - Cyanide, 100 mL 1,000 mg/L in H_2O

Additional Information:

Date Received: _____

Container: 4 oz (125 mL) Narrow Mouth, HDPE

Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by inductively coupled plasma optical emission spectrometry (ICP-OES) using an internally developed method against an independent source which is directly traceable to the NIST SRM's listed below.
The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

Element	Symbol	CAS No	SRM No	NIST Lot No	Source Lot No	Purity %	Concentration mg/L	Uncertainty ± mg/L
Cyanide	CN	151-50-8	N/A	N/A	363.24.3S	98	1000	3.5

CPI INTERNATIONAL

USA

5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe

P.O. Box 2704 P: +31 20 638 05 97
1000 CS Amsterdam F: +31 20 420 28 36
The Netherlands

Certificate of Analysis

Rev 0

Comment:

Catalog No:	Lot No:	Expiration Date:	Matrix:	Description:
Z-G34-4400-IC9M	1097445	16-Apr-2018	0.179% NaOH	ISO Guide 34 - Cyanide, 100 mL 1,000 mg/L in H_2O

Calculation of Uncertainty

The following equations are used to calculate the value of the expanded uncertainty:
$U=ku_c$ U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, u_c = the combined uncertainty
$u_c=\sqrt{\sum u_i^2}$ where u_i are the individual uncertainty components for raw material, transportation, homogeneity, and shelf life.

Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the expiration date listed above.

Accreditation:

This standard was manufactured by an ISO 17025 Chemical Testing Lab (Certificate number 3031.01) and ISO Guide 34 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA). Manufacturer's Quality System audited and registered by NSF-ISR to ISO 9001:2008 (Certificate number IZ391-IS4).

Manufactured By:

Carrie Bibbins
Chemist
Manufacture Date: 10/13/2016

Certified By:

Christy Lane
Chemist
Certified Date: 10/13/2016

Released By:

Mark Filla
Chemist
Original Issue Date: 10/13/2016

Reagent

CR6 Cal std_00007

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Hexavalent Chromium
CATALOG NUMBER:	019
LOT NUMBER:	040416
ISSUE DATE:	April 14, 2016
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Dichromate ($K_2Cr_2O_7$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	1.0001 ± 0.0008 g/mL at 21.5°C and 758 mm Hg
TRACEABILITY[3]:	101%
NIST/SRM:	SRM 136f Potassium Dichromate
VERIFICATION METHOD:	Spectrophotometry
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 4/2019**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller

ISO/IEC GUIDE 34:2009

ACCREDITED

REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

16341 Table Mtn Pkwy, Golden, CO 80403 800-372-0122 fax: 303-421-0159 www.eraqc.com

Reagent

Cr6 ICV Std_00012

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY:**Chromium Reference Standard Solution 1000**
COMMODITY NUMBER: **14664-42** MANUFACTURE DATE: **2/27/2013** DATE OF ANALYSIS: **2/27/2013**
LOT NUMBER: **A3059**

TEST	*SPECIFICATIONS*	*RESULTS*
Hexavalent Chromium Concentration	995 to 1005 ppm	1001.0 ppm
pH of the solution	12 to 14	12.4

The expiration date is Feb 2018

The item 1466442 is traceable to NIST standards SRM 136f Potassium Dichromate LOT N/A.

Certified by _____
Scott Als
Analytical Services Chemist

Reagent

Cr6 ICV Std_00016

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **Chromium Reference Standard Solution 1000 ± 10 mg/L Total Cr as Cr^6 in Diluted NaOH**

COMMODITY NUMBER: **1466442**
LOT NUMBER: **A5149**

MANUFACTURE DATE: **6/1/2015**

DATE OF ANALYSIS: **5/30/2015**

TEST	*SPECIFICATIONS*	*RESULTS*
Hexavalent Chromium Concentration	995 to 1005 ppm	999.0 ppm
pH of the solution	12 to 14	12.4

The expiration date is May 2020

The item 1466442 is traceable to NIST standards SRM 136f, Potassium Dichromate LOT N/A.

Certified by _____

Scott Als
Analytical Services Chemist

Reagent

Hg ICV Stock_00008

ral Requirements for the Competence of Reference Material Producers"

ducer - Accredited / A2LA Certificate Number 883.02

PIRATION AND PERIOD OF VALIDITY

within the measurement uncertainty specified provided the CRM/RM is stored and th instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 CRM/RM is damaged, contaminated, or otherwise modified.

s CRM/RM should not be used.

eflects the period of time that the stability of a CRM/RM can be supported by long term d on properly stored and handled CRM/RMs. Lot expiration is limited primarily by er from the solution) and infrequently by chemical stability.

Date: _____

ot be used longer than one year from the date of removal from the aluminized bag or c. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled with the instructions given in Sec 7.1.

S OF CERTIFYING OFFICERS

ician

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INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
[illegible]
Fax: 540.585.3012
[illegible]

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-100PPM
Lot Number:	H2-HG02113R
Matrix:	10% (v/v) HCl
Value / Analyte(s):	100 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	R307HGA1
Starting Material Purity:	100.0000%

3731566
ID: Hg ICV Stock_00008
Exp: 12/10/17 Prpd: CMK
Hg ICV Stock Inorganic Ve

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	100.01 ± 0.64 µg/mL
Certified Density:	1.020 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004126	M	Eu	<	0.006189	O	Na		0.000021	M	Se	<	0.016505	M	Zn	<	0.041263
O	Al	<	0.000090	O	Fe	<	0.001100	M	Nb	<	0.001031	O	Si	<	0.003400	M	Zr	<	0.010315
M	As	<	0.020631	M	Ga	<	0.002063	M	Nd	<	0.004126	M	Sm	<	0.002063				
M	Au	<	0.006189	M	Gd	<	0.002063	O	Ni	<	0.001000	M	Sn	<	0.010315				
M	B	<	0.144423	O	Ge	<	0.018000	n	Os	<		M	Sr	<	0.001031				
M	Ba	<	0.020631	M	Hf	<	0.004126	O	P	<	0.002600	M	Ta	<	0.014442				
M	Be	<	0.001031	s	Hg	<		M	Pb	<	0.006189	M	Tb	<	0.000618				
M	Bi	<	0.000825	M	Ho	<	0.001031	O	Pd	<	0.003800	M	Te	<	0.061895				
O	Ca		0.000024	M	In	<	0.020631	M	Pr	<	0.000618	M	Th	<	0.002063				
O	Cd	<	0.004600	M	Ir	<	0.010315	M	Pt	<	0.004126	M	Ti	<	0.103159				
M	Ce	<	0.010315	O	K	<	0.002000	M	Rb	<	0.002063	O	Tl	<	0.006000				
M	Co	<	0.006189	M	La	<	0.001031	M	Re	<	0.002063	M	Tm	<	0.000825				
M	Cr	<	0.010315	O	Li	<	0.000020	M	Rh	<	0.002063	M	U	<	0.004126				
M	Cs	<	0.000618	M	Lu	<	0.000825	M	Ru	<	0.004126	M	V	<	0.004126				
M	Cu	<	0.012379	O	Mg	<	0.000030	O	S	<	0.025000	M	W	<	0.020631				
M	Dy	<	0.012379	M	Mn	<	0.008252	M	Sb	<	0.001031	M	Y	<	0.082527				
M	Er	<	0.010315	M	Mo	<	0.004126	M	Sc	<	0.020631	M	Yb	<	0.002063				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

Hg Ultra Prim_00010

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION — ULTRA — ISO 17025 • ISO GUIDE 34 • ISO 9001

ULTRAgrade™ Solution
Mercury ICP / ICP-MS Standard
1000 µg/mL

Catalog Number: ICP-080
Lot Number: T00602
Job Number: J00018291
Lot Issue Date: 05/23/2014
Expiration Date: 06/30/2021

3806068
ID: Hg Ultra Prim_00010
Exp:03/08/17 Prpd:CDH Opn:03/08/16
Ultra 1000 ppm Hg primar

3732778
ID: Hg Ultra Prim_00009
Exp: 06/30/21 Prpd: CMK
Ultra 1000 ppm Hg primar

Starting Material:	mercuric nitrate ***(light sensitive)***
Starting Material Purity:	99.999%
Starting Material Lot #:	NT00079
Matrix:	2% nitric acid in low TOC water (< 50 ppb)
Atomic Weight Hg:	200.61

Certified Value: 1001 ± 2 µg/mL

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO Guide 34 / ISO 17025 accredited laboratory, and compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

Classical Wet Assay Method: Theoretical, based on gravimetric measurements

Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP/MS) vs. NIST SRM 3133

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001.

Trace Metallic Impurities in Solution Standard in µg/mL:

*	Al	<0.005	ND	*	Ga	<0.005	ND	n	Nb			n	S		
*	Sb	<0.005	ND	n	Ge			n	Os			n	Ta		
*	As	<0.005	ND	n	Au			*	Pd	<0.005	ND	n	Te		
*	Ba	<0.005	ND	n	Hf			*	P	<0.005	ND	n	Tb		
*	Be	<0.005	ND	n	Ho			*	Pt	<0.005	ND	*	Tl	<0.005	ND
*	Bi	<0.005	ND	*	In	<0.005	ND	*	K	<0.005	ND	n	Th		
*	B	<0.005	ND	n	Ir			n	Pr			n	Tm		
*	Cd	<0.005	ND	*	Fe	<0.005	ND	n	Re			*	Sn	<0.005	ND
*	Ca	<0.005	ND	*	La	<0.005	ND	n	Rh			*	Tl	<0.005	ND
n	Ce			*	Pb	<0.005	ND	n	Rb			n	W		
n	Cs			*	Li	<0.005	ND	n	Ru			n	U		
*	Cr	<0.005	ND	n	Lu			n	Sm			*	V	<0.005	ND
*	Co	<0.005	ND	*	Mg	<0.005	ND	n	Sc			n	Yb		
*	Cu	<0.005	ND	*	Mn	<0.005	ND	*	Se	<0.005	ND	n	Y		
n	Dy			s	Hg			*	Si	<0.005	ND	*	Zn	<0.005	ND
*	Er	<0.005	ND	*	Mo	<0.005	ND	*	Ag	<0.005	ND	n	Zr		
*	Eu	<0.005	ND	n	Nd			*	Na	<0.005	ND				
*	Gd	<0.005	ND	*	Ni	<0.005	D	*	Sr	<0.005	ND				

* - element checked for
ND – not detected
I – spectral interference
D – detected
n – not checked for
s – solution standard element

Density of Solution (measured at 20.00°C ± 0.05°C): 1.0100 g/mL

A2LA ACCREDITED

ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

William J. Leary
Quality Assurance Manager

Reagent

IC Br cal_00012

RICCA CHEMICAL COMPANY®

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Bromide Standard, 1000 ppm Br^-

Lot Number: 1507818 **Product Number:** 1180

Manufacture Date: JUL 08, 2015
Expiration Date: DEC 2016

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Bromide	7647-15-6	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Bromide (Br)	995-1005 ppm	1000 ppm

Specification	Reference
Bromide Solution, Standard (1 mL = 1 mg Br-)	ASTM (D 3869 D)
Standard Bromide Solution, 1000 mg/L	APHA (4110 B)
Bromide Stock Solution (1.00 mL = 1.00 mg Br-)	EPA (SW-846) (9056)
Sodium Bromide Standard Solution, 1000 mg/L	ASTM (D 1246)
Bromide Stock Solution (1.00 mL = 1.00 mg Br?)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1180-4	120 mL natural poly	18 months
1180-8	250 mL natural poly	18 months
1180-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Certificate # L2387 Testing

Reagent

IC CL cal_00045

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: AS-CL9-2X **Lot No.** 3-170CL-2X

Description: 1000 µg/mL Chloride

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1003 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3182*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Sodium Chloride, Lot# 07131A. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 1002 µg/mL

Method: Precipitation using Silver Nitrate. Filter, dry and weigh as AgCl.

Instrumental Analysis by Ion Chromatography: 1003 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.05	NO_3^-	<0.04
F^-	<0.006	$PO4^{-3}$	<0.06
NO_2^-	<0.03	$SO4^{-2}$	<0.05

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: JUL -- 2016 Certifying Officer:

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Reagent

IC FL cal_00010

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Batesville, IN 47006
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Certificate of Analysis

Fluoride Standard, 1000 ppm F^-

Lot Number: 4604574 **Product Number:** 3173

Manufacture Date: APR 04, 2016
Expiration Date: SEP 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.
The concentration is confirmed by Fluoride ISE and is certified traceable to NIST SRM 2203.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Fluoride	7681-49-4	High Purity

Test	Specification	Result
Appearance	Colorless liquid	Passed
Fluoride (F)	995-1005 ppm	1000 ppm

Specification	Reference
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5542)
Fluoride Stock Solution (1.00 mL = 1.00 mg F-)	EPA (SW-846) (9056)
Fluoride Calibration Stock Solution (1,000 mg/L F-)	EPA (SW-846) (9214)
Stock Solution, 1.0 mL = 1.0 mg F	EPA (340.3)
Fluoride Solution, Stock (1.00 mL = 1.00 mg F)	ASTM (D 5996)
Fluoride Stock Solution (1.00 mL = 1.00 mg F?)	ASTM (D 4327)
Fluoride Stock Standard Solution (1 mg of F in 1 mL)	ACS (N/A)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
3173-4	120 mL natural poly	18 months
3173-32	1 L natural poly	18 months
3173-8	250 mL natural poly	18 months
3173-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC MS/MSD N02_00001

Fisher Scientific

1 Reagent Lane
Fairlawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2000 standard by DNV Certificate number CERT-08052-2006-AQ-HOU-ANAB

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**S347**	**Mfg. Date**	4/13/2004 0:0:0
Lot Number	**041304**	**Sample Id**	S347..041304.100
Product Description	SODIUM NITRITE, A.C.S.		

Result Name	Units	Specifications	Test Value
INSOLUBLE MATTER	%	0.01 Maximum	0.0010
IDENTIFICATION	PASS/FAIL	Pass test	PASS
HEAVY METALS(AS Pb)	%	0.001 Maximum	0.0004
CHLORIDE	%	0.005 Maximum	0.0040
SULFATE (SO4)	%	0.01 Maximum	0.0060
POTASSIUM	%	0.005 Maximum	0.00040
ASSAY	%	97 Minimum	99.7000
APPEARANCE	REPORT	Yellow-white crystals	YELLOWISH WHITE FINE CRYSTALS
IRON	%	0.001 Maximum	0.00020
CALCIUM IN %	%	0.01 Maximum	0.0002

CERTIFIED BY

Edgar E Hess — Lab Manager Fair Lawn

Joel Boland — Lab Manager BPF

Note: The data listed is valid for all package sizes of this lot of product, except as an expansion of the catalog number items above. If there are any questions with this product, please call Fisher Scientific at 1-800-766-7000.

Reagent

IC MS/MSD S04_00005

Fisher Scientific

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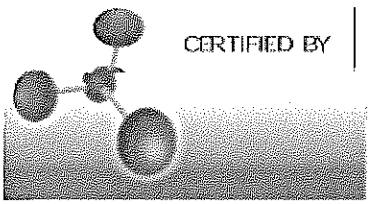
Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**P304**	**Quality Test / Release Date**	**3/2/2015**
Lot Number	**147276**		
Description	**POTASSIUM SULFATE, CRYSTAL, CERTIFIED, A.C.S.**		
Country of Origin	**India**	*** Suggested Retest Date**	**Feb-2020**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	This product is not manufactured from, or with, any type of animal product, nor any derivative of an animal product. As such, this product should not be considered a vector for BSE or TSE.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	FINE WHITE CRYSTALS
ASSAY	%	>= 99	99.4
CALCIUM	%	<= 0.01	<0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
MAGNESIUM	%	<= 0.005	<0.0050
NITROGEN COMPOUNDS	ppm	<= 5	<5
PH 5% SOLUTION @ 25 DEG C		Inclusive Between 5.5 - 8.5	5.5
SODIUM (Na)	%	<= 0.02	<0.020



CERTIFIED BY

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

IC N02 CAL_00037

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Certificate of Analysis

Nitrite Nitrogen Standard, 1000 ppm N (3285 ppm NO_2^-)

Lot Number: 1606C23 **Product Number:** R5444900

Manufacture Date: JUN 07, 2016
Expiration Date: DEC 2016

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrite	7758-09-0	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Permanganate)	995-1005 ppm N	1003 ppm N	40

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
R5444900-120C	120 mL amber glass	6 months
R5444900-500C	500 mL amber glass	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC N03 cal_00014

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Certificate of Analysis

Nitrate Nitrogen Standard, 1000 ppm N (4427 ppm NO_3^-)

Lot Number: 4509B38 **Product Number:** 5459

Manufacture Date: SEP 28, 2015
Expiration Date: MAR 2017

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Nitrate	7757-79-1	High Purity
Chloroform	67-66-3	

Test	Specification	Result
Appearance	Colorless liquid	Passed
Nitrogen (N)	995-1005 ppm	1000 ppm

Specification	Reference
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 A)
Nitrate Solution, Stock (1.0 mL = 1.0 mg NO3-N)	ASTM (D 3867 B)
Stock Nitrate Solution: 1 mL = 1.0 mg NO3-N	EPA (353.2)
Stock Nitrate Solution: 1.0 mL = 1.00 mg NO3-N	EPA (353.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5459-4	120 mL natural poly	18 months
5459-32	1 L natural poly	18 months
5459-16	500 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC NO2 ICV_00010

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Nitrite as N (NO_2-N)
CATALOG NUMBER:	053 -125 mL; 990 - 500 mL
LOT NUMBER:	030115
ISSUE DATE:	January 12, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Sodium Nitrite ($NaNO_2$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	1.0008 ± 0.0008 g/mL at 19.5°C and 768 mm Hg
TRACEABILITY[3]:	NA
NIST/SRM:	SRM not available
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 1/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Tom Widera

ISO/IEC GUIDE 34:2009

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REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

ACCREDITED

CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

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Reagent

IC NO3 ICV_00010

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Nitrate as N (NO_3-N)
CATALOG NUMBER:	052 -125 mL; 991 - 500 mL
LOT NUMBER:	031115
ISSUE DATE:	November 18, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Nitrate (KNO_3)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	1.0006 ± 0.0008 g/mL at 23.0°C and 757 mm Hg
TRACEABILITY[3]:	97.4%
NIST/SRM:	3185 Nitrate
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 11/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller

ISO/IEC GUIDE 34:2009 ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005 ACCREDITED
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CERTIFICATE NO. 1539.02

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Reagent

IC P04 cal_00015

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Certificate of Analysis

Phosphorus AA Standard, 1000 ppm P in H_2O

Lot Number: 4602878 **Product Number:** AP1KW

Manufacture Date: FEB 10, 2016
Expiration Date: JAN 2018

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certifiec value is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.
The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3139.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Ammonium Dihydrogen Phosphate	7722-76-1	High Purity

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Phosphorus (P)	995-1005 ppm	1000 ppm	3139

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validatec methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
AP1KW-100	100 mL natural LDPE	24 months
AP1KW-500	500 mL natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Katie Schnur
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Reagent

IC SO4 ICV_00016

ERA

A Waters Company

Certificate of Analysis

PRODUCT:	1000 mg/L Sulfate (SO_4)
CATALOG NUMBER:	062 -125 mL; 995 - 500 mL
LOT NUMBER:	211015
ISSUE DATE:	November 2, 2015
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Sulfate (K_2SO_4)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.6%
MATRIX:	18 megohm deionized water
DENSITY:	0.9983 ± 0.0008 g/mL at 21.5°C and 758 mm Hg
TRACEABILITY[3]:	100%
NIST/SRM:	3181 Sulfate
VERIFICATION METHOD:	Ion Chromatography
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor which is equal to the student t factor at a 95% confidence interval at n-1 degrees of freedom. The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 10/2017**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller

ISO/IEC GUIDE 34:2009

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REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005

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Reagent

IC sulfatecal_00042

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Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 3-177SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 999 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# 0713D. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 997 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.04	NO_2^-	<0.03
Cl^-	<0.5	NO_3^-	<0.03
F^-	<0.006	$PO4^{-3}$	<0.06

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: AUG - - 2016 Certifying Officer:

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IC sulfatecal_00043

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Certificate of Reference Material

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Chemical Testing
Cert #2495.02

Catalog Number: AS-SO49-2X **Lot No.** 3-177SO4-2X

Description: 1000 µg/mL Sulfate

Matrix: H_2O

This **Ion Chromatography** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for ion chromatography instrumentation. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 999 µg/mL ±5 µg/mL

Certified Value is Traceable to: 3181*

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available) ‡ - prepared gravimetrically

The CRM is prepared gravimetrically using high purity Potassium Sulfate, Lot# 0713D. The certified value listed is the average of values obtained by classical wet assay and ion chromatography analysis.

Refer to side 2 for details of measurement uncertainties.

Classical Wet Assay: 997 µg/mL

Method: Precipitation using Barium Chloride. Filter, ignite, and weigh as BaSO4.

Instrumental Analysis by Ion Chromatography: 1000 µg/mL

Uncertified Properties

Trace Ionic Impurities in the Actual Solution via IC Analysis:

Element	µg/mL	Element	µg/mL
Br^-	<0.04	NO_2^-	<0.03
Cl^-	<0.5	NO_3^-	<0.03
F^-	<0.006	$PO4^{-3}$	<0.06

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to +/- 0.5% of the certified value. This includes uncertainty components due to preparation, homogeneity by the most precise method, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: AUG - - 2016 Certifying Officer:

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Reagent

Icp cal std 3_00013

3680624

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	STLDEN-STD-3B
Lot Number:	J2-MEB585085
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: K,
	4 000 µg/mL ea: Mg,
	1 000 µg/mL ea: Ca, Na,
	500 µg/mL ea: Fe,
	200 µg/mL ea: Li, P,
	100 µg/mL ea: Ag, Al, B, Ba, Be, Cd, Co, Cr3, Cu, Mn, Ni, Sr, V, Zn

3770253
ID: icp cal std 3_00013
Exp: 04/01/17 Prpd: SJS
ICP CAL STD 3B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.6 µg/mL	Barium, Ba	100.0 ± 0.6 µg/mL
Beryllium, Be	100.0 ± 0.7 µg/mL	Boron, B	100.0 ± 0.7 µg/mL
Cadmium, Cd	100.0 ± 0.6 µg/mL	Calcium, Ca	1 000 ± 4 µg/mL
Chromium+3, Cr3	100.0 ± 0.5 µg/mL	Cobalt, Co	100.0 ± 0.5 µg/mL
Copper, Cu	100.0 ± 0.5 µg/mL	Iron, Fe	500.0 ± 2.3 µg/mL
Lithium, Li	200.0 ± 1.2 µg/mL	Magnesium, Mg	4 000 ± 19 µg/mL
Manganese, Mn	100.0 ± 0.5 µg/mL	Nickel, Ni	100.0 ± 0.5 µg/mL
Phosphorus, P	200.0 ± 1.0 µg/mL	Potassium, K	10 000.0 ± 40.0 µg/mL
Silver, Ag	100.0 ± 0.6 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Strontium, Sr	100.0 ± 0.5 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.5 µg/mL		

Certified Density: 1.074 g/mL (measured at 20 ± 1 °C)

Assay Information:

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 16, 2015

11.2 Expiration Date

EXPIRES
1 APR 2017

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Brian Alexander

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Paul R Gaines

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
B	ICP Assay	3107	070514
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3181	000630
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	Gravimetric		See Sec. 4.2
K	ICP Assay	3141a	051220
Li	ICP Assay	3129a	100714
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		See Sec. 4.2
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	ICP Assay	3153a	990906
Sr	EDTA	928	928
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\overline{x}) = \frac{\sum x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

($\overline{x}$) = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

Reagent

Icp ICVH_00274

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

3670535
ID: Icp ICVH_00274
Exp:12/14/16 Prpd:SJS Opn:12/21/15
ICP ICVH HP

Product Description:

Name:	ICVH
Part Number:	**SM-606-125**
Lot Number:	**1534512**
Matrix:	5% HNO_3
Purity:	99.99% - 99.999%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Al	4000 ± 20	3101a	140903	Th	300.0 ± 1.8	*	
Fe	8000 ± 40	3126a	140812	U	500.0 ± 2.5	3164	080521
Na	4000 ± 20	3152a	120715				

The Certified values are based on gravimetric and volumetric preparation, and verified against SRM 3100 series developed by National Institute of Standards and Technology (NIST) via either inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2

* Refer to Traceability Information, Section d

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials. Highest purity source materials were purchased from qualified vendors per ISO 9001:2008 guidelines and assayed for conformity prior to use. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

3166811

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standards are traceable to SRM 3100 Series Spectrometric Standard Solutions or second sources.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Refer to Material Safety Datasheet (MSDS) for hazardous information.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	**December 11, 2015**
Shipped Date:	**December 14, 2015**
Expiration Date:	**December 14, 2016**
Certificate Issue Date:	**December 11, 2015**

Quality Information:

ACLASS ACCREDITED TESTING

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Angel Sellers
Quality Manager

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

Icp ICVL A_00010

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P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Product Description:

3723273
ID: Icp ICVL A_00010
Exp: 02/02/17 Prpd: SJS
ICP ICVL SOLUTION A H

Name:	Intrepid ICVL
Part Number:	**SM-606-062 Solution A**
Lot Number:	**1602809**
Matrix:	5% HNO_3
Purity:	99.98% - 99.9999%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Al	25.00 ± 0.13	3101a	140903	Li	25.00 ± 0.15	3129a	100714
As	25.00 ± 0.25	3103a	100818	Mg	1000 ± 5	3131a	140110
Ba	25.00 ± 0.15	*		Mn	25.00 ± 0.25	3132	050429
Be	25.00 ± 0.25	3105a	090514	Ni	25.00 ± 0.13	3136	120619
B	25.00 ± 0.13	3107	110830	K	2000 ± 10	3141a	140813
Cd	25.00 ± 0.13	3108	130116	Se	50.0 ± 0.5	3149	100901
Ca	200 ± 1	3109a	130213	Na	200 ± 1	3152a	120715
Cr	25.00 ± 0.13	3112a	030730	Sr	25.00 ± 0.13	3153a	990906
Co	25.00 ± 0.13	3113	000630	Tl	50.00 ± 0.25	3158	993012
Cu	25.00 ± 0.13	3114	121207	V	25.00 ± 0.15	3165	992706
Fe	25.00 ± 0.13	3126a	140812	Zn	25.00 ± 0.13	3168a	120629
Pb	25.00 ± 0.15	3128	101026				

The Certified values are based on gravimetric and volumetric preparation, and verified against SRM 3100 series developed by National Institute of Standards and Technology (NIST) via either inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2

* Refer to Traceability Information, Section d

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials. Highest purity source materials were purchased from qualified vendors per ISO 9001:2008 guidelines and assayed for conformity prior to use. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standards are traceable to SRM 3100 Series Spectrometric Standard Solutions or second sources.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Refer to Material Safety Datasheet (MSDS) for hazardous information.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	**January 28, 2016**
Shipped Date:	**February 2, 2016**
Expiration Date:	**February 2, 2017**
Certificate Issue Date:	**January 29, 2016**

Quality Information:

ACLASS ACCREDITED TESTING

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Moven Mutuvari

Moven T. Mutuvari, Ph.D.
Laboratory Manager

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP ISAB 1B_00009

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

3718769
ID: ICP ISAB 1B_00009
Exp:01/27/17 Prpd:SJS Opn:02/03/16
ICP ICSAB STD 1 SOL B H

Product Description:

Name:	ICS-AB STD #1
Part Number:	**SM-606-037**
	Solution B
Lot Number:	**1602230**
Matrix:	2% HNO_3
Purity:	99.99%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#
Tl	1000 ± 5	3158	993012

The Certified values are based on gravimetric and volumetric preparation, and verified against SRM 3100 series developed by National Institute of Standards and Technology (NIST) via either inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2

* Refer to Traceability Information, Section d

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials. Highest purity source materials were purchased from qualified vendors per ISO 9001:2008 guidelines and assayed for conformity prior to use. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

3498736

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standards are traceable to SRM 3100 Series Spectrometric Standard Solutions or second sources.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Refer to Material Safety Datasheet (MSDS) for hazardous information.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	**January 22, 2016**
Shipped Date:	**January 27, 2016**
Expiration Date:	**January 27, 2017**
Certificate Issue Date:	**January 25, 2016**

Quality Information:

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Moven Mututuvari
Moven T. Mututuvari, Ph.D.
Laboratory Manager

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP ISAB STD1_00008

HIGH-PURITY STANDARDS
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P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

3718774
ID: ICP ISAB STD1_00008
Exp:01/27/17 Prpd:SJS Opn:02/03/16
ICAP ICSAB STD 1 SOL A

Product Description:

Name:	ICS-AB STD#1
Part Number:	**SM-606-037**
	Solution A
Lot Number:	**1602229**
Matrix:	20% HCl
Purity:	99.95% - 99.9999%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Sb	100.0 ± 0.6	*		P	200.0 ± 1.2	3139a	060717
As	200 ± 2	3103a	100818	K	5000 ± 25	3141a	140813
B	200.0 ± 1.2	3107	110830	Se	500 ± 5	3149	100901
Li	100.0 ± 0.6	3129a	100714	Na	5000 ± 25	3152a	120715
Mo	100.0 ± 0.6	3134	891307	Sr	100.0 ± 0.5	3153a	990906

The Certified values are based on gravimetric and volumetric preparation, and verified against SRM 3100 series developed by National Institute of Standards and Technology (NIST) via either inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2

* Refer to Traceability Information, Section d

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials. Highest purity source materials were purchased from qualified vendors per ISO 9001:2008 guidelines and assayed for conformity prior to use. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standards are traceable to SRM 3100 Series Spectrometric Standard Solutions or second sources.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Refer to Material Safety Datasheet (MSDS) for hazardous information.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	**January 22, 2016**
Shipped Date:	**January 27, 2016**
Expiration Date:	**January 27, 2017**
Certificate Issue Date:	**January 25, 2016**

Quality Information:

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Moven Mutuvari

Moven T. Mutuvari, Ph.D.
Laboratory Manager

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

3498 732

Reagent

ICP ISAB STD2_00009

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www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

4026784
ID: ICP ISAB STD2_00009
Exp:07/27/17 Prpd:SJS Opn:07/29/16
ICP ICSAB STD 2 HP

Certificate of Analysis

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICS-AB STD #2
Part Number:	**SM-606-038**
Lot Number:	**1620836**
Matrix:	20% HCl
Purity:	99.98% - 99.999%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Sn	1000 ± 6	3161a	140917	Ti	100.0 ± 0.6	3162a	130925

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	July 26, 2016
Shipped Date:	**July 27, 2016**
Expiration Date:	**July 27, 2017**
Certificate Issue Date:	July 26, 2016

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not availabe, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP LLCCV-3_00003

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP-LLCCV-3
Lot Number:	K2-MEB650744
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	300 mg/L ea: Potassium, 100 mg/L ea: Sodium, 20 mg/L ea: Calcium, Magnesium, 10 mg/L ea: Aluminum, Bismuth, Iron, 6 mg/L ea: Uranium, 4 mg/L ea: Nickel, 2 mg/L ea: Lithium, Zinc, 1.5 mg/L ea: Arsenic, Copper, Selenium, Thorium, Thallium, 1 mg/L ea: Silver, Barium, Cobalt, Chromium+3, Manganese, Strontium, Vanadium, 0.9 mg/L ea: Lead, 0.5 mg/L ea: Cadmium, 0.1 mg/L ea: Beryllium

4149048
ID: ICP LLCCV-3_00003
Exp: 07/29/19 Prpd: LLB
ICP LLCCV STD 3 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

280-4149048

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.06 mg/L	Arsenic, As	1.500 ± 0.014 mg/L
Barium, Ba	1.000 ± 0.005 mg/L	Beryllium, Be	0.1000 ± 0.0007 mg/L
Bismuth, Bi	10.00 ± 0.08 mg/L	Cadmium, Cd	0.5000 ± 0.0033 mg/L
Calcium, Ca	20.00 ± 0.07 mg/L	Chromium+3, Cr3	1.000 ± 0.006 mg/L
Cobalt, Co	1.000 ± 0.005 mg/L	Copper, Cu	1.500 ± 0.006 mg/L
Iron, Fe	10.00 ± 0.05 mg/L	Lead, Pb	0.900 ± 0.005 mg/L
Lithium, Li	2.000 ± 0.012 mg/L	Magnesium, Mg	20.00 ± 0.10 mg/L
Manganese, Mn	1.001 ± 0.005 mg/L	Nickel, Ni	4.000 ± 0.023 mg/L
Potassium, K	300.0 ± 1.1 mg/L	Selenium, Se	1.500 ± 0.010 mg/L
Silver, Ag	1.000 ± 0.008 mg/L	Sodium, Na	100.0 ± 0.4 mg/L
Strontium, Sr	1.001 ± 0.006 mg/L	Thallium, Tl	1.501 ± 0.013 mg/L
Thorium, Th	1.500 ± 0.011 mg/L	Uranium, U	5.997 ± 0.030 mg/L
Vanadium, V	1.000 ± 0.006 mg/L	Zinc, Zn	2.000 ± 0.011 mg/L

Certified Density: 1.028 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Bi	ICP Assay	3106	991212
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730Cr3
Cr3	Calculated		See Sec. 4.2
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	051220
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	000505
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	ICP Assay	Traceable to SRM 3159	Lot# 992912
Tl	ICP Assay	3158	993012
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / \{(1/u_{char\ a})^2 + (1/u_{char\ b})^2\}$

$w_b = (1/u_{char\ b})^2 / \{(1/u_{char\ a})^2 + (1/u_{char\ b})^2\}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.5799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 29, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 29, 2019

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

ICP RL STD3A_00011

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	STLDEN-RL-3A
Lot Number:	K2-MEB651193
Matrix:	1.4% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Potassium, Sodium, Phosphorus,
	200 µg/mL ea: Calcium, Magnesium,
	100 µg/mL ea: Aluminum, Boron,
	60 µg/mL ea: Uranium,
	30 µg/mL ea: Iron,
	10 µg/mL ea: Silver, Chromium+3, Copper,
	Lithium, Nickel, Thorium,
	Vanadium, Zinc,
	5 µg/mL ea: Barium, Cadmium, Cobalt,
	Strontium,
	3 µg/mL ea: Manganese,
	1 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.5 µg/mL	Barium, Ba	4.999 ± 0.030 µg/mL
Beryllium, Be	1.000 ± 0.006 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Cadmium, Cd	5.000 ± 0.030 µg/mL	Calcium, Ca	200.0 ± 0.8 µg/mL
Chromium+3, Cr3	10.00 ± 0.05 µg/mL	Cobalt, Co	5.000 ± 0.022 µg/mL
Copper, Cu	10.00 ± 0.06 µg/mL	Iron, Fe	30.00 ± 0.13 µg/mL
Lithium, Li	10.00 ± 0.04 µg/mL	Magnesium, Mg	200.0 ± 0.8 µg/mL
Manganese, Mn	3.000 ± 0.015 µg/mL	Nickel, Ni	10.00 ± 0.06 µg/mL
Phosphorus, P	1 000 ± 4 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Silver, Ag	10.00 ± 0.07 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Strontium, Sr	5.000 ± 0.030 µg/mL	Thorium, Th	10.00 ± 0.05 µg/mL
Uranium, U	60.00 ± 0.39 µg/mL	Vanadium, V	10.00 ± 0.06 µg/mL
Zinc, Zn	10.00 ± 0.06 µg/mL		

Certified Density: 1.017 g/mL (measured at 20 ± 1 °C)

Assay Information:

11.1 Certification Issue Date

August 17, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 17, 2019

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730Cr3
Cr3	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
U	ICP Assay	3164	080521
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.28 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

Reagent

ICP SPK 2B_00050

2300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com
ISO 9001:2008 QSR-1034
Tel: 540-961-0049
Fax: 540-961-0923
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 983.01
ACCREDITED Reference Material Producer Certificate 983.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-ICP-SPK-2B
Lot Number:	K2-MEB650632
Matrix:	5% (v/v) HNO3 0.5% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon, 200 µg/mL ea: Sulfur, Tin, 100 µg/mL ea: Boron, Molybdenum, Titanium, 50 µg/mL ea: Antimony, Zirconium

4173470
ID: ICP SPK 2B_00050
Exp:10/17/17 Prpd:TEB Opn:10/17/16
ICP PREP SPIKE 2B

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	49.99 ± 0.35 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Molybdenum, Mo	100.0 ± 0.5 µg/mL	Silicon, Si	1 000 ± 7 µg/mL
Sulfur, S	200.0 ± 1.0 µg/mL	Tin, Sn	200.0 ± 0.7 µg/mL
Titanium, Ti	100.0 ± 0.6 µg/mL	Zirconium, Zr	50.00 ± 0.31 µg/mL

Certified Density: 1.030 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
S	Acidimetric	84L	84L
S	ICP Assay	3154	892205
Sb	ICP Assay	3102A	061229
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925
Zr	ICP Assay	3169	071226
Zr	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 25, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 25, 2019**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

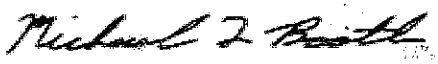
Certificate Prepared By:

Maurice Harris
Product Documentation Technician



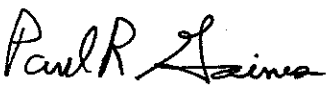
Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Reagent

ICP SPK 3A_00123

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
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CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	STLDEN-SPK-3A
Lot Number:	K2-MEB651900
Matrix:	5% (v/v) HNO3

4201235
ID: ICP SPK 3A_00123
Exp:10/26/17 Prpd:TEB Opn:10/26/16
ICP PREP SPIKE 3A IV

Value / Analyte(s):

5 000 µg/mL ea:
Calcium, Potassium, Magnesium,
Sodium,
1 000 µg/mL ea:
Phosphorus,
200 µg/mL ea:
Aluminum, Barium, Bismuth,
Selenium, Thallium, Uranium,
100 µg/mL ea:
Arsenic, Iron, Lithium,
Strontium, Thorium,
50 µg/mL ea:
Cobalt, Manganese, Nickel,
Lead, Vanadium, Zinc,
25 µg/mL ea:
Copper,
20 µg/mL ea:
Chromium+3,
10 µg/mL ea:
Cadmium,
5 µg/mL ea:
Silver, Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.9 µg/mL	Arsenic, As	100.0 ± 0.8 µg/mL
Barium, Ba	200.0 ± 0.8 µg/mL	Beryllium, Be	4.998 ± 0.025 µg/mL
Bismuth, Bi	200.0 ± 0.9 µg/mL	Cadmium, Cd	10.00 ± 0.06 µg/mL
Calcium, Ca	5 000 ± 20 µg/mL	Chromium+3, Cr3	20.00 ± 0.12 µg/mL
Cobalt, Co	49.99 ± 0.23 µg/mL	Copper, Cu	25.00 ± 0.09 µg/mL
Iron, Fe	100.0 ± 0.4 µg/mL	Lead, Pb	49.99 ± 0.22 µg/mL
Lithium, Li	100.0 ± 0.3 µg/mL	Magnesium, Mg	5 000 ± 20 µg/mL
Manganese, Mn	50.00 ± 0.19 µg/mL	Nickel, Ni	49.99 ± 0.22 µg/mL
Phosphorus, P	1 000 ± 4 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	5.001 ± 0.034 µg/mL
Sodium, Na	5 000 ± 18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	200.0 ± 1.3 µg/mL	Thorium, Th	100.0 ± 0.5 µg/mL
Uranium, U	200.0 ± 0.9 µg/mL	Vanadium, V	50.02 ± 0.21 µg/mL
Zinc, Zn	50.02 ± 0.21 µg/mL		

Certified Density: 1.093 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	991212
Bi	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	Gravimetric		
Na	ICP Assay	3152a	120715
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	ICP Assay	Traceable to SRM 3159	992912
Tl	ICP Assay	3158	993012
U	ICP Assay	3164	080521
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 20, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 20, 2019

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

Icp stk ICSA_00016

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

3347493

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

3770250
ID: Icp stk ICSA_00016
Exp: 04/02/18 Prpd: SJS
ICP stock ICSA solution

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-ICS-A
Lot Number:	J2-MEB572053
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Al, Ca, Mg, 2 000 µg/mL ea: Fe

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	5 000 ± 25 µg/mL	Calcium, Ca	5 000 ± 23 µg/mL
Iron, Fe	2 000 ± 9 µg/mL	Magnesium, Mg	5 000 ± 23 µg/mL

Certified Density: 1.085 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
2 = the coverage factor.
$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-FIlter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000870	M	Eu	<	0.000108	O	Na		0.040145	M	Se	<	0.003263	M	Zn		0.024800
s	Al	<		s	Fe	<		M	Nb	<	0.000435	O	Si		0.108500	M	Zr	<	0.001522
M	As	<	0.003915	M	Ga	<	0.000108	M	Nd	<	0.001087	M	Sm	<	0.000108				
M	Au	<	0.000108	M	Gd	<	0.000108	O	Ni	<	0.010850	M	Sn	<	0.000217				
O	B	<	0.021700	O	Ge	<	0.032550	M	Os	<	0.000108	O	Sr		0.024955				
M	Ba	<	0.001305	M	Hf	<	0.000217	O	P	<	0.108500	M	Ta	<	0.000108				
M	Be	<	0.000326	M	Hg	<	0.000651	M	Pb		0.002936	M	Tb	<	0.000108				
M	Bi	<	0.000217	M	Ho	<	0.000108	M	Pd	<	0.000217	M	Te	<	0.001305				
s	Ca	<		M	In	<	0.000435	M	Pr	<	0.000435	M	Th	<	0.000108				
M	Cd	<	0.000217	M	Ir	<	0.000108	M	Pt	<	0.000108	O	Ti	<	0.001627				
M	Ce	<	0.001740	O	K		0.014105	M	Rb	<	0.001522	M	Tl	<	0.000108				
O	Co	<	0.010850	M	La	<	0.001305	M	Re	<	0.000435	M	Tm	<	0.000108				
M	Cr		0.022842	O	Li		0.005533	M	Rh	<	0.000652	M	U	<	0.000108				
M	Cs	<	0.001305	M	Lu	<	0.000435	M	Ru	<	0.000108	M	V	<	0.001087				
O	Cu	<	0.006835	s	Mg	<		O	S		0.455700	M	W	<	0.000108				
M	Dy	<	0.000108	M	Mn		0.009898	M	Sb	<	0.000435	M	Y	<	0.000108				
M	Er	<	0.000108	M	Mo	<	0.003915	O	Sc	<	0.000868	M	Yb	<	0.000108				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 02, 2015

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 02, 2018

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

Reagent

Icp stk ICSA_00018

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Joseph Burns
TSG Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-ICS-A
Lot Number:	K2-MEB643109
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Aluminum, Calcium, Magnesium, 2 000 µg/mL ea: Iron

4005131
ID: Icp stk ICSA_00018
Exp:07/19/17 Prpd:SJS Opn:07/19/16
ICP stock ICSA solution

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	5 000 ± 22 µg/mL	Calcium, Ca	5 000 ± 20 µg/mL
Iron, Fe	2 000 ± 8 µg/mL	Magnesium, Mg	5 000 ± 20 µg/mL

Certified Density: 1.085 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 01, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 01, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

Reagent

MS CALSTD-1_00114

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 983.01
ACCREDITED Reference Material Producer Certificate 983.02

2.0 PRODUCT DESCRIPTION

3913330
ID: MS CALSTD-1_00114
Exp:06/01/17 Prpd:LMT Opn:05/25/16
ICP-MS Cal Std 1 IV

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	J2-MEB598104
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Ag,	As,	Ba,
Be,	Cd,	Co,
Cr3,	Cu,	Mn,
Ni,	Pb,	Se,
Th,	Tl,	U,
V,	Zn	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.01 ± 0.10 µg/mL
Beryllium, Be	19.99 ± 0.13 µg/mL	Cadmium, Cd	19.99 ± 0.10 µg/mL
Chromium+3, Cr3	20.00 ± 0.13 µg/mL	Cobalt, Co	20.00 ± 0.13 µg/mL
Copper, Cu	20.00 ± 0.12 µg/mL	Lead, Pb	20.00 ± 0.13 µg/mL
Manganese, Mn	20.00 ± 0.12 µg/mL	Nickel, Ni	20.00 ± 0.13 µg/mL
Selenium, Se	19.99 ± 0.13 µg/mL	Silver, Ag	19.99 ± 0.13 µg/mL
Thallium, Tl	19.99 ± 0.12 µg/mL	Thorium, Th	20.00 ± 0.11 µg/mL
Uranium, U	20.00 ± 0.11 µg/mL	Vanadium, V	20.00 ± 0.12 µg/mL
Zinc, Zn	20.00 ± 0.14 µg/mL		

Certified Density: 1.025 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
As	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
Ba	Gravimetric		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	Calculated		See Sec. 4.2
Cr3	ICP Assay	3112a	030730
Cu	ICP Assay	3114	011017
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Th	EDTA	928	928
Th	ICP Assay	Traceable to SRM 3159	992912
Tl	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
U	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	ICP Assay	3165	992706
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$ ($\bar{x}$) = mean

x_i = individual results

n = number of measurements

Uncertainty $(\pm) = 2\,[\,\Sigma(s_i)^2\,]^{1/2}$ 2 = the coverage factor.

$[\,\Sigma(s_i)^2\,]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 25, 2015

11.2 Expiration Date

EXPIRES
1 JAN 2017

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MS CALSTD-1_00116

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	K2-MEB651442
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Silver,	Arsenic,	Barium,
Beryllium,	Cadmium,	Cobalt,
Chromium+3,	Copper,	Manganese,
Nickel,	Lead,	Selenium,
Thorium,	Thallium,	Uranium,
Vanadium,	Zinc	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.00 ± 0.08 µg/mL
Beryllium, Be	20.00 ± 0.11 µg/mL	Cadmium, Cd	20.00 ± 0.12 µg/mL
Chromium+3, Cr3	20.00 ± 0.11 µg/mL	Cobalt, Co	20.00 ± 0.11 µg/mL
Copper, Cu	20.00 ± 0.10 µg/mL	Lead, Pb	20.00 ± 0.11 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.10 µg/mL
Selenium, Se	20.00 ± 0.14 µg/mL	Silver, Ag	20.00 ± 0.09 µg/mL
Thallium, Tl	20.00 ± 0.10 µg/mL	Thorium, Th	20.00 ± 0.10 µg/mL
Uranium, U	20.00 ± 0.13 µg/mL	Vanadium, V	20.00 ± 0.10 µg/mL
Zinc, Zn	20.00 ± 0.10 µg/mL		

Certified Density: 1.024 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730
Cr3	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	ICP Assay	Traceable to SRM 3159	992912
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.28 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag,transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 29, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 29, 2019

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

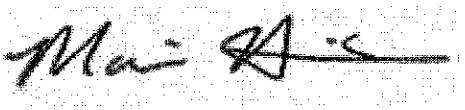
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

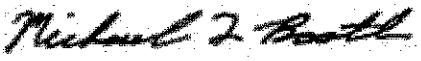
Certificate Prepared By:

Maurice Harris
Product Documentation Technician



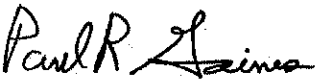
Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Reagent

MS CALSTD-2_00089

INORGANIC VENTURES™
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-2
Lot Number:	H2-MEB526033
Matrix:	tr. HF 5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea: Mo, Sb, Sn

3913331
ID: MS CALSTD-2_00089
Exp:06/01/17 Prpd:LMT Opn:05/25/16
ICP-MS Cal Std 2 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	19.99 ± 0.15 µg/mL	Molybdenum, Mo	20.00 ± 0.10 µg/mL
Tin, Sn	20.00 ± 0.14 µg/mL		

Certified Density: 1.025 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	Calculated		See Sec. 4.2
Mo	ICP Assay	3134	891307
Sb	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sn	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Certified Value $(\bar{x}) = \frac{\sum x_i}{n}$ ($\bar{x}$) = mean

x_i = individual results

n = number of measurements

Uncertainty (±) = $2\ [\ \Sigma(s_i)^2\ ]^{1/2}$ 2 = the coverage factor.

$[\ \Sigma(s_i)^2\ ]^{1/2}$ = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 13, 2014

11.2 Expiration Date

EXPIRES
1 JUN 2017

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Christy Shortridge
Product Documentation Technician

Christy Shortridge

Certificate Approved By:

Brian Alexander
PhD., Technical Process Director

Brian Alexander

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Paul R Gaines

Reagent

MS ICSA STOCK_00025

INORGANIC VENTURES
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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	J2-MEB613036
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride, 2 000 µg/mL ea: Carbon, 1 000 µg/mL ea: Aluminum, Calcium, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur, 20 µg/mL ea: Molybdenum, Titanium

4073327
ID: MS ICSA STOCK_00025
Exp: 01/06/19 Prpd: LMT
ICP-MS ICS-0A STOCK SOLUT

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 001 ± 4 µg/mL	Calcium, Ca	1 001 ± 6 µg/mL
Carbon, C	2 001 ± 9 µg/mL	Chloride, Cl	10 010.0 ± 40.0 µg/mL
Iron, Fe	1 001 ± 4 µg/mL	Magnesium, Mg	1 001 ± 4 µg/mL
Molybdenum, Mo	20.01 ± 0.09 µg/mL	Phosphorus, P	1 001 ± 5 µg/mL
Potassium, K	1 001 ± 4 µg/mL	Sodium, Na	1 001 ± 4 µg/mL
Sulfur, S	1 001 ± 4 µg/mL	Titanium, Ti	20.01 ± 0.11 µg/mL

Certified Density: 1.034 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
K	ICP Assay	3141a	051220
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mo	ICP Assay	3134	891307
Mo	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	3154	892205
Ti	ICP Assay	3162a	060808
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000207	M	Eu	<	0.000103	s	Na	<		M	Se	<	0.003315	M	Zn		0.010362
s	Al	<		s	Fe	<		M	Nb	<	0.000621	n	Si	<		M	Zr	<	0.000828
O	As	<	0.041360	M	Ga	<	0.000103	M	Nd	<	0.000103	M	Sm	<	0.000103				
M	Au	<	0.000205	M	Gd	<	0.000103	O	Ni	<	0.009092	M	Sn	<	0.000414				
M	B	<	0.006320	M	Ge	<	0.005388	M	Os	<	0.000102	O	Sr		0.004446				
M	Ba		0.000932	M	Hf	<	0.000103	s	P	<		M	Ta	<	0.000103				
O	Be	<	0.000103	M	Hg	<	0.000308	M	Pb		0.004662	M	Tb	<	0.000103				
M	Bi	<	0.000414	M	Ho	<	0.000103	M	Pd	<	0.000205	M	Te	<	0.001761				
s	Ca	<		M	In	<	0.000103	M	Pr	<	0.000103	M	Th	<	0.000103				
O	Cd	<	0.000827	M	Ir	<	0.000102	M	Pt	<	0.000103	s	Ti	<					
M	Ce	<	0.000414	s	K	<		M	Rb		0.011812	M	Tl	<	0.000103				
M	Co	<	0.001036	M	La	<	0.000103	M	Re	<	0.000103	M	Tm	<	0.000103				
M	Cr		0.011294	O	Li		0.001095	M	Rh	<	0.000103	M	U	<	0.000103				
M	Cs	<	0.000103	M	Lu	<	0.000103	M	Ru	<	0.000205	O	V	<	0.006204				
O	Cu	<	0.006809	s	Mg	<		s	S	<		M	W		0.001347				
M	Dy	<	0.000103	M	Mn		0.001554	M	Sb	<	0.000621	M	Y	<	0.000103				
M	Er	<	0.000103	s	Mo	<		O	Sc	<	0.000310	M	Yb	<	0.000103				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 06, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 06, 2019

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

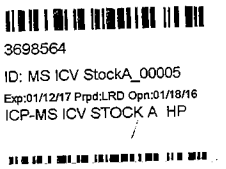
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HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Product Description:



Name:	ICPMS-TA-ICV
Part Number:	**SM-606-096** Solution A
Lot Number:	**1601116**
Matrix:	2% HNO_3
Purity:	99.97% - 99.9999%

Certified Values:

Element	(µg/mL)			SRM ID	SRM Lot#
As	20.0	±	0.2	3103a	100818
Ba	20.00	±	0.12	*	
Be	20.0	±	0.2	3105a	090514
Cd	20.0	±	0.1	3108	130116
Co	20.0	±	0.1	3113	000630
Cr	20.0	±	0.1	3112a	030730
Cu	20.0	±	0.1	3114	121207
Mn	20.0	±	0.2	3132	050429
Ni	20.0	±	0.1	3136	120619
Pb	20.00	±	0.12	3128	101026
Se	20.0	±	0.2	3149	100901
Th	20.00	±	0.12	*	
Tl	20.0	±	0.1	3158	993012
U	20.0	±	0.1	3164	080521
V	20.00	±	0.12	3165	992706
Zn	20.0	±	0.1	3168a	120629

The Certified values are based on gravimetric and volumetric preparation, and verified against SRM 3100 series developed by National Institute of Standards and Technology (NIST) via either inductively coupled plasma optical emission spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2

* Refer to Traceability Information, Section d

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials. Highest purity source materials were purchased from qualified vendors per ISO 9001:2008 guidelines and assayed for conformity prior to use. Sub-boiling distilled high-purity acid has been used to place

High-Purity Standards is certified to ISO 9001:2008 and accredited to ISO/IEC 17025:2005 and ISO Guide 34:2009.

the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standards are traceable to SRM 3100 Series Spectrometric Standard Solutions or second sources.

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Refer to Material Safety Datasheet (MSDS) for hazardous information.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Preparation Date:	**January 11, 2016**
Shipped Date:	**January 12, 2016**
Expiration Date:	**January 12, 2017**
Certificate Issue Date:	**January 11, 2016**

Quality Information:

ACLASS ACCREDITED TESTING

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Moven Mutuvari

Moven T. Mutuvari, Ph.D.
Laboratory Manager

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Standard Verification Form

Standard Information			
Vendor Standard Name	ICPMS-TA-ICV		
Vendor	IV		
Lot number	1601116		
Initial Verification	☒	Re-Verification	☐

TALS "Reagent" Information	
TALS Standard ID	MS ICV STOCKA_0005
COA Reviewed against what is in TALS	☒

Verification Information and Data			
Verified by	N/A	Instrument ID	N/A
Verification Date	N/A	Method Reference	N/A
ID of Standard Used for Verification	N/A	Batch # / Chrom Work List #	N/A
Attach to this form: formulary report , COA and data used for verification Attach to standard in TALS: this form and all supporting documentation including the original CoA			
See Acceptance Criteria Below:			
Approved for Use	☒	Not Approved for Use	☐
New expiration date can be no greater than ½ the designated standards shelf life from the date of re-verification. Standards can only be re-verified one time.			
New Expiration Date:	See C of A		

1st Level Review LRD Date: 01/18/2016

2nd Level Review LRD Date: 01/18/2016

QA Review (Re-verification only)	N/A	Date: N/A

Acceptance Criteria		
Department	**Standard Analytes**	**Poor Performers* and Esterified Analytes**
GC/HPLC	≤ 15 %D	≤ 35 %D or ≤ 50 %D for dinoseb
GCMS/LCMS	≤ 35 %D	≤ 55 %D
MSVOA	≤ 25 %D	≤ 55 %D
Metals	≤ 8 %D	NA
Wet Chemistry	≤ 5 %D	NA

*See analytical SOP for details on poor performing analytes.

Reagent

MS LLCCV1_00016

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

4118799
ID: MS LLCCV1_00016
Exp:10/01/17 Prpd:LMT Opn:09/19/16
LOW LEVEL CCV1 IV

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-LLCCV-1
Lot Number:	K2-MEB625111
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea: Potassium,
	5 µg/mL ea: Calcium, Iron, Magnesium, Sodium,
	3 µg/mL ea: Aluminum,
	1 µg/mL ea: Zinc,
	0.5 µg/mL ea: Silver, Arsenic, Selenium, Vanadium,
	0.2 µg/mL ea: Chromium+3, Copper, Nickel, Thorium,
	0.1 µg/mL ea: Barium, Beryllium, Cadmium, Cobalt, Manganese, Lead, Thallium, Uranium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	3.000 ± 0.018 µg/mL	Arsenic, As	0.5001 ± 0.0034 µg/mL
Barium, Ba	0.1000 ± 0.0006 µg/mL	Beryllium, Be	0.1000 ± 0.0006 µg/mL
Cadmium, Cd	0.1000 ± 0.0007 µg/mL	Calcium, Ca	5.000 ± 0.018 µg/mL
Chromium+3, Cr3	0.2000 ± 0.0012 µg/mL	Cobalt, Co	0.1000 ± 0.0008 µg/mL
Copper, Cu	0.2000 ± 0.0008 µg/mL	Iron, Fe	4.999 ± 0.025 µg/mL
Lead, Pb	0.1000 ± 0.0006 µg/mL	Magnesium, Mg	5.000 ± 0.025 µg/mL
Manganese, Mn	0.1000 ± 0.0007 µg/mL	Nickel, Ni	0.2000 ± 0.0015 µg/mL
Potassium, K	10.00 ± 0.05 µg/mL	Selenium, Se	0.5000 ± 0.0034 µg/mL
Silver, Ag	0.5000 ± 0.0040 µg/mL	Sodium, Na	5.000 ± 0.029 µg/mL
Thallium, Tl	0.1000 ± 0.0008 µg/mL	Thorium, Th	0.2001 ± 0.0011 µg/mL
Uranium, U	0.1000 ± 0.0009 µg/mL	Vanadium, V	0.5001 ± 0.0028 µg/mL
Zinc, Zn	1.000 ± 0.006 µg/mL		

Certified Density: 1.022 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	00630
Co	EDTA	928	928
Cr3	ICP Assay	3112a	030730
Cr3	Calculated		See Sec. 4.2
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	000612
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	ICP Assay	Traceable to SRM 3159	992912
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.21 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 14, 2016

11.2 Expiration Date

EXPIRES
1 Q 2017

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MS LLCCV2 IV_00014

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

ph: 800.669.6799 - 540.898.2010
fax: 540.898.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-LLCCV-2A
Lot Number:	K2-MEB625112
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 µg/mL ea: Tin, 0.5 µg/mL ea: Tungsten, 0.2 µg/mL ea: Molybdenum, Antimony

4118843
ID: MS LLCCV2 IV_00014
Exp:10/01/17 Prpd:LMT Opn:09/20/16
LOW LEVEL CCV 2 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	0.2000 ± 0.0012 µg/mL	Molybdenum, Mo	0.2000 ± 0.0012 µg/mL
Tin, Sn	1.000 ± 0.006 µg/mL	Tungsten, W	0.5001 ± 0.0046 µg/mL

Certified Density: 1.009 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	891307
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102A	061229
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
W	ICP Assay	3163	080331
W	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{½}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{sts})^{½}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{sts} = short term stability standard uncertainty (transportation)

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at 20 ± 4° C. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 14, 2016

11.2 Expiration Date

EXPIRES
1 2017

11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Maurice Harris
Product Documentation Technician

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

MS-567684_00018

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

MS-
3043056
ID: MS-567684_00018
Exp: 11/30/19 Prpd: DCK
RES 8270 Internal Std Mix

Catalog No. : 567684 **Lot No.:** A0107273

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2019 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4	2,017.6 µg/mL	+/- 11.7305 µg/mL	Gravimetric
	CAS # 3855-82-1 (Lot PR-18488)		+/- 89.6430 µg/mL	Unstressed
	Purity 99%		+/- 98.4895 µg/mL	Stressed
2	Naphthalene-d8	2,003.8 µg/mL	+/- 11.6503 µg/mL	Gravimetric
	CAS # 1146-65-2 (Lot PR-20449)		+/- 89.0299 µg/mL	Unstressed
	Purity 99%		+/- 97.8158 µg/mL	Stressed
3	Acenaphthene-d10	2,016.8 µg/mL	+/- 11.7260 µg/mL	Gravimetric
	CAS # 15067-26-2 (Lot PR-21070)		+/- 89.6085 µg/mL	Unstressed
	Purity 97%		+/- 98.4516 µg/mL	Stressed
4	Phenanthrene-d10	2,013.6 µg/mL	+/- 11.7072 µg/mL	Gravimetric
	CAS # 1517-22-2 (Lot PR-23065)		+/- 89.4653 µg/mL	Unstressed
	Purity 99%		+/- 98.2942 µg/mL	Stressed
5	Chrysene-d12	2,011.8 µg/mL	+/- 11.6968 µg/mL	Gravimetric
	CAS # 1719-03-5 (Lot PR-25081)		+/- 89.3853 µg/mL	Unstressed
	Purity 99%		+/- 98.2063 µg/mL	Stressed
6	Perylene-d12	2,017.8 µg/mL	+/- 11.7317 µg/mL	Gravimetric
	CAS # 1520-96-3 (Lot PR-24113)		+/- 89.6519 µg/mL	Unstressed
	Purity 99%		+/- 98.4992 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

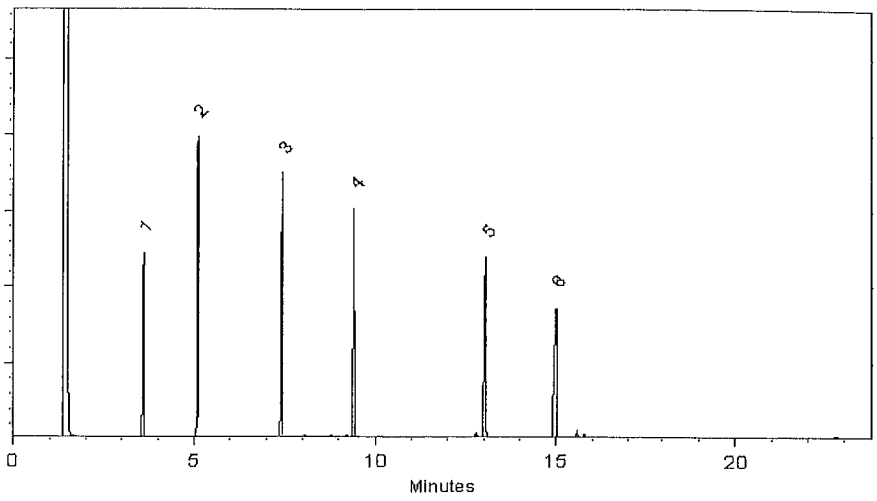
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 17-Nov-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 19-Nov-2014

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

MS-567685_00002

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ilac-MRA

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

3544259
ID: MS-567685_00002
Exp: 06/30/19 Prpd: DCK
8270 Surrogates 5000ug/mL

Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99% (Lot STBC5591V)	5,006.1 µg/mL	+/- 29.1044 µg/mL +/- 124.7363 µg/mL +/- 156.8636 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99% (Lot X479P6)	5,002.5 µg/mL	+/- 29.0834 µg/mL +/- 124.6466 µg/mL +/- 156.7508 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99% (Lot PR-20474)	5,003.7 µg/mL	+/- 29.0901 µg/mL +/- 124.6753 µg/mL +/- 156.7868 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99% (Lot B19Z016)	5,002.4 µg/mL	+/- 29.0826 µg/mL +/- 124.6429 µg/mL +/- 156.7461 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99% (Lot 29699MJV)	5,024.2 µg/mL	+/- 29.2093 µg/mL +/- 125.1861 µg/mL +/- 157.4292 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99% (Lot PR-20577)	5,010.4 µg/mL	+/- 29.1291 µg/mL +/- 124.8422 µg/mL +/- 156.9968 µg/mL	Gravimetric Unstressed Stressed

Reagent

MS-568023_00036

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Reference Material Producer
Certificate #3222.01

Gravimetric Certificate

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568023 **Lot No.:** A0121843

4200463
ID: MS-568023_00036
Exp: 09/30/18 Prpd: DCK
RES HSLA Famphur 2000ug/m

Description : 8270 Famphur Standard

8270 Famphur Standard 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2018 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Famphur		1,992.0	µg/mL	+/- 20.0669	µg/mL	Gravimetric
	CAS # 52-85-7	(Lot 5006000)			+/- 86.9883	µg/mL	Unstressed
	Purity 96%				+/- 87.0245	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Brandon Reish - Mix Technician

Date Mixed: 29-Sep-2016 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

MS-568033_00013

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CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

Gravimetric Certificate

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568033 **Lot No.:** A0118842

Description : Denver 8270 Standard

Denver 8270 Standard 4,000µg/mL, Methylene Chloride, 1mL/ampul

3859953
ID: MS-568033_00013
Exp: 10/31/17 Prpd: DCK
RES HSLA CUSTOM MIX 4000u

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2017 **Storage:** 10°C or colder

Handling: Sonicate prior to use. This product is photosensitive.

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,3-Dichloroaniline **CAS #** 608-27-5 (Lot FBV01) **Purity** 99%	4,032.0 µg/mL	+/- 37.4954 µg/mL +/- 56.3869 µg/mL +/- 82.1001 µg/mL	Gravimetric Unstressed Stressed
2	3,5-Dimethylphenol **CAS #** 108-68-9 (Lot 02801LZ) **Purity** 99%	4,004.0 µg/mL	+/- 37.2350 µg/mL +/- 55.9953 µg/mL +/- 81.5299 µg/mL	Gravimetric Unstressed Stressed
3	Alachlor **CAS #** 15972-60-8 (Lot 4376900) **Purity** 99%	4,000.0 µg/mL	+/- 37.1978 µg/mL +/- 55.9394 µg/mL +/- 81.4485 µg/mL	Gravimetric Unstressed Stressed
4	alpha-Methylstyrene **CAS #** 98-83-9 (Lot MKBS2502V) **Purity** 99%	4,024.0 µg/mL	+/- 37.4210 µg/mL +/- 56.2750 µg/mL +/- 81.9372 µg/mL	Gravimetric Unstressed Stressed
5	Benzo(e)pyrene **CAS #** 192-97-2 (Lot NT052964) **Purity** 99%	4,000.0 µg/mL	+/- 37.1978 µg/mL +/- 55.9394 µg/mL +/- 81.4485 µg/mL	Gravimetric Unstressed Stressed

Reagent

MS-569730 HSL_00004

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0118008

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2017 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

4200457
ID: MS-569730 HSL_00004
Exp: 09/30/17 Prpd: DCK
HSLA Amine Mix (2015) 200

4200458
ID: MS-569730 AFC_00004
Exp: 09/30/17 Prpd: DCK
HSLA Amine Mix (2015) 200

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Benzidine	2,007.6 µg/mL	+/- 11.7817 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 160309JLM)		+/- 24.0524 µg/mL	Unstressed
	Purity 99%		+/- 38.2276 µg/mL	Stressed
2	3,3'-Dichlorobenzidine	2,006.0 µg/mL	+/- 11.7723 µg/mL	Gravimetric
	CAS # 91-94-1 (Lot 160311JLM)		+/- 24.0332 µg/mL	Unstressed
	Purity 99%		+/- 38.1971 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569730_00051

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0112567

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2017 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzidine		2,001.0 µg/mL	+/- 11.6337	µg/mL	Gravimetric
	CAS # 92-87-5	(Lot 150701JLMB)		+/- 21.9078	µg/mL	Unstressed
	Purity 99%			+/- 37.1592	µg/mL	Stressed
2	3,3'-Dichlorobenzidine		2,001.5 µg/mL	+/- 11.6369	µg/mL	Gravimetric
	CAS # 91-94-1	(Lot 150701JLMA)		+/- 21.9138	µg/mL	Unstressed
	Purity 99%			+/- 37.1694	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00037

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

5-16-16 EJ

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene **CAS #** 95-13-6 (Lot MKBP3098V) **Purity** 99%	2,009.8 µg/mL	+/- 11.6852 µg/mL +/- 112.6875 µg/mL +/- 115.3242 µg/mL	Gravimetric Unstressed Stressed
2	Benzoic acid **CAS #** 65-85-0 (Lot MKBL6689V) **Purity** 99%	2,011.6 µg/mL	+/- 11.6953 µg/mL +/- 112.7856 µg/mL +/- 115.4247 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00038

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

5-16-16 EJ

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,009.8 µg/mL	+/- 11.6852 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBP3098V)		+/- 112.6875 µg/mL	Unstressed
	Purity 99%		+/- 115.3242 µg/mL	Stressed
2	Benzoic acid	2,011.6 µg/mL	+/- 11.6953 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBL6689V)		+/- 112.7856 µg/mL	Unstressed
	Purity 99%		+/- 115.4247 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00040

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene	2,009.8 µg/mL	+/- 11.6852	µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBP3098V)		+/- 112.6875	µg/mL	Unstressed
	Purity 99%		+/- 115.3242	µg/mL	Stressed
2	Benzoic acid	2,011.6 µg/mL	+/- 11.6953	µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBL6689V)		+/- 112.7856	µg/mL	Unstressed
	Purity 99%		+/- 115.4247	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00041

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene	2,009.8 µg/mL	+/- 11.6852	µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBP3098V)		+/- 112.6875	µg/mL	Unstressed
	Purity 99%		+/- 115.3242	µg/mL	Stressed
2	Benzoic acid	2,011.6 µg/mL	+/- 11.6953	µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBL6689V)		+/- 112.7856	µg/mL	Unstressed
	Purity 99%		+/- 115.4247	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00042

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene	2,009.8 µg/mL	+/- 11.6852	µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBP3098V)		+/- 112.6875	µg/mL	Unstressed
	Purity 99%		+/- 115.3242	µg/mL	Stressed
2	Benzoic acid	2,011.6 µg/mL	+/- 11.6953	µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBL6689V)		+/- 112.7856	µg/mL	Unstressed
	Purity 99%		+/- 115.4247	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00043

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene	2,009.8 µg/mL	+/- 11.6852	µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBP3098V)		+/- 112.6875	µg/mL	Unstressed
	Purity 99%		+/- 115.3242	µg/mL	Stressed
2	Benzoic acid	2,011.6 µg/mL	+/- 11.6953	µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBL6689V)		+/- 112.7856	µg/mL	Unstressed
	Purity 99%		+/- 115.4247	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00048

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0115596

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

4200468
ID: MS-569731_00048
Exp: 05/31/17 Prpd: DCK
HSLA Benzoic Acid (2015)

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene		2,009.8 µg/mL	+/- 11.6852	µg/mL	Gravimetric
	CAS # 95-13-6	(Lot MKBP3098V)		+/- 112.6875	µg/mL	Unstressed
	Purity 99%			+/- 115.3242	µg/mL	Stressed
2	Benzoic acid		2,011.6 µg/mL	+/- 11.6953	µg/mL	Gravimetric
	CAS # 65-85-0	(Lot MKBL6689V)		+/- 112.7856	µg/mL	Unstressed
	Purity 99%			+/- 115.4247	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569732 HSL_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0115387

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

3939574
ID: MS-569732 HSL_00002
Exp: 05/31/17 Prpd: DCK
8270 List 1/ Std 11 (2015

3939575
ID: MS-569732 BZH_00003
Exp: 05/31/17 Prpd: DCK
8270 List 1/ Std 11 (2015

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzaldehyde **CAS #** 100-52-7 (Lot SHBD3510V) **Purity** 99%	2,017.4 µg/mL	+/- 11.7290 µg/mL +/- 64.6675 µg/mL +/- 75.1734 µg/mL	Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 (Lot I16X016) **Purity** 99%	2,012.4 µg/mL	+/- 11.7003 µg/mL +/- 64.5088 µg/mL +/- 74.9890 µg/mL	Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 (Lot TZ8ED) **Purity** 98%	2,003.5 µg/mL	+/- 11.6483 µg/mL +/- 64.2223 µg/mL +/- 74.6560 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569732_00053

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0115387

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzaldehyde	2,017.4 µg/mL	+/- 11.7290 µg/mL	Gravimetric
	CAS # 100-52-7 (Lot SHBD3510V)		+/- 64.6675 µg/mL	Unstressed
	Purity 99%		+/- 75.1734 µg/mL	Stressed
2	epsilon-Caprolactam	2,012.4 µg/mL	+/- 11.7003 µg/mL	Gravimetric
	CAS # 105-60-2 (Lot 116X016)		+/- 64.5088 µg/mL	Unstressed
	Purity 99%		+/- 74.9890 µg/mL	Stressed
3	Atrazine	2,003.5 µg/mL	+/- 11.6483 µg/mL	Gravimetric
	CAS # 1912-24-9 (Lot TZ8ED)		+/- 64.2223 µg/mL	Unstressed
	Purity 98%		+/- 74.6560 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-570666.SEC_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666.sec **Lot No.:** A0115803

3708708
ID: MS-570666.SEC_00001
Exp: 06/30/17 Prpd: DCK
RES HSLB Mega Mix (2016)

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1.SEC (Lot CHA4A) **Purity** 99%	1,001.0 µg/mL	+/- 5.8333 µg/mL +/- 11.9726 µg/mL +/- 19.0478 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1.SEC (Lot QN8DK) **Purity** 99%	1,000.3 µg/mL	+/- 5.8290 µg/mL +/- 11.9636 µg/mL +/- 19.0336 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9.SEC (Lot 41B67) **Purity** 98%	1,001.4 µg/mL	+/- 5.8359 µg/mL +/- 11.9778 µg/mL +/- 19.0562 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3.SEC (Lot ZCD3N) **Purity** 99%	1,000.3 µg/mL	+/- 5.8290 µg/mL +/- 11.9636 µg/mL +/- 19.0336 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4.SEC (Lot FA010143) **Purity** 99%	1,000.3 µg/mL	+/- 5.8290 µg/mL +/- 11.9636 µg/mL +/- 19.0336 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8.SEC (Lot GJ01) **Purity** 99%	1,000.6 µg/mL	+/- 5.8312 µg/mL +/- 11.9681 µg/mL +/- 19.0407 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2.SEC (Lot EDPYN) **Purity** 99%	1,000.1 µg/mL	+/- 5.8282 µg/mL +/- 11.9621 µg/mL +/- 19.0312 µg/mL	Gravimetric Unstressed Stressed

8	n-Decane (C10) **CAS #** 124-18-5.SEC **Purity** 99%	(Lot UCVNN)	1,000.1	µg/mL	+/- 5.8282 +/- 11.9621 +/- 19.0312	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,4-Dichlorobenzene **CAS #** 106-46-7.SEC **Purity** 99%	(Lot YWKDC-MK)	1,000.3	µg/mL	+/- 5.8290 +/- 11.9636 +/- 19.0336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,3-Dichlorobenzene **CAS #** 541-73-1.SEC **Purity** 99%	(Lot FMDFD-KA)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	1,2-Dichlorobenzene **CAS #** 95-50-1.SEC **Purity** 99%	(Lot 4NRGF-OT)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Benzyl alcohol **CAS #** 100-51-6.SEC **Purity** 99%	(Lot QZBUO)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 * **Purity** 99%	(Lot 2-KMW-57-8)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2-Methylphenol (o-cresol) **CAS #** 95-48-7.SEC **Purity** 98%	(Lot NC7HL)	1,000.3	µg/mL	+/- 5.8295 +/- 11.9646 +/- 19.0352	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Hexachloroethane **CAS #** 67-72-1.SEC **Purity** 98%	(Lot 10173016)	1,000.6	µg/mL	+/- 5.8309 +/- 11.9675 +/- 19.0399	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Acetophenone **CAS #** 98-86-2.SEC **Purity** 99%	(Lot NSGTI)	1,000.3	µg/mL	+/- 5.8290 +/- 11.9636 +/- 19.0336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	N-Nitroso-di-n-propylamine **CAS #** 621-64-7.SEC **Purity** 99%	(Lot 1528900)	1,000.6	µg/mL	+/- 5.8312 +/- 11.9681 +/- 19.0407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	4-Methylphenol (p-cresol) **CAS #** 106-44-5.SEC **Purity** 99%	(Lot 65S2E)	500.1	µg/mL	+/- 2.9145 +/- 5.9818 +/- 9.5168	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	3-Methylphenol (m-cresol) **CAS #** 108-39-4.SEC **Purity** 99%	(Lot 6LHTM)	500.1	µg/mL	+/- 2.9145 +/- 5.9818 +/- 9.5168	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene **CAS #** 98-95-3.SEC **Purity** 99%	(Lot FLYIG)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone **CAS #** 78-59-1.SEC **Purity** 99%	(Lot XHGJI)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol **CAS #** 88-75-5.SEC **Purity** 99%	(Lot GXJ7J)	1,000.3	µg/mL	+/- 5.8290 +/- 11.9636 +/- 19.0336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol **CAS #** 105-67-9.SEC **Purity** 99%	(Lot MKBL3650V)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 * **Purity** 99%	(Lot 3299900)	1,000.6	µg/mL	+/- 5.8312 +/- 11.9681 +/- 19.0407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2.SEC **Purity** 99%	(Lot FHM01)	1,000.8	µg/mL	+/- 5.8319 +/- 11.9696 +/- 19.0431	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot 4KW3H-OO)	1,001.1	µg/mL	+/- 5.8341 +/- 11.9741 +/- 19.0502	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0.SEC **Purity** 99%	(Lot SIDBB)	1,000.6	µg/mL	+/- 5.8312 +/- 11.9681 +/- 19.0407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8.SEC **Purity** 99%	(Lot 10171860)	1,000.8	µg/mL	+/- 5.8319 +/- 11.9696 +/- 19.0431	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 98%	(Lot 3265500)	1,000.8	µg/mL	+/- 5.8323 +/- 11.9705 +/- 19.0445	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	2-Methylnaphthalene **CAS #** 91-57-6.SEC **Purity** 99%	(Lot 76023-1)	1,000.8	µg/mL	+/- 5.8319 +/- 11.9696 +/- 19.0431	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	4-Chloro-3-methylphenol **CAS #** 59-50-7.SEC **Purity** 99%	(Lot FDO02)	1,000.1	µg/mL	+/- 5.8282 +/- 11.9621 +/- 19.0312	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0.SEC **Purity** 99%	(Lot UATSA)	1,000.9	µg/mL	+/- 5.8326 +/- 11.9711 +/- 19.0455	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3.SEC **Purity** 99%	(Lot AF02)	1,000.8	µg/mL	+/- 5.8319 +/- 11.9696 +/- 19.0431	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4.SEC **Purity** 99%	(Lot 0012013)	1,001.1	µg/mL	+/- 5.8341 +/- 11.9741 +/- 19.0502	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2.SEC **Purity** 98%	(Lot UUMYM)	1,000.9	µg/mL	+/- 5.8330 +/- 11.9719 +/- 19.0469	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4.SEC **Purity** 97%	(Lot MKBQ9937V)	1,000.9	µg/mL	+/- 5.8329 +/- 11.9716 +/- 19.0463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7.SEC **Purity** 99%	(Lot LC03928V)	1,000.3	µg/mL	+/- 5.8290 +/- 11.9636 +/- 19.0336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4.SEC **Purity** 99%	(Lot 330QE)	1,000.1	µg/mL	+/- 5.8282 +/- 11.9621 +/- 19.0312	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	4-Nitroaniline **CAS #** 100-01-6.SEC **Purity** 99%	(Lot 5ITRC)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8.SEC **Purity** 98%	(Lot 062013)	1,000.1	µg/mL	+/- 5.8280 +/- 11.9617 +/- 19.0305	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0.SEC **Purity** 99%	(Lot 3XXLB)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3.SEC **Purity** 99%	(Lot 483WC)	1,000.3	µg/mL	+/- 5.8290 +/- 11.9636 +/- 19.0336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2.SEC **Purity** 99%	(Lot GE01)	1,000.1	µg/mL	+/- 5.8282 +/- 11.9621 +/- 19.0312	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	Acenaphthene **CAS #** 83-32-9.SEC **Purity** 99%	(Lot BWZJE)	1,000.6	µg/mL	+/- 5.8312 +/- 11.9681 +/- 19.0407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	2,4-Dinitrophenol **CAS #** 51-28-5.SEC **Purity** 99%	(Lot 2TXXH)	2,000.4	µg/mL	+/- 11.6304 +/- 23.9126 +/- 38.0566	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	Dibenzofuran **CAS #** 132-64-9.SEC **Purity** 99%	(Lot 27ZGC)	1,000.5	µg/mL	+/- 5.8304 +/- 11.9666 +/- 19.0383	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	3-Nitroaniline **CAS #** 99-09-2.SEC **Purity** 99%	(Lot FGN03)	1,000.1	µg/mL	+/- 5.8282 +/- 11.9621 +/- 19.0312	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	2,4-Dinitrotoluene **CAS #** 121-14-2.SEC **Purity** 99%	(Lot SHRSA)	1,000.5	µg/mL	+/- 5.8304 +/- 11.9666 +/- 19.0383	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	4-Nitrophenol **CAS #** 100-02-7.SEC **Purity** 99%	(Lot 2J5LB)	2,000.3	µg/mL	+/- 11.6296 +/- 23.9111 +/- 38.0542	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2.SEC **Purity** 98%	(Lot LC10202V)	1,001.1	µg/mL	+/- 5.8338 +/- 11.9734 +/- 19.0492	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7.SEC **Purity** 99%	(Lot 1561600)	1,000.4	µg/mL	+/- 5.8297 +/- 11.9651 +/- 19.0360	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3.SEC **Purity** 99%	(Lot P31G)	1,000.6	µg/mL	+/- 5.8312 +/- 11.9681 +/- 19.0407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	n-Hexadecane (C16) **CAS #** 544-76-3.SEC **Purity** 99%	(Lot A0328141)	1,000.8	µg/mL	+/- 5.8319 +/- 11.9696 +/- 19.0431	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	Diethylphthalate **CAS #** 84-66-2.SEC **Purity** 99%	(Lot UMBJC)	1,001.0	µg/mL	+/- 5.8333 +/- 11.9726 +/- 19.0478	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Azobenzene		1,000.8	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 103-33-3.SEC	(Lot JUWAG)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0431	µg/mL	Stressed
57	Diphenylamine		850.5	µg/mL	+/-	4.9563	µg/mL	Gravimetric
	CAS # 122-39-4.SEC	(Lot 10164691)			+/-	10.1725	µg/mL	Unstressed
	Purity 99%				+/-	16.1840	µg/mL	Stressed
58	2-Nitroaniline		1,000.5	µg/mL	+/-	5.8304	µg/mL	Gravimetric
	CAS # 88-74-4.SEC	(Lot T6E7B)			+/-	11.9666	µg/mL	Unstressed
	Purity 99%				+/-	19.0383	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.8	µg/mL	+/-	11.6325	µg/mL	Gravimetric
	CAS # 534-52-1.SEC	(Lot 3256700)			+/-	23.9171	µg/mL	Unstressed
	Purity 99%				+/-	38.0637	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,000.9	µg/mL	+/-	5.8326	µg/mL	Gravimetric
	CAS # 101-55-3.SEC	(Lot 84C6D)			+/-	11.9711	µg/mL	Unstressed
	Purity 99%				+/-	19.0455	µg/mL	Stressed
61	Hexachlorobenzene		1,000.4	µg/mL	+/-	5.8297	µg/mL	Gravimetric
	CAS # 118-74-1.SEC	(Lot 20622)			+/-	11.9651	µg/mL	Unstressed
	Purity 99%				+/-	19.0360	µg/mL	Stressed
62	Pentachlorophenol		2,001.1	µg/mL	+/-	11.6347	µg/mL	Gravimetric
	CAS # 87-86-5.SEC	(Lot 2357600)			+/-	23.9216	µg/mL	Unstressed
	Purity 99%				+/-	38.0708	µg/mL	Stressed
63	Phenanthrene		1,000.2	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 85-01-8.SEC	(Lot 1777100)			+/-	11.9631	µg/mL	Unstressed
	Purity 98%				+/-	19.0329	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.9	µg/mL	+/-	5.8326	µg/mL	Gravimetric
	CAS # 593-45-3.SEC	(Lot G14U045)			+/-	11.9711	µg/mL	Unstressed
	Purity 99%				+/-	19.0455	µg/mL	Stressed
65	Anthracene		1,000.8	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 120-12-7.SEC	(Lot WDFNJ)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0431	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8297	µg/mL	Gravimetric
	CAS # 86-74-8.SEC	(Lot LMIZB)			+/-	11.9651	µg/mL	Unstressed
	Purity 99%				+/-	19.0360	µg/mL	Stressed
67	Di-n-butylphthalate		1,000.1	µg/mL	+/-	5.8282	µg/mL	Gravimetric
	CAS # 84-74-2.SEC	(Lot 42FSG)			+/-	11.9621	µg/mL	Unstressed
	Purity 99%				+/-	19.0312	µg/mL	Stressed
68	Fluoranthene		1,000.6	µg/mL	+/-	5.8312	µg/mL	Gravimetric
	CAS # 206-44-0.SEC	(Lot FREGF)			+/-	11.9681	µg/mL	Unstressed
	Purity 99%				+/-	19.0407	µg/mL	Stressed
69	Pyrene		1,000.9	µg/mL	+/-	5.8326	µg/mL	Gravimetric
	CAS # 129-00-0.SEC	(Lot ROVJC)			+/-	11.9711	µg/mL	Unstressed
	Purity 99%				+/-	19.0455	µg/mL	Stressed
70	Benzyl butyl phthalate		1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 85-68-7.SEC	(Lot GX3GL)			+/-	11.9793	µg/mL	Unstressed
	Purity 98%				+/-	19.0585	µg/mL	Stressed
71	Benz(a)anthracene		1,000.2	µg/mL	+/-	5.8286	µg/mL	Gravimetric
	CAS # 56-55-3.SEC	(Lot MTENF)			+/-	11.9629	µg/mL	Unstressed
	Purity 97%				+/-	19.0325	µg/mL	Stressed

72	chrysene		1,000.4	µg/mL	+/- 5.8297	µg/mL	Gravimetric
	CAS # 218-01-9.SEC	(Lot KQ4SE)			+/- 11.9651	µg/mL	Unstressed
	Purity 99%				+/- 19.0360	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.8	µg/mL	+/- 5.8319	µg/mL	Gravimetric
	CAS # 117-81-7.SEC	(Lot MT8AG)			+/- 11.9696	µg/mL	Unstressed
	Purity 99%				+/- 19.0431	µg/mL	Stressed
74	Di-n-octyl phthalate		1,000.9	µg/mL	+/- 5.8330	µg/mL	Gravimetric
	CAS # 117-84-0.SEC	(Lot O8DLD)			+/- 11.9719	µg/mL	Unstressed
	Purity 98%				+/- 19.0469	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.4	µg/mL	+/- 5.8297	µg/mL	Gravimetric
	CAS # 205-99-2.SEC	(Lot 022011)			+/- 11.9651	µg/mL	Unstressed
	Purity 99%				+/- 19.0360	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.9	µg/mL	+/- 5.8326	µg/mL	Gravimetric
	CAS # 207-08-9.SEC	(Lot ER061608-02)			+/- 11.9711	µg/mL	Unstressed
	Purity 99%				+/- 19.0455	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.0	µg/mL	+/- 5.8275	µg/mL	Gravimetric
	CAS # 50-32-8.SEC	(Lot NPEZF)			+/- 11.9606	µg/mL	Unstressed
	Purity 99%				+/- 19.0288	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.1	µg/mL	+/- 5.8282	µg/mL	Gravimetric
	CAS # 193-39-5.SEC	(Lot 022013)			+/- 11.9621	µg/mL	Unstressed
	Purity 99%				+/- 19.0312	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,000.8	µg/mL	+/- 5.8319	µg/mL	Gravimetric
	CAS # 53-70-3.SEC	(Lot 0012012)			+/- 11.9696	µg/mL	Unstressed
	Purity 99%				+/- 19.0431	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.6	µg/mL	+/- 5.8308	µg/mL	Gravimetric
	CAS # 191-24-2.SEC	(Lot 0022012)			+/- 11.9673	µg/mL	Unstressed
	Purity 96%				+/- 19.0395	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Reagent

MS-570666_00003

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

5-16-16 EJ

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

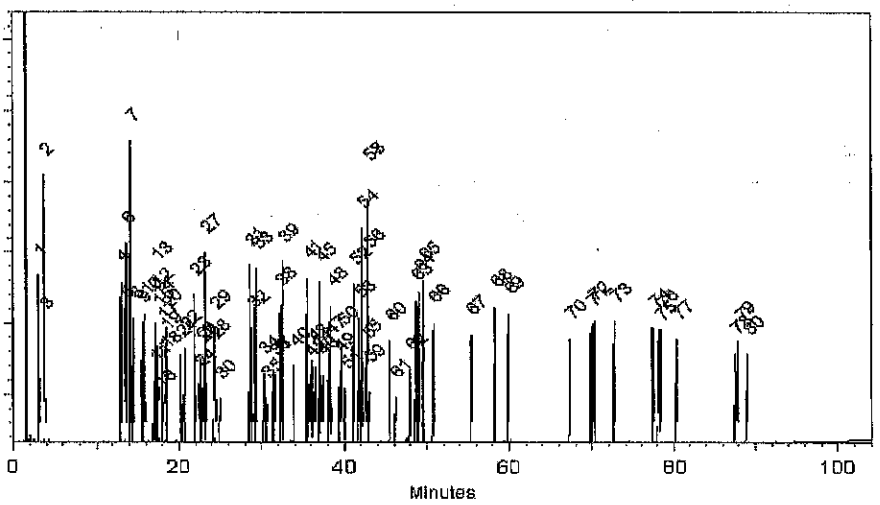
Carrier Gas:
hydrogen-constant pressure 10 psi

Temp. Program:
35°C (hold 3 min.) to 330°C
@ 3°C/min. (hold 3 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kendra Swope - Mix Technician

Date Mixed: 20-Oct-2015 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 04-Nov-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MS-570666_00004

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

5-16-16

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Column:
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Rtx-5 (cat.#10223)

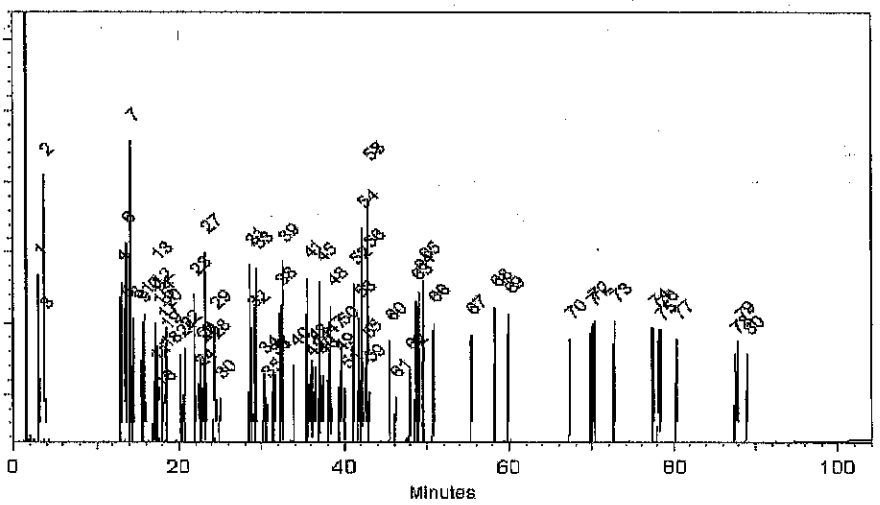
Carrier Gas:
hydrogen-constant pressure 10 psi

Temp. Program:
35°C (hold 3 min.) to 330°C
@ 3°C/min. (hold 3 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kendra Swope - Mix Technician

Date Mixed: 20-Oct-2015 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 04-Nov-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MS-570666_00005

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

5-16-16

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

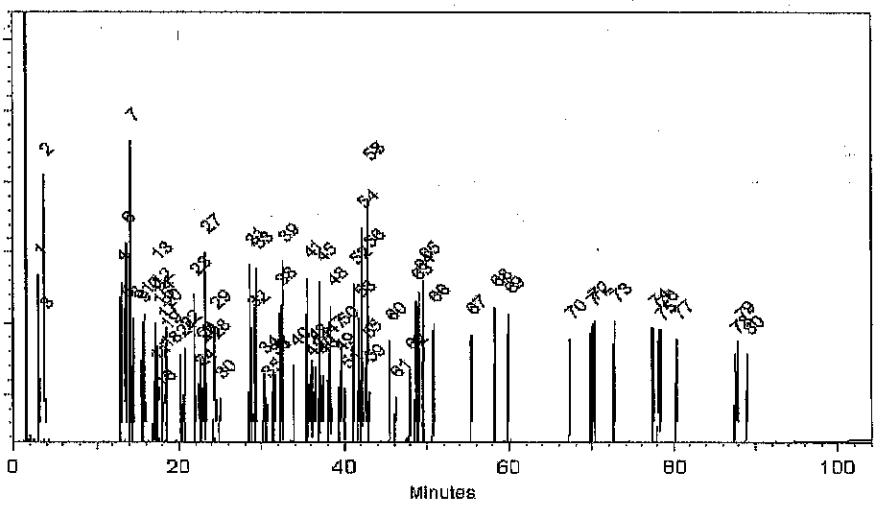
Carrier Gas:
hydrogen-constant pressure 10 psi

Temp. Program:
35°C (hold 3 min.) to 330°C
@ 3°C/min. (hold 3 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kendra Swope - Mix Technician

Date Mixed: 20-Oct-2015 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 04-Nov-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MS-570666_00010

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570666 **Lot No.:** A0114832

Description : 8270 List 1 / Std #1 MegaMix (2016)

8270 List 1 / Std #1 MegaMix (2016) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

4200467
ID: MS-570666_00010
Exp: 04/30/17 Prpd: DCK
HSLA Mega Mix (2016) 1000

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : April 30, 2017 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG1461V) **Purity** 99%	1,000.9 µg/mL	+/- 5.8193 µg/mL +/- 11.9648 µg/mL +/- 19.0418 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	1,004.7 µg/mL	+/- 5.8416 µg/mL +/- 12.0106 µg/mL +/- 19.1148 µg/mL	Gravimetric Unstressed Stressed
3	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 4370100) **Purity** 99%	1,002.6 µg/mL	+/- 5.8294 µg/mL +/- 11.9855 µg/mL +/- 19.0748 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,001.8 µg/mL	+/- 5.8246 µg/mL +/- 11.9756 µg/mL +/- 19.0590 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,000.2 µg/mL	+/- 5.8152 µg/mL +/- 11.9565 µg/mL +/- 19.0285 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol **CAS #** 95-57-8 (Lot STBF2690V) **Purity** 99%	1,001.6 µg/mL	+/- 5.8236 µg/mL +/- 11.9736 µg/mL +/- 19.0558 µg/mL	Gravimetric Unstressed Stressed
7	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8176 µg/mL +/- 11.9612 µg/mL +/- 19.0361 µg/mL	Gravimetric Unstressed Stressed

8	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBG1119V)	1,001.4	µg/mL	+/- 5.8224 +/- 11.9712 +/- 19.0520	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS1350V)	1,000.5	µg/mL	+/- 5.8170 +/- 11.9600 +/- 19.0342	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBM5751V)	1,000.1	µg/mL	+/- 5.8145 +/- 11.9549 +/- 19.0260	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBD7331V)	1,000.6	µg/mL	+/- 5.8178 +/- 11.9616 +/- 19.0368	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Benzyl alcohol **CAS #** 100-51-6 **Purity** 99%	(Lot SHBC1850V)	1,000.5	µg/mL	+/- 5.8170 +/- 11.9600 +/- 19.0342	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2,2'-oxybis(1-chloropropane) **CAS #** 108-60-1 **Purity** 99%	(Lot 2-KMW-57-8)	1,001.3	µg/mL	+/- 5.8215 +/- 11.9692 +/- 19.0488	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	1,001.2	µg/mL	+/- 5.8211 +/- 11.9684 +/- 19.0475	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	1,001.7	µg/mL	+/- 5.8238 +/- 11.9740 +/- 19.0564	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Acetophenone **CAS #** 98-86-2 **Purity** 99%	(Lot MKBR7156V)	1,000.1	µg/mL	+/- 5.8149 +/- 11.9557 +/- 19.0272	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	N-Nitroso-di-n-propylamine **CAS #** 621-64-7 **Purity** 99%	(Lot OPAGF)	1,001.5	µg/mL	+/- 5.8226 +/- 11.9716 +/- 19.0526	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	4-Methylphenol (p-cresol) **CAS #** 106-44-5 **Purity** 99%	(Lot 49396APV)	500.4	µg/mL	+/- 2.9096 +/- 5.9822 +/- 9.5206	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	3-Methylphenol (m-cresol) **CAS #** 108-39-4 **Purity** 99%	(Lot SHBD0627V)	501.7	µg/mL	+/- 2.9167 +/- 5.9970 +/- 9.5441	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBF2348V)	1,002.1	µg/mL	+/- 5.8265 +/- 11.9796 +/- 19.0653	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone **CAS #** 78-59-1 **Purity** 99%	(Lot MKBG2442V)	1,002.2	µg/mL	+/- 5.8271 +/- 11.9808 +/- 19.0672	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol **CAS #** 88-75-5 **Purity** 99%	(Lot BCBH7602V)	1,000.1	µg/mL	+/- 5.8149 +/- 11.9557 +/- 19.0272	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol **CAS #** 105-67-9 **Purity** 99%	(Lot 10165155)	1,000.3	µg/mL	+/- 5.8160 +/- 11.9580 +/- 19.0311	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
25	2,4-Dichlorophenol		1,002.2	µg/mL	+/-	5.8271	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9808	µg/mL	Unstressed
	Purity 99%				+/-	19.0672	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	5.8144	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9547	µg/mL	Unstressed
	Purity 98%				+/-	19.0258	µg/mL	Stressed
27	Naphthalene		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBH4351V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.1	µg/mL	+/-	5.8205	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBN2776V)			+/-	11.9672	µg/mL	Unstressed
	Purity 99%				+/-	19.0456	µg/mL	Stressed
29	4-Chloroaniline		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	11.9624	µg/mL	Unstressed
	Purity 99%				+/-	19.0380	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9626	µg/mL	Unstressed
	Purity 98%				+/-	19.0382	µg/mL	Stressed
31	2-Methylnaphthalene		1,001.3	µg/mL	+/-	5.8216	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	11.9696	µg/mL	Unstressed
	Purity 99%				+/-	19.0494	µg/mL	Stressed
32	4-Chloro-3-methylphenol		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
33	1-Methylnaphthalene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot 06024AIV)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
35	Hexachlorocyclopentadiene		999.7	µg/mL	+/-	5.8126	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 150909)			+/-	11.9510	µg/mL	Unstressed
	Purity 97%				+/-	19.0199	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8220	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	11.9704	µg/mL	Unstressed
	Purity 99%				+/-	19.0507	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot 150806JLM)			+/-	11.9549	µg/mL	Unstressed
	Purity 99%				+/-	19.0260	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.9	µg/mL	+/-	5.8193	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI-TE)			+/-	11.9648	µg/mL	Unstressed
	Purity 99%				+/-	19.0418	µg/mL	Stressed
39	Biphenyl		1,000.6	µg/mL	+/-	5.8178	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot 1277976)			+/-	11.9616	µg/mL	Unstressed
	Purity 99%				+/-	19.0368	µg/mL	Stressed

40	4-Nitroaniline		1,000.5	µg/mL	+/- 5.8172	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/- 11.9604	µg/mL	Unstressed
	Purity 99%				+/- 19.0349	µg/mL	Stressed
41	Acenaphthylene		999.8	µg/mL	+/- 5.8127	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot W01O)			+/- 11.9512	µg/mL	Unstressed
	Purity 98%				+/- 19.0202	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.5	µg/mL	+/- 5.8168	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBB1436V)			+/- 11.9596	µg/mL	Unstressed
	Purity 99%				+/- 19.0336	µg/mL	Stressed
43	Dimethylphthalate		1,001.5	µg/mL	+/- 5.8228	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/- 11.9720	µg/mL	Unstressed
	Purity 99%				+/- 19.0532	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/- 5.8152	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/- 11.9565	µg/mL	Unstressed
	Purity 99%				+/- 19.0285	µg/mL	Stressed
45	Acenaphthene		1,001.8	µg/mL	+/- 5.8246	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBP0384V)			+/- 11.9756	µg/mL	Unstressed
	Purity 99%				+/- 19.0590	µg/mL	Stressed
46	2,4-Dinitrophenol		1,999.8	µg/mL	+/- 11.6272	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF1268V)			+/- 23.9061	µg/mL	Unstressed
	Purity 99%				+/- 38.0462	µg/mL	Stressed
47	Dibenzofuran		1,000.7	µg/mL	+/- 5.8180	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/- 11.9620	µg/mL	Unstressed
	Purity 99%				+/- 19.0374	µg/mL	Stressed
48	3-Nitroaniline		1,000.8	µg/mL	+/- 5.8185	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBQ6338V)			+/- 11.9632	µg/mL	Unstressed
	Purity 99%				+/- 19.0393	µg/mL	Stressed
49	2,4-Dinitrotoluene		1,001.5	µg/mL	+/- 5.8230	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 11.9724	µg/mL	Unstressed
	Purity 99%				+/- 19.0539	µg/mL	Stressed
50	4-Nitrophenol		2,000.3	µg/mL	+/- 11.6297	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBP6945V)			+/- 23.9113	µg/mL	Unstressed
	Purity 99%				+/- 38.0545	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.0	µg/mL	+/- 5.8141	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B15W0912)			+/- 11.9541	µg/mL	Unstressed
	Purity 99%				+/- 19.0247	µg/mL	Stressed
52	Fluorene		1,000.4	µg/mL	+/- 5.8163	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)			+/- 11.9587	µg/mL	Unstressed
	Purity 98%				+/- 19.0320	µg/mL	Stressed
53	4-Chlorophenyl phenyl ether		1,001.0	µg/mL	+/- 5.8201	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBS2248V)			+/- 11.9664	µg/mL	Unstressed
	Purity 99%				+/- 19.0444	µg/mL	Stressed
54	n-Hexadecane (C16)		1,000.7	µg/mL	+/- 5.8180	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBF6942V)			+/- 11.9620	µg/mL	Unstressed
	Purity 99%				+/- 19.0374	µg/mL	Stressed
55	Diethylphthalate		1,000.9	µg/mL	+/- 5.8193	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/- 11.9648	µg/mL	Unstressed
	Purity 99%				+/- 19.0418	µg/mL	Stressed

56	Azobenzene		1,001.2	µg/mL	+/-	5.8213	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot MKBS2559V)			+/-	11.9688	µg/mL	Unstressed
	Purity 99%				+/-	19.0482	µg/mL	Stressed
57	Diphenylamine		850.7	µg/mL	+/-	4.9460	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1693	µg/mL	Unstressed
	Purity 99%				+/-	16.1843	µg/mL	Stressed
58	2-Nitroaniline		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.9	µg/mL	+/-	11.6336	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC12394V)			+/-	23.9193	µg/mL	Unstressed
	Purity 99%				+/-	38.0672	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		999.8	µg/mL	+/-	5.8131	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9520	µg/mL	Unstressed
	Purity 98%				+/-	19.0215	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC10604V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
62	Pentachlorophenol		2,000.5	µg/mL	+/-	11.6311	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 150902JLM)			+/-	23.9142	µg/mL	Unstressed
	Purity 98%				+/-	38.0591	µg/mL	Stressed
63	Phenanthrene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBT8628V)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
64	n-Octadecane (C18)		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9636	µg/mL	Unstressed
	Purity 99%				+/-	19.0399	µg/mL	Stressed
65	Anthracene		1,001.4	µg/mL	+/-	5.8224	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBK5208V)			+/-	11.9712	µg/mL	Unstressed
	Purity 99%				+/-	19.0520	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8161	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 4017900)			+/-	11.9583	µg/mL	Unstressed
	Purity 98%				+/-	19.0314	µg/mL	Stressed
67	Di-n-butylphthalate		1,003.6	µg/mL	+/-	5.8348	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBL8501V)			+/-	11.9967	µg/mL	Unstressed
	Purity 99%				+/-	19.0926	µg/mL	Stressed
68	Fluoranthene		1,000.7	µg/mL	+/-	5.8184	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0389	µg/mL	Stressed
69	Pyrene		1,000.2	µg/mL	+/-	5.8151	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBL6786V)			+/-	11.9561	µg/mL	Unstressed
	Purity 99%				+/-	19.0279	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8158	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	11.9576	µg/mL	Unstressed
	Purity 99%				+/-	19.0304	µg/mL	Stressed
71	Benz(a)anthracene		1,000.1	µg/mL	+/-	5.8147	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	11.9553	µg/mL	Unstressed
	Purity 99%				+/-	19.0266	µg/mL	Stressed

72	Chrysene		1,000.0	µg/mL	+/-	5.8143	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot PR121912-01)			+/-	11.9545	µg/mL	Unstressed
	Purity 99%				+/-	19.0253	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8164	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9588	µg/mL	Unstressed
	Purity 99%				+/-	19.0323	µg/mL	Stressed
74	Di-n-octyl phthalate		1,004.1	µg/mL	+/-	5.8379	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 3998900)			+/-	12.0031	µg/mL	Unstressed
	Purity 99%				+/-	19.1027	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.1	µg/mL	+/-	5.8149	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9557	µg/mL	Unstressed
	Purity 99%				+/-	19.0272	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.3	µg/mL	+/-	5.8160	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9580	µg/mL	Unstressed
	Purity 99%				+/-	19.0311	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.8	µg/mL	+/-	5.8189	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	11.9640	µg/mL	Unstressed
	Purity 99%				+/-	19.0406	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9768	µg/mL	Unstressed
	Purity 99%				+/-	19.0609	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.8	µg/mL	+/-	5.8185	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9632	µg/mL	Unstressed
	Purity 99%				+/-	19.0393	µg/mL	Stressed
Solvent:	Methylene Chloride							
	CAS # 75-09-2							
	Purity 99%							

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

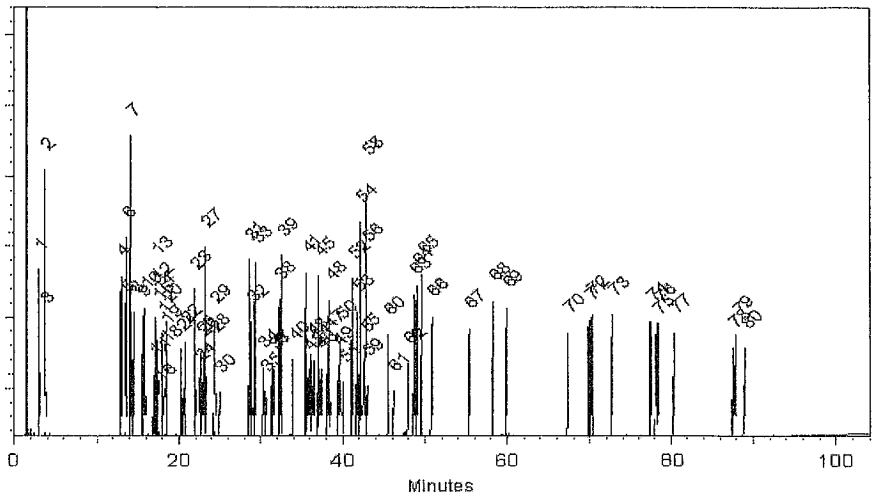
Carrier Gas:
hydrogen-constant pressure 10 psi

Temp. Program:
35°C (hold 3 min.) to 330°C
@ 3°C/min. (hold 3 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kendra Swope - Mix Technician

Date Mixed: 20-Oct-2015 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 04-Nov-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

PicricARestek_00074

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31499 **Lot No.:** A0105913

Description : Picric Acid Standard

1000µg/mL, Methanol, 1mL/ampul *PGI BOX REQUIRED* SHIP FED EX GROUND ONLY

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Picric Acid	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 88-89-1 (Lot 06130CU)		+/- 53.8797	µg/mL	Unstressed
	Purity 99%		+/- 58.5858	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Specific Reference Material Notes:
This is a derivatized analysis.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SFD CAL STK_00003

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

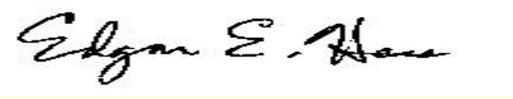
Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by DNV Certificate number CERT-08052-2006-AQ-HOU-ANAB

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**S425**	**Mfg. Date**	**12/14/2012**
Lot Number	**127305**		
Description	**SODIUM SULFIDE, NONAHYDRATE, CERTIFIED ACS**		
Country of Origin	**United States**	**Recommended Retest Date**	**Dec-2017**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	Colorless crystals
AMMONIUM	%	<= 0.01	0.0030
ASSAY	%	>= 98.0	101.2
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	PASS/FAIL	= PASS TEST	PASS TEST
SULFITE OR THIOSULFATE	%	<= 0.1	<0.01





Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.

8270D_DOD5

Semivolatile Organic Compounds (GC/MS)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
LL2mw-271-110116-GW	280-90409-1	87	90	97	85	102	91
LL2mw-261-103116-GW	280-90409-2	86	88	91	84	100	93
	MB 280-350194/1-A	83	85	92	84	92	88
	MB 280-350444/1-A	92	94	97	64	98	96
	LCS 280-350194/2-A	88	91	95	88	108	94
	LCS 280-350444/2-A	89	94	97	78	101	93
	LCSD 280-350194/3-A	88	88	97	90	104	93

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	19-119
PHL = Phenol-d5 (Surr)	10-115
NBZ = Nitrobenzene-d5 (Surr)	44-120
FBP = 2-Fluorobiphenyl (Surr)	44-119
TBP = 2,4,6-Tribromophenol (Surr)	43-140
TPHL = Terphenyl-d14 (Surr)	50-134

Column to be used to flag recovery values

FORM II 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D18960.D

Lab ID: LCS 280-350194/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Bis(2-ethylhexyl) phthalate	80.0	79.2	99	55-135	
Butyl benzyl phthalate	80.0	79.3	99	53-134	
Diethyl phthalate	80.0	83.1	104	56-125	
Dimethyl phthalate	80.0	83.1	104	45-127	
Di-n-butyl phthalate	80.0	80.2	100	59-127	
Di-n-octyl phthalate	80.0	80.5	101	51-140	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D19025.D

Lab ID: LCS 280-350444/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Bis(2-ethylhexyl) phthalate	80.0	76.1	95	55-135	
Butyl benzyl phthalate	80.0	77.4	97	53-134	
Diethyl phthalate	80.0	78.1	98	56-125	
Dimethyl phthalate	80.0	78.0	97	45-127	
Di-n-butyl phthalate	80.0	76.6	96	59-127	
Di-n-octyl phthalate	80.0	76.3	95	51-140	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D18961.D

Lab ID: LCSD 280-350194/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bis(2-ethylhexyl) phthalate	80.0	79.0	99	0	20	55-135	
Butyl benzyl phthalate	80.0	79.8	100	1	20	53-134	
Diethyl phthalate	80.0	80.6	101	3	20	56-125	
Dimethyl phthalate	80.0	80.9	101	3	20	45-127	
Di-n-butyl phthalate	80.0	79.5	99	1	20	59-127	
Di-n-octyl phthalate	80.0	79.7	100	1	20	51-140	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: D18959.D Lab Sample ID: MB 280-350194/1-A

Matrix: Water Date Extracted: 11/07/2016 12:27

Instrument ID: SMS_D Date Analyzed: 11/11/2016 21:14

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-350194/2-A	D18960.D	11/11/2016 21:42
	LCSD 280-350194/3-A	D18961.D	11/11/2016 22:10
LL2mw-261-103116-GW	280-90409-2	D18979.D	11/12/2016 06:40

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: D19024.D Lab Sample ID: MB 280-350444/1-A

Matrix: Water Date Extracted: 11/08/2016 15:07

Instrument ID: SMS_D Date Analyzed: 11/15/2016 21:25

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-350444/2-A	D19025.D	11/15/2016 21:53
LL2mw-271-110116-GW	280-90409-1	D19031.D	11/16/2016 00:43

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: D18883.D DFTPP Injection Date: 11/09/2016

Instrument ID: SMS_D DFTPP Injection Time: 07:11

Analysis Batch No.: 350537

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	42.2	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	42.6	
70	Less than 2.0 % of mass 69	0.3	(0.8) 1
127	40.0 - 60.0 % of mass 198	52.5	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.6	
275	10.0 - 30.0 % of mass 198	21.6	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	6.7	(49.7) 3
442	Greater than 40.0 % of mass 198	68.5	
443	17.0 - 23.0 % of mass 442	13.4	(19.6) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-350537/3	D18884.D	11/09/2016	07:22
	STD004 280-350537/4	D18885.D	11/09/2016	07:50
	STD010 280-350537/5	D18886.D	11/09/2016	08:19
	STD020 280-350537/6	D18887.D	11/09/2016	08:47
	STD050 280-350537/7	D18888.D	11/09/2016	09:15
	STD120 280-350537/8	D18889.D	11/09/2016	09:43
	STD160 280-350537/9	D18890.D	11/09/2016	10:12
	STD200 280-350537/10	D18891.D	11/09/2016	10:40
	ICV 280-350537/11	D18892.D	11/09/2016	11:09
	ICV 280-350537/12	D18893.D	11/09/2016	11:37
	ICV 280-350537/13	D18894.D	11/09/2016	12:05

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: D18957.D DFTPP Injection Date: 11/11/2016

Instrument ID: SMS_D DFTPP Injection Time: 20:19

Analysis Batch No.: 351071

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	39.3	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	40.2	
70	Less than 2.0 % of mass 69	0.1	(0.2) 1
127	40.0 - 60.0 % of mass 198	50.0	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	21.2	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	12.0	(87.5) 3
442	Greater than 40.0 % of mass 198	70.4	
443	17.0 - 23.0 % of mass 442	13.7	(19.4) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-351071/3	D18958.D	11/11/2016	20:45
	MB 280-350194/1-A	D18959.D	11/11/2016	21:14
	LCS 280-350194/2-A	D18960.D	11/11/2016	21:42
	LCSD 280-350194/3-A	D18961.D	11/11/2016	22:10
LL2mw-261-103116-GW	280-90409-2	D18979.D	11/12/2016	06:40
	CCVC 280-351071/25	D18980.D	11/12/2016	07:08

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: D19013.D DFTPP Injection Date: 11/15/2016

Instrument ID: SMS_D DFTPP Injection Time: 17:10

Analysis Batch No.: 351625

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	38.2	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	40.4	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	50.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	22.1	
365	Greater than 1.0 % of mass 198	2.7	
441	Present but less than mass 443	12.8	(92.9) 3
442	Greater than 40.0 % of mass 198	74.3	
443	17.0 - 23.0 % of mass 442	13.7	(18.5) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-351625/3	D19014.D	11/15/2016	17:22
	MB 280-350444/1-A	D19024.D	11/15/2016	21:25
	LCS 280-350444/2-A	D19025.D	11/15/2016	21:53
LL2mw-271-110116-GW	280-90409-1	D19031.D	11/16/2016	00:43
	CCVC 280-351625/17	D19037.D	11/16/2016	03:33

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: ICIS 280-350537/3 Date Analyzed: 11/09/2016 07:22

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): D18884.D Heated Purge: (Y/N) N

Calibration ID: 27535

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		98099	4.68	382065	5.91	235127	7.66
UPPER LIMIT		196198	5.18	764130	6.41	470254	8.16
LOWER LIMIT		49050	4.18	191033	5.41	117564	7.16
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-350537/11		95764	4.69	375930	5.90	230589	7.66
ICV 280-350537/12		92529	4.68	354490	5.90	220845	7.66
ICV 280-350537/13		96204	4.68	363037	5.90	220425	7.66
CCV 280-351071/3		91884	4.68	370203	5.91	224533	7.66
MB 280-350194/1-A		91300	4.68	341056	5.90	208805	7.66
LCS 280-350194/2-A		80692	4.68	324203	5.90	206167	7.66
LCSD 280-350194/3-A		87369	4.68	340984	5.90	210482	7.66
280-90409-2	LL2mw-261-103116-GW	85580	4.68	337568	5.90	216557	7.66
CCVC 280-351071/25		86958	4.68	345833	5.90	219040	7.66
CCV 280-351625/3		92392	4.66	365528	5.90	226225	7.66
MB 280-350444/1-A		80786	4.67	304211	5.90	188189	7.66
LCS 280-350444/2-A		80687	4.67	323038	5.90	202975	7.66
280-90409-1	LL2mw-271-110116-GW	87766	4.67	344180	5.90	215131	7.66
CCVC 280-351625/17		84289	4.67	339651	5.90	207685	7.66

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: ICIS 280-350537/3 Date Analyzed: 11/09/2016 07:22

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): D18884.D Heated Purge: (Y/N) N

Calibration ID: 27535

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		418886	9.16	450900	13.33	460129	17.31
UPPER LIMIT		837772	9.66	901800	13.83	920258	17.81
LOWER LIMIT		209443	8.66	225450	12.83	230065	16.81
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-350537/11		418100	9.17	441966	13.34	458799	17.32
ICV 280-350537/12		404408	9.17	473339	13.32	479549	17.31
ICV 280-350537/13		399486	9.16	471884	13.32	485376	17.31
CCV 280-351071/3		403903	9.17	436540	13.34	440117	17.32
MB 280-350194/1-A		375764	9.16	436062	13.31	438193	17.30
LCS 280-350194/2-A		370462	9.16	409104	13.32	418232	17.30
LCSD 280-350194/3-A		382514	9.16	423862	13.32	431555	17.30
280-90409-2	LL2mw-261-103116-GW	399092	9.16	441820	13.31	441138	17.30
CCVC 280-351071/25		401507	9.16	431861	13.32	423630	17.31
CCV 280-351625/3		396643	9.16	426135	13.33	413584	17.31
MB 280-350444/1-A		343566	9.16	383612	13.32	382814	17.31
LCS 280-350444/2-A		367421	9.16	401753	13.33	407788	17.32
280-90409-1	LL2mw-271-110116-GW	390808	9.16	431613	13.32	430165	17.31
CCVC 280-351625/17		373415	9.16	406229	13.33	405136	17.32

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-271-110116-GW | Lab Sample ID: 280-90409-1

Matrix: Water | Lab File ID: D19031.D

Analysis Method: 8270D | Date Collected: 11/01/2016 10:13

Extract. Method: 3520C | Date Extracted: 11/08/2016 15:07

Sample wt/vol: 1034.5(mL) | Date Analyzed: 11/16/2016 00:43

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351625 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	1.9	U	9.7	1.9	0.54
85-68-7	Butyl benzyl phthalate	1.9	U	19	1.9	0.97
84-66-2	Diethyl phthalate	0.97	U	19	0.97	0.37
131-11-3	Dimethyl phthalate	0.48	U	19	0.48	0.20
84-74-2	Di-n-butyl phthalate	4.3	U	19	4.3	1.1
117-84-0	Di-n-octyl phthalate	0.97	U	19	0.97	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	102		43-140
321-60-8	2-Fluorobiphenyl (Surr)	85		44-119
367-12-4	2-Fluorophenol (Surr)	87		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	97		44-120
4165-62-2	Phenol-d5 (Surr)	90		10-115
1718-51-0	Terphenyl-d14 (Surr)	91		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19031.D
Lims ID: 280-90409-B-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 16-Nov-2016 00:43:30 ALS Bottle#: 19 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-90409-B-1-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:40:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.669	4.664	0.005	99	87766	40.0	
* 2 Naphthalene-d8	136	5.898	5.898	0.000	100	344180	40.0	
* 3 Acenaphthene-d10	164	7.661	7.656	0.005	99	215131	40.0	
* 4 Phenanthrene-d10	188	9.162	9.162	0.000	99	390808	40.0	
* 5 Chrysene-d12	240	13.318	13.329	-0.011	82	431613	40.0	
* 6 Perylene-d12	264	17.309	17.314	-0.005	99	430165	40.0	
$ 7 2-Fluorophenol	112	3.494	3.489	0.005	98	253829	86.8	
$ 8 Phenol-d5	99	4.300	4.301	-0.001	97	349851	90.1	
$ 9 Nitrobenzene-d5	82	5.182	5.182	0.000	98	284176	97.4	
$ 11 2-Fluorobiphenyl	172	6.966	6.967	-0.001	98	552589	84.7	
$ 12 2,4,6-Tribromophenol	330	8.457	8.457	0.000	97	86867	102.0	
$ 13 Terphenyl-d14	244	11.170	11.166	0.004	100	718919	91.0	
111 Dimethyl phthalate	163		7.362				ND	
132 Diethyl phthalate	149		8.073				ND	
169 Di-n-butyl phthalate	149		9.745				ND	
187 Butyl benzyl phthalate	149		12.084				ND	
193 Bis(2-ethylhexyl) phthalat	149		13.495				ND	
197 Di-n-octyl phthalate	149		15.332				ND	

Reagents:

MS-IS_00009 Amount Added: 20.00 Units: uL Run Reagent

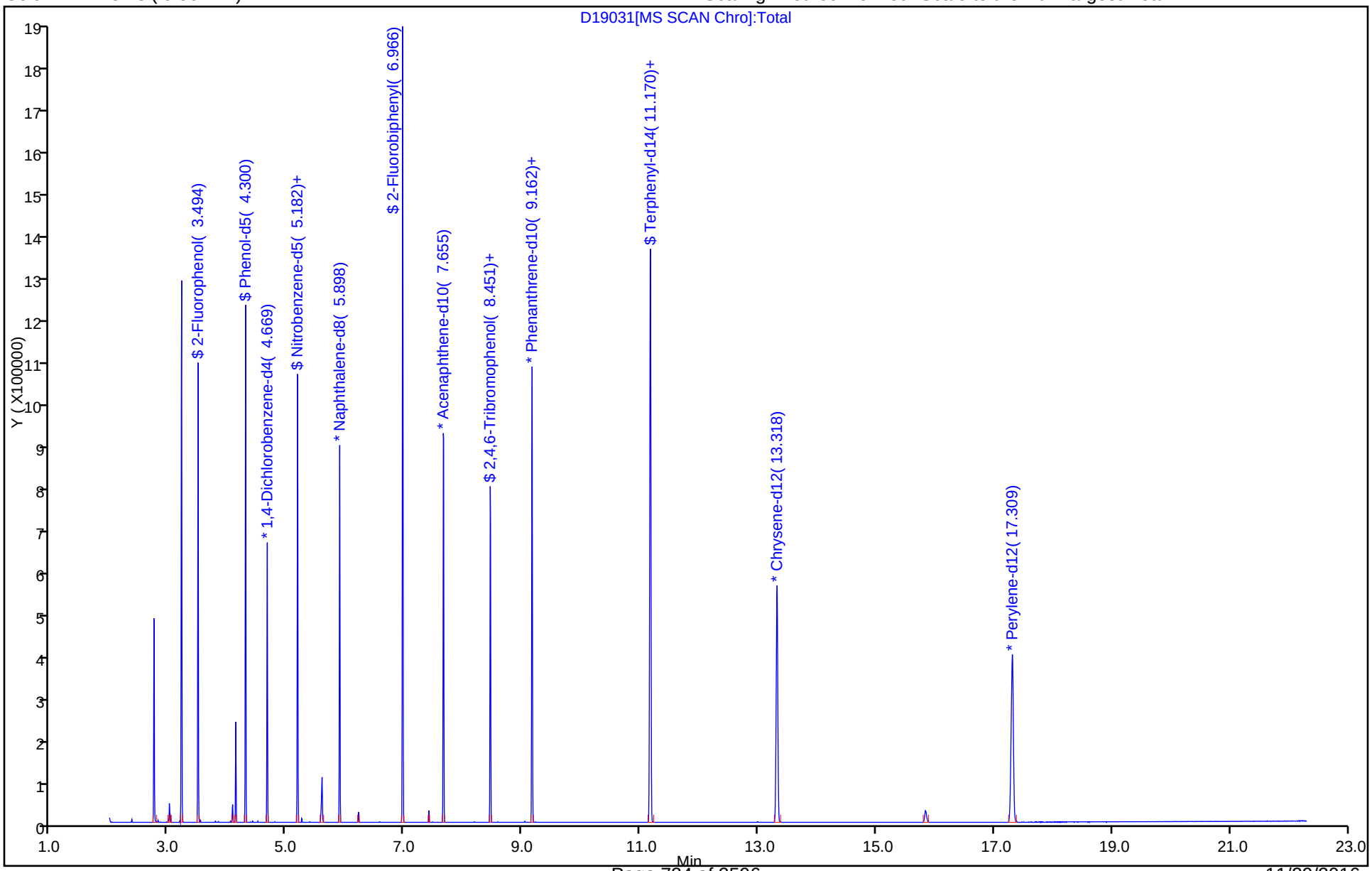
Report Date: 16-Nov-2016 08:42:44 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19031.D

Injection Date:	16-Nov-2016 00:43:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	280-90409-B-1-A	Lab Sample ID:	280-90409-1	Worklist Smp#:	11
Client ID:	LL2mw-271-110116-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19031.D
Lims ID: 280-90409-B-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 16-Nov-2016 00:43:30 ALS Bottle#: 19 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-90409-B-1-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:40:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	86.8	86.83
$ 8 Phenol-d5	100.0	90.1	90.10
$ 9 Nitrobenzene-d5	100.0	97.4	97.44
$ 11 2-Fluorobiphenyl	100.0	84.7	84.66
$ 12 2,4,6-Tribromophenol	100.0	102.0	102.00
$ 13 Terphenyl-d14	100.0	91.0	91.04

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-261-103116-GW | Lab Sample ID: 280-90409-2

Matrix: Water | Lab File ID: D18979.D

Analysis Method: 8270D | Date Collected: 10/31/2016 14:40

Extract. Method: 3520C | Date Extracted: 11/07/2016 12:27

Sample wt/vol: 1009.6(mL) | Date Analyzed: 11/12/2016 06:40

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351071 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	9.9	2.0	0.55
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	0.99
84-66-2	Diethyl phthalate	0.99	U	20	0.99	0.38
131-11-3	Dimethyl phthalate	0.50	U	20	0.50	0.21
84-74-2	Di-n-butyl phthalate	4.4	U	20	4.4	1.1
117-84-0	Di-n-octyl phthalate	0.99	U	20	0.99	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	100		43-140
321-60-8	2-Fluorobiphenyl (Surr)	84		44-119
367-12-4	2-Fluorophenol (Surr)	86		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	91		44-120
4165-62-2	Phenol-d5 (Surr)	88		10-115
1718-51-0	Terphenyl-d14 (Surr)	93		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18979.D
Lims ID: 280-90409-B-2-A
Client ID: LL2mw-261-103116-GW
Sample Type: Client
Inject. Date: 12-Nov-2016 06:40:30 ALS Bottle#: 23 Worklist Smp#: 24
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-90409-B-2-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:57:25

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	1 1,4-Dichlorobenzene-d4	152	4.676	4.678	-0.002	98	85580	40.0	
*	2 Naphthalene-d8	136	5.899	5.906	-0.007	100	337568	40.0	
*	3 Acenaphthene-d10	164	7.657	7.664	-0.007	99	216557	40.0	
*	4 Phenanthrene-d10	188	9.158	9.165	-0.007	99	399092	40.0	
*	5 Chrysene-d12	240	13.309	13.337	-0.028	82	441820	40.0	
*	6 Perylene-d12	264	17.299	17.323	-0.024	99	441138	40.0	
$	7 2-Fluorophenol	112	3.506	3.508	-0.002	98	246115	86.3	
$	8 Phenol-d5	99	4.302	4.304	-0.002	97	334241	88.3	
$	9 Nitrobenzene-d5	82	5.189	5.191	-0.002	98	261675	91.5	
$	11 2-Fluorobiphenyl	172	6.968	6.975	-0.007	98	554400	84.4	
$	12 2,4,6-Tribromophenol	330	8.453	8.460	-0.007	96	85336	99.5	
$	13 Terphenyl-d14	244	11.167	11.174	-0.007	100	749455	92.7	
	111 Dimethyl phthalate	163		7.370				ND	
	132 Diethyl phthalate	149		8.075				ND	
	169 Di-n-butyl phthalate	149		9.753				ND	
	187 Butyl benzyl phthalate	149		12.087				ND	
	193 Bis(2-ethylhexyl) phthalat	149		13.503				ND	
	197 Di-n-octyl phthalate	149		15.341				ND	

Reagents:

MS-IS_00009 Amount Added: 20.00 Units: uL Run Reagent

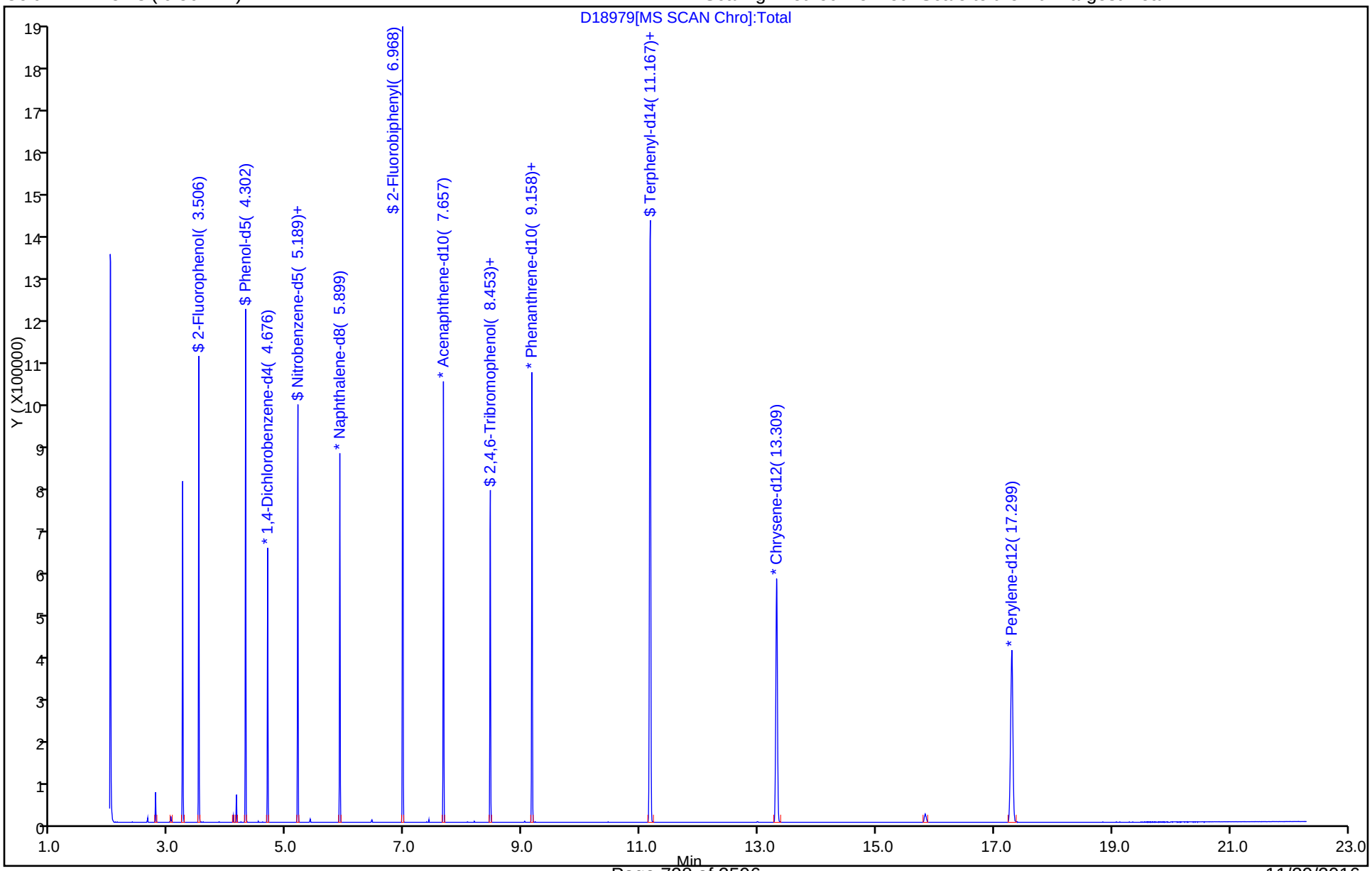
Report Date: 12-Nov-2016 14:03:48 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18979.D

Injection Date:	12-Nov-2016 06:40:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	280-90409-B-2-A	Lab Sample ID:	280-90409-2	Worklist Smp#:	24
Client ID:	LL2mw-261-103116-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18979.D
Lims ID: 280-90409-B-2-A
Client ID: LL2mw-261-103116-GW
Sample Type: Client
Inject. Date: 12-Nov-2016 06:40:30 ALS Bottle#: 23 Worklist Smp#: 24
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-90409-B-2-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:57:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	86.3	86.34
$ 8 Phenol-d5	100.0	88.3	88.28
$ 9 Nitrobenzene-d5	100.0	91.5	91.48
$ 11 2-Fluorobiphenyl	100.0	84.4	84.38
$ 12 2,4,6-Tribromophenol	100.0	99.5	99.54
$ 13 Terphenyl-d14	100.0	92.7	92.71

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-350537/4	D18885.D
Level 2	STD010 280-350537/5	D18886.D
Level 3	STD020 280-350537/6	D18887.D
Level 4	STD050 280-350537/7	D18888.D
Level 5	ICIS 280-350537/3	D18884.D
Level 6	STD120 280-350537/8	D18889.D
Level 7	STD160 280-350537/9	D18890.D
Level 8	STD200 280-350537/10	D18891.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								
1,4-Dioxane	0.6720 0.5620	0.6087 0.5632	0.5925 0.5346	0.5839	0.5983	Ave		0.5894				7.0		15.0			
N-Nitrosodimethylamine	0.9733 0.9362	0.9545 0.9291	0.9565 0.8958	0.9776	0.9551	Ave		0.9473				2.8		15.0			
Pyridine	1.7086 1.6224	1.7164 1.6137	1.6750 1.5706	1.7175	1.6779	Ave		1.6628				3.3		15.0			
Phenol	1.8911 1.6683	1.8598 1.6099	1.8375 1.5341	1.8248	1.7434	Ave		1.7461				7.4		15.0			
Aniline	2.3659 2.1591	2.3032 2.0889	2.3110 2.0411	2.3173	2.2358	Ave		2.2278				5.3		15.0			
Bis(2-chloroethyl)ether	1.4613 1.2733	1.4674 1.1838	1.4497 1.1064	1.4024	1.3362	Ave		1.3351				10.2		15.0			
2-Chlorophenol	1.4370 1.3171	1.4363 1.2678	1.4356 1.2051	1.4040	1.3669	Ave		1.3587				6.5		15.0			
1,3-Dichlorobenzene	1.5483 1.3543	1.5137 1.2967	1.5191 1.2227	1.4850	1.4141	Ave		1.4192				8.3		15.0			
1,4-Dichlorobenzene	1.6151 1.3742	1.5714 1.3100	1.5522 1.2306	1.4930	1.4417	Ave		1.4485				9.3		15.0			
Benzyl alcohol	0.9976 0.9567	1.0147 0.9298	1.0176 0.8955	1.0285	0.9921	Ave		0.9791				4.8		15.0			
1,2-Dichlorobenzene	1.5346 1.3118	1.4931 1.2662	1.4539 1.1988	1.4429	1.3777	Ave		1.3849				8.5		15.0			
2-Methylphenol	1.4045 1.2778	1.4046 1.2367	1.4083 1.1670	1.3784	1.3488	Ave		1.3283				6.8		15.0			
2,2'-oxybis[1-chloropropane]	2.1176 1.6884	1.9925 1.5946	1.9643 1.4945	1.9018	1.7886	Ave		1.8178				11.8		15.0			
3 & 4 Methylphenol	1.4428 1.2894	1.4671 1.2313	1.4651 1.1520	1.4418	1.3939	Ave		1.3604				8.9		15.0			

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

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

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								
N-Nitrosodi-n-propylamine	1.0751 0.8801	1.0514 0.8427	1.0515 0.8130	1.0184	0.9610	Ave		0.9616			0.0500	10.8		15.0			
Acetophenone	2.0499 1.6434	1.9854 1.5065	1.9821 1.4180	1.9223	1.7676	Ave		1.7844				13.4		15.0			
Hexachloroethane	0.5738 0.5195	0.5703 0.4993	0.5699 0.4724	0.5703	0.5497	Ave		0.5406				7.2		15.0			
Nitrobenzene	0.3167 0.3423	0.3219 0.3358	0.3429 0.3268	0.3652	0.3389	Ave		0.3363				4.5		15.0			
Isophorone	0.7200 0.6602	0.7374 0.6420	0.7295 0.6360	0.7226	0.6959	Ave		0.6929				5.9		15.0			
2-Nitrophenol	0.1037 0.1640	0.1144 0.1668	0.1292 0.1651	0.1609	0.1412	Lin2	-0.253	0.1574							0.9910		0.9900
2,4-Dimethylphenol	0.3614 0.3171	0.3683 0.3086	0.3613 0.2952	0.3589	0.3426	Ave		0.3392				8.3		15.0			
Bis(2-chloroethoxy)methane	0.4642 0.4005	0.4712 0.3803	0.4591 0.3638	0.4410	0.4292	Ave		0.4262				9.5		15.0			
Benzoic acid	+++++ 0.2610	0.1129 0.2733	0.1661 0.2868	0.2258	0.2332	Lin2	-3.444	0.2724							0.9940		0.9900
2,4-Dichlorophenol	0.2825 0.2753	0.3010 0.2657	0.3002 0.2597	0.3037	0.2900	Ave		0.2848				5.9		15.0			
1,2,4-Trichlorobenzene	0.3195 0.2777	0.3341 0.2683	0.3215 0.2549	0.3143	0.2980	Ave		0.2985				9.6		15.0			
Naphthalene	1.1106 0.9027	1.0981 0.8644	1.0764 0.8012	1.0471	0.9836	Ave		0.9855				11.9		15.0			
4-Chloroaniline	0.4869 0.4183	0.4782 0.3947	0.4802 0.3723	0.4792	0.4500	Ave		0.4450				10.0		15.0			
2,6-Dichlorophenol	0.2814 0.2691	0.3049 0.2612	0.2999 0.2473	0.3005	0.2874	Ave		0.2815				7.4		15.0			
Hexachlorobutadiene	0.1745 0.1540	0.1760 0.1452	0.1740 0.1389	0.1686	0.1637	Ave		0.1618				8.8		15.0			
4-Chloro-3-methylphenol	0.3000 0.2867	0.3088 0.2759	0.3121 0.2649	0.3166	0.3019	Ave		0.2959				6.2		15.0			
2-Methylnaphthalene	0.7442 0.6155	0.7405 0.5823	0.7214 0.5543	0.7106	0.6693	Ave		0.6673				11.2		15.0			
1-Methylnaphthalene	0.7156 0.5865	0.7074 0.5528	0.6856 0.5210	0.6741	0.6321	Ave		0.6344				11.6		15.0			
Hexachlorocyclopentadiene	0.2702 0.2491	0.2779 0.2364	0.2862 0.2222	0.2847	0.2709	Ave		0.2622			0.0500	9.0		15.0			
1,2,4,5-Tetrachlorobenzene	0.3368 0.2611	0.3349 0.2444	0.3224 0.2307	0.3056	0.2859	Ave		0.2902				14.2		15.0			

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

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

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								
2,4,6-Trichlorophenol	0.3217 0.2765	0.3315 0.2609	0.3343 0.2420	0.3185	0.3013	Ave		0.2983				11.6		15.0			
2,4,5-Trichlorophenol	0.3169 0.3336	0.3432 0.3280	0.3521 0.3117	0.3719	0.3551	Ave		0.3391				6.0		15.0			
2-Chloronaphthalene	1.1867 0.9618	1.1586 0.9129	1.1237 0.8585	1.0804	1.0364	Ave		1.0399				11.5		15.0			
2-Nitroaniline	0.1736 0.3111	0.2349 0.3143	0.2632 0.3047	0.3183	0.2937	Lin2	-0.577	0.3093							0.9980		0.9900
Dimethyl phthalate	1.2966 1.1002	1.3075 1.0494	1.2768 1.0133	1.2467	1.1773	Ave		1.1835				9.8		15.0			
1,3-Dinitrobenzene	+++++ 0.1756	0.0733 0.1865	0.1081 0.1894	0.1578	0.1376	Lin1	-1.443	0.1886							0.9920		0.9900
2,6-Dinitrotoluene	0.1468 0.2648	0.1895 0.2647	0.2279 0.2542	0.2717	0.2443	Lin2	-0.492	0.2608							0.9960		0.9900
Acenaphthylene	1.7647 1.4993	1.7671 1.4210	1.7200 1.3348	1.7025	1.6154	Ave		1.6031				10.3		15.0			
3-Nitroaniline	0.2062 0.3236	0.2434 0.3244	0.2796 0.3207	0.3271	0.3104	Lin2	-0.506	0.3205							0.9970		0.9900
Acenaphthene	1.1878 0.8964	1.1703 0.8561	1.1261 0.8031	1.0672	1.0025	Ave		1.0137				14.6		15.0			
2,4-Dinitrophenol	+++++ 0.1399	0.0528 0.1492	0.0772 0.1519	0.1190	0.1046	Qua	-1.699	0.1168	0.0001043		0.0500				0.9960		0.9900
4-Nitrophenol	0.1079 0.1514	0.1359 0.1502	0.1463 0.1493	0.1595	0.1550	Ave		0.1444			0.0500	11.3		15.0			
2,4-Dinitrotoluene	0.1639 0.3524	0.2182 0.3495	0.2842 0.3465	0.3511	0.3242	Lin2	-0.800	0.3440							0.9940		0.9900
Dibenzofuran	1.7167 1.3755	1.7027 1.3022	1.6350 1.2292	1.5641	1.4704	Ave		1.4995				12.3		15.0			
2,3,4,6-Tetrachlorophenol	0.2539 0.2891	0.2743 0.2827	0.2882 0.2678	0.3126	0.2961	Ave		0.2831				6.4		15.0			
Diethyl phthalate	1.2887 1.0693	1.3082 1.0078	1.2755 0.9457	1.2275	1.1696	Ave		1.1615				11.9		15.0			
4-Chlorophenyl phenyl ether	0.6605 0.5123	0.6483 0.4814	0.6243 0.4596	0.5937	0.5569	Ave		0.5671				13.5		15.0			
Fluorene	1.4290 1.0656	1.3949 1.0138	1.3267 0.9481	1.2390	1.1609	Ave		1.1973				15.0		15.0			
4-Nitroaniline	0.2233 0.3259	0.2801 0.3311	0.3069 0.3305	0.3281	0.3134	Ave		0.3049				12.2		15.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1111	0.0497 0.1135	0.0733 0.1107	0.1045	0.0942	Lin2	-1.327	0.1130							0.9960		0.9900

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

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

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								
Diphenylamine	1.1873 0.9969	1.1967 0.9517	1.1766 0.8943	1.1295	1.0655	Ave		1.0748				10.8		15.0			
N-Nitrosodiphenylamine	0.5572 0.4779	0.5706 0.4587	0.5603 0.4288	0.5426	0.5114	Ave		0.5134				10.3		15.0			
1,2-Diphenylhydrazine	1.4377 1.2248	1.4689 1.1728	1.4414 1.1089	1.3913	1.3386	Ave		1.3230				10.4		15.0			
Azobenzene	1.4535 1.2382	1.4850 1.1857	1.4572 1.1211	1.4065	1.3532	Ave		1.3376				10.4		15.0			
4-Bromophenyl phenyl ether	0.2219 0.1874	0.2238 0.1797	0.2200 0.1702	0.2134	0.1994	Ave		0.2020				10.3		15.0			
Hexachlorobenzene	0.2215 0.1852	0.2270 0.1770	0.2227 0.1685	0.2168	0.2018	Ave		0.2026				11.3		15.0			
Atrazine	0.2122 0.1810	0.2220 0.1738	0.2180 0.1644	0.2057	0.1934	Ave		0.1963				10.9		15.0			
Pentachlorophenol	+++++ 0.1156	0.1035 0.1104	0.1222 0.1053	0.1304	0.1220	Ave		0.1156				8.5		15.0			
Phenanthrene	1.1784 0.9266	1.1552 0.8759	1.1269 0.8207	1.0783	1.0058	Ave		1.0210				13.2		15.0			
Anthracene	1.1953 0.9606	1.1914 0.9117	1.1714 0.8522	1.1224	1.0502	Ave		1.0569				12.7		15.0			
Carbazole	1.1325 0.9437	1.1549 0.9055	1.1306 0.8425	1.0864	1.0205	Ave		1.0271				11.5		15.0			
Alachlor	0.1409 0.1318	0.1458 0.1257	0.1481 0.1186	0.1472	0.1400	Ave		0.1373				7.9		15.0			
Di-n-butyl phthalate	1.2870 1.1124	1.3162 1.0592	1.3236 0.9866	1.2692	1.2070	Ave		1.1951				10.7		15.0			
Fluoranthene	1.3024 1.1276	1.3461 1.0944	1.3066 1.0298	1.2860	1.2134	Ave		1.2133				9.6		15.0			
Pyrene	1.2038 1.1245	1.2215 1.0855	1.1983 1.0679	1.2107	1.1835	Ave		1.1620				5.2		15.0			
Famphur	0.4175 0.3845	0.4467 0.3520	0.4545 0.3236	0.4447	0.4171	Ave		0.4051				11.8		15.0			
Butyl benzyl phthalate	0.4895 0.5316	0.5159 0.5147	0.5289 0.5090	0.5452	0.5481	Ave		0.5229				3.7		15.0			
3,3'-Dichlorobenzidine	0.3796 0.4260	0.4329 0.4044	0.4353 0.3884	0.4644	0.4530	Ave		0.4230				7.1		15.0			
Benzo[a]anthracene	1.1529 1.1265	1.1957 1.0852	1.1601 1.0640	1.1783	1.1594	Ave		1.1402				4.0		15.0			
Chrysene	1.1269 1.0735	1.1420 1.0376	1.1218 1.0150	1.1463	1.1139	Ave		1.0971				4.5		15.0			

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

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

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								
Bis(2-ethylhexyl) phthalate	0.6754 0.7623	0.7357 0.7387	0.7439 0.7320	0.7716	0.7809	Ave		0.7426				4.4		15.0			
Di-n-octyl phthalate	1.1210 1.3630	1.2631 1.3226	1.2693 1.3075	1.3676	1.3859	Ave		1.3000				6.6		15.0			
Benzo[b]fluoranthene	1.0798 1.1231	1.1303 1.1021	1.1160 1.0738	1.1424	1.1260	Ave		1.1117				2.2		15.0			
Benzo[k]fluoranthene	1.1044 1.1135	1.1479 1.0764	1.1549 1.0274	1.1717	1.1640	Ave		1.1200				4.4		15.0			
Benzo[a]pyrene	1.0577 1.1068	1.1171 1.0754	1.1171 1.0352	1.1541	1.1311	Ave		1.0993				3.6		15.0			
Indeno[1,2,3-cd]pyrene	0.9610 1.0127	1.0187 1.0293	0.9955 0.9969	1.0096	1.0251	Ave		1.0061				2.2		15.0			
Dibenz(a,h)anthracene	0.9710 1.0294	1.0299 1.0119	1.0105 0.9723	1.0222	1.0162	Ave		1.0079				2.3		15.0			
Benzo[g,h,i]perylene	1.0557 1.0762	1.0923 1.0587	1.0626 1.0301	1.0854	1.0827	Ave		1.0680				1.9		15.0			
2-Fluorophenol (Surr)	1.4096 1.2961	1.3793 1.2693	1.3762 1.1998	1.3817	1.3461	Ave		1.3323				5.4		15.0			
Phenol-d5 (Surr)	1.8279 1.7159	1.8626 1.6691	1.8653 1.5972	1.8513	1.7684	Ave		1.7697				5.7		15.0			
Nitrobenzene-d5 (Surr)	0.3227 0.3486	0.3225 0.3453	0.3349 0.3409	0.3629	0.3338	Ave		0.3389				4.0		15.0			
2-Fluorobiphenyl (Surr)	1.3621 1.1108	1.3692 1.0566	1.3284 0.9943	1.2845	1.2031	Ave		1.2136				12.0		15.0			
2,4,6-Tribromophenol (Surr)	0.1326 0.1617	0.1598 0.1572	0.1661 0.1521	0.1729	0.1646	Ave		0.1584				7.7		15.0			
Terphenyl-d14 (Surr)	0.7569 0.7032	0.7794 0.6735	0.7635 0.6665	0.7655	0.7466	Ave		0.7319				6.1		15.0			

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

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-350537/4	D18885.D
Level 2	STD010 280-350537/5	D18886.D
Level 3	STD020 280-350537/6	D18887.D
Level 4	STD050 280-350537/7	D18888.D
Level 5	ICIS 280-350537/3	D18884.D
Level 6	STD120 280-350537/8	D18889.D
Level 7	STD160 280-350537/9	D18890.D
Level 8	STD200 280-350537/10	D18891.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
1,4-Dioxane	DCBd 4	Ave	6348 161742	14604 215916	28064 262216	71549	117386	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodimethylamine	DCBd 4	Ave	9194 269432	22900 356168	45307 439385	119801	187397	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyridine	DCBd 4	Ave	16139 466907	41179 618617	79337 770369	210465	329204	4.00 120	10.0 160	20.0 200	50.0	80.0
Phenol	DCBd 4	Ave	17863 480117	44621 617133	87036 752444	223620	342053	4.00 120	10.0 160	20.0 200	50.0	80.0
Aniline	DCBd 4	Ave	22348 621364	55258 800788	109465 1001108	283969	438669	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	13803 366439	35205 453800	68668 542685	171852	262161	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Chlorophenol	DCBd 4	Ave	13574 379050	34460 486004	68001 591063	172047	268176	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dichlorobenzene	DCBd 4	Ave	14625 389739	36316 497074	71956 599693	181976	277441	4.00 120	10.0 160	20.0 200	50.0	80.0
1,4-Dichlorobenzene	DCBd 4	Ave	15256 395475	37700 502201	73520 603602	182956	282857	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzyl alcohol	DCBd 4	Ave	9423 275337	24345 356429	48198 439235	126039	194639	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Dichlorobenzene	DCBd 4	Ave	14496 377516	35823 485392	68864 588015	176819	270303	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylphenol	DCBd 4	Ave	13267 367744	33699 474104	66704 572415	168918	264640	4.00 120	10.0 160	20.0 200	50.0	80.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	20003 485890	47805 611292	93043 733012	233058	350929	4.00 120	10.0 160	20.0 200	50.0	80.0
3 & 4 Methylphenol	DCBd 4	Ave	13629 371071	35199 472016	69395 565048	176678	273482	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	10155 253282	25225 323037	49804 398782	124799	188549	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
Acetophenone	DCBd 4	Ave	19363 472935	47634 577513	93884 695492	235563	346790	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachloroethane	DCBd 4	Ave	5420 149503	13682 191393	26993 231714	69890	107846	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene	NPT	Ave	11549 391177	29372 510338	63552 636366	174081	258971	4.00 120	10.0 160	20.0 200	50.0	80.0
Isophorone	NPT	Ave	26259 754401	67273 975781	135194 1238458	344497	531769	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitrophenol	NPT	Lin2	3783 187380	10434 253450	23942 321485	76694	107933	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dimethylphenol	NPT	Ave	13180 362394	33603 468961	66952 574778	171105	261807	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethoxy)methane	NPT	Ave	16931 457633	42992 577958	85089 708396	210219	327972	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzoic acid	NPT	Lin2	+++++ 596604	20605 830633	61568 1117191	215270	356342	+++++ 240	20.0 320	40.0 400	100	160
2,4-Dichlorophenol	NPT	Ave	10302 314557	27458 403830	55640 505782	144762	221603	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4-Trichlorobenzene	NPT	Ave	11654 317366	30481 407803	59580 496461	149817	227690	4.00 120	10.0 160	20.0 200	50.0	80.0
Naphthalene	NPT	Ave	40507 1031530	100187 1313724	199488 1560278	499181	751574	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloroaniline	NPT	Ave	17760 478031	43630 599863	88987 725104	228447	343874	4.00 120	10.0 160	20.0 200	50.0	80.0
2,6-Dichlorophenol	NPT	Ave	10262 307532	27817 396936	55574 481519	143256	219623	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobutadiene	NPT	Ave	6363 175967	16053 220733	32238 270398	80386	125051	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloro-3-methylphenol	NPT	Ave	10940 327636	28173 419329	57837 515898	150933	230717	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylnaphthalene	NPT	Ave	27143 703307	67561 884949	133693 1079422	338771	511461	4.00 120	10.0 160	20.0 200	50.0	80.0
1-Methylnaphthalene	NPT	Ave	26098 670194	64539 840206	127059 1014606	321340	483004	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorocyclopentadiene	ANT	Ave	6089 176227	15506 221711	32951 270634	84158	127377	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4,5-Tetrachlorobenzene	NPT	Ave	12283 298402	30557 371451	59755 449185	145671	218493	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Trichlorophenol	ANT	Ave	7249 195627	18494 244724	38484 294706	94153	141684	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,5-Trichlorophenol	ANT	Ave	7140 236030	19152 307603	40535 379701	109936	166995	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
2-Chloronaphthalene	ANT	Ave	26739 680461	64644 856155	129359 1045612	319349	487355	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitroaniline	ANT	Lin2	3912 220107	13105 294766	30305 371125	94074	138100	4.00 120	10.0 160	20.0 200	50.0	80.0
Dimethyl phthalate	ANT	Ave	29214 778324	72952 984192	146989 1234158	368498	553645	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dinitrobenzene	ANT	Lin1	+++++ 124231	4090 174864	12450 230704	46650	64722	+++++ 120	10.0 160	20.0 200	50.0	80.0
2,6-Dinitrotoluene	ANT	Lin2	3308 187298	10572 248267	26240 309629	80294	114876	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthylene	ANT	Ave	39762 1060701	98599 1332641	198007 1625800	503215	759641	4.00 120	10.0 160	20.0 200	50.0	80.0
3-Nitroaniline	ANT	Lin2	4645 228928	13583 304204	32189 390603	96677	145946	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthene	ANT	Ave	26763 634132	65300 802927	129637 978114	315429	471435	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dinitrophenol	ANT	Qua	+++++ 197941	5897 279877	17776 370076	70346	98392	+++++ 240	20.0 320	40.0 400	100	160
4-Nitrophenol	ANT	Ave	4862 214158	15164 281658	33690 363792	94274	145747	8.00 240	20.0 320	40.0 400	100	160
2,4-Dinitrotoluene	ANT	Lin2	3693 249317	12174 327793	32715 422033	103768	152475	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenzofuran	ANT	Ave	38681 973066	95002 1221246	188225 1497107	462309	691456	4.00 120	10.0 160	20.0 200	50.0	80.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	5720 204508	15306 265093	33172 326230	92408	139236	4.00 120	10.0 160	20.0 200	50.0	80.0
Diethyl phthalate	ANT	Ave	29036 756467	72993 945163	146835 1151881	362818	550007	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chlorophenyl phenyl ether	ANT	Ave	14882 362428	36172 451512	71867 559777	175472	261875	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluorene	ANT	Ave	32198 753895	77832 950783	152733 1154727	366211	545939	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Nitroaniline	ANT	Ave	5031 230541	15627 310493	35325 402506	96971	147389	4.00 120	10.0 160	20.0 200	50.0	80.0
4,6-Dinitro-2-methylphenol	PHN	Lin2	+++++ 280395	9937 377739	30283 480621	109984	157903	+++++ 240	20.0 320	40.0 400	100	160
Diphenylamine	ANT	Ave	22872 603007	57092 763104	115812 931263	285434	428402	3.42 103	8.55 137	17.1 171	42.8	68.4
N-Nitrosodiphenylamine	PHN	Ave	22872 603007	57092 763104	115812 931263	285434	428402	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Diphenylhydrazine	ANT	Ave	32749 875964	82857 1111971	167754 1365474	415735	636368	4.04 121	10.1 162	20.2 202	50.5	80.9

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
Azobenzene	ANT	Ave	32749 875964	82857 1111971	167754 1365474	415735	636368	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Bromophenyl phenyl ether	PHN	Ave	9110 236521	22389 298910	45478 369696	112257	167028	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobenzene	PHN	Ave	9091 233750	22714 294455	46026 365819	114053	169052	4.00 120	10.0 160	20.0 200	50.0	80.0
Atrazine	PHN	Ave	8708 228396	22210 289125	45057 357081	108207	162046	4.00 120	10.0 160	20.0 200	50.0	80.0
Pentachlorophenol	PHN	Ave	+++++ 291705	20710 367359	50538 457439	137167	204363	+++++ 240	20.0 320	40.0 400	100	160
Phenanthrene	PHN	Ave	48366 1169333	115583 1457271	232932 1782227	567243	842597	4.00 120	10.0 160	20.0 200	50.0	80.0
Anthracene	PHN	Ave	49063 1212184	119203 1516796	242142 1850744	590455	879800	4.00 120	10.0 160	20.0 200	50.0	80.0
Carbazole	PHN	Ave	46484 1190893	115557 1506577	233695 1829605	571510	854923	4.00 120	10.0 160	20.0 200	50.0	80.0
Alachlor	PHN	Ave	5782 166346	14591 209211	30622 257580	77423	117309	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-butyl phthalate	PHN	Ave	52824 1403788	131699 1762151	273598 2142506	667699	1011159	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluoranthene	PHN	Ave	53457 1422884	134682 1820832	270090 2236430	676542	1016557	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyrene	CRY	Ave	57375 1495494	140276 1932501	286472 2355089	705279	1067291	4.00 120	10.0 160	20.0 200	50.0	80.0
Famphur	CRY	Ave	19901 511349	51305 626719	108661 713649	259070	376170	4.00 120	10.0 160	20.0 200	50.0	80.0
Butyl benzyl phthalate	CRY	Ave	23333 706950	59245 916332	126440 1122506	317611	494282	4.00 120	10.0 160	20.0 200	50.0	80.0
3,3'-Dichlorobenzidine	CRY	Ave	18091 566485	49719 720018	104053 856533	270498	408530	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[a]anthracene	CRY	Ave	54950 1498114	137312 1931966	277341 2346397	686365	1045535	4.00 120	10.0 160	20.0 200	50.0	80.0
Chrysene	CRY	Ave	53710 1427675	131148 1847260	268182 2238497	667728	1004519	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	32190 1013766	84491 1315167	177837 1614403	449465	704200	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-octyl phthalate	CRY	Ave	53431 1812669	145056 2354681	303449 2883354	796681	1249780	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[b]fluoranthene	PRY	Ave	52915 1515960	133387 1975384	270586 2443503	684827	1036209	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[k]fluoranthene	PRY	Ave	54122 1503055	135457 1929176	280007 2337806	702382	1071155	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 350537

SDG No.:

Instrument ID: SMS_D GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/09/2016 07:22 Calibration End Date: 11/09/2016 10:40 Calibration ID: 27535

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
Benzo[a]pyrene	PRY	Ave	51834 1493963	131826 1927408	270847 2355598	691863	1040920	4.00 120	10.0 160	20.0 200	50.0	80.0
Indeno[1,2,3-cd]pyrene	PRY	Ave	47095 1366975	120214 1844789	241370 2268435	605237	943365	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenz(a,h)anthracene	PRY	Ave	47583 1389539	121538 1813569	245000 2212329	612787	935190	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[g,h,i]perylene	PRY	Ave	51735 1452712	128897 1897460	257639 2343856	650639	996322	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorophenol (Surr)	DCBd 4	Ave	13315 372993	33092 486584	65184 588488	169322	264104	4.00 120	10.0 160	20.0 200	50.0	80.0
Phenol-d5 (Surr)	DCBd 4	Ave	17266 493823	44687 639839	88352 783398	226863	346949	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene-d5 (Surr)	NPT	Ave	11768 398372	29420 524796	62062 663776	172984	255102	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorobiphenyl (Surr)	ANT	Ave	30690 785814	76395 990902	152930 1211092	379667	565749	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Tribromophenol (Surr)	ANT	Ave	2987 114368	8914 147393	19120 185263	51101	77406	4.00 120	10.0 160	20.0 200	50.0	80.0
Terphenyl-d14 (Surr)	CRY	Ave	36074 935139	89506 1199033	182515 1469815	445906	673310	4.00 120	10.0 160	20.0 200	50.0	80.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18884.D
Lims ID: ICIS HSL
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 09-Nov-2016 07:22:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICIS HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:40 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 07:56:24

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.681	4.681	0.000	97	98099	40.0	40.0	
* 2 Naphthalene-d8	136	5.905	5.905	0.000	100	382065	40.0	40.0	
* 3 Acenaphthene-d10	164	7.662	7.662	0.000	99	235127	40.0	40.0	
* 4 Phenanthrene-d10	188	9.164	9.164	0.000	99	418886	40.0	40.0	
* 5 Chrysene-d12	240	13.330	13.330	0.000	82	450900	40.0	40.0	
* 6 Perylene-d12	264	17.310	17.310	0.000	99	460129	40.0	40.0	
$ 7 2-Fluorophenol	112	3.517	3.517	0.000	99	264104	80.0	80.8	
$ 8 Phenol-d5	99	4.308	4.308	0.000	98	346949	80.0	79.9	
$ 9 Nitrobenzene-d5	82	5.194	5.194	0.000	97	255102	80.0	78.8	
$ 11 2-Fluorobiphenyl	172	6.973	6.973	0.000	98	565749	80.0	79.3	
$ 12 2,4,6-Tribromophenol	330	8.458	8.458	0.000	96	77406	80.0	83.2	
$ 13 Terphenyl-d14	244	11.167	11.167	0.000	100	673310	80.0	81.6	
16 1,4-Dioxane	88	2.240	2.240	0.000	98	117386	80.0	81.2	M
17 N-Nitrosodimethylamine	74	2.443	2.443	0.000	91	187397	80.0	80.7	
18 Pyridine	79	2.491	2.491	0.000	95	329204	80.0	80.7	
28 Phenol	94	4.318	4.318	0.000	91	342053	80.0	79.9	
30 Aniline	93	4.372	4.372	0.000	98	438669	80.0	80.3	
31 Alpha Methyl Styrene	118	4.425	4.425	0.000	70	280112	80.0	80.8	
32 Bis(2-chloroethyl)ether	93	4.409	4.409	0.000	95	262161	80.0	80.1	
35 n-Decane	43	4.527	4.527	0.000	97	265749	80.0	79.2	
36 2-Chlorophenol	128	4.489	4.489	0.000	99	268176	80.0	80.5	
37 1,3-Dichlorobenzene	146	4.633	4.633	0.000	99	277441	80.0	79.7	
38 1,4-Dichlorobenzene	146	4.698	4.698	0.000	99	282857	80.0	79.6	
39 Benzyl alcohol	108	4.788	4.788	0.000	98	194639	80.0	81.1	
40 1,2-Dichlorobenzene	146	4.847	4.847	0.000	99	270303	80.0	79.6	
41 2-Methylphenol	108	4.884	4.884	0.000	74	264640	80.0	81.2	
43 2,2'-oxybis[1-chloropropan	45	4.917	4.917	0.000	96	350929	80.0	78.7	
44 Indene	116	4.927	4.927	0.000	98	810541	160.0	161.1	
45 3-Methylphenol	108	5.029	5.029	0.000	92	273482	80.0	82.0	
46 3 & 4 Methylphenol	108	5.029	5.029	0.000	92	273482	80.0	82.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.029	5.029	0.000	92	273482	80.0	82.0	
48 N-Nitrosodi-n-propylamine	70	5.039	5.039	0.000	94	188549	80.0	79.9	
50 Acetophenone	105	5.045	5.045	0.000	74	346790	80.0	79.2	
53 Hexachloroethane	117	5.173	5.173	0.000	95	107846	80.0	81.3	
54 Nitrobenzene	77	5.210	5.210	0.000	96	258971	80.0	80.6	
57 Isophorone	82	5.440	5.440	0.000	98	531769	80.0	80.3	
59 2-Nitrophenol	139	5.520	5.520	0.000	97	107933	80.0	73.4	
60 2,4-Dimethylphenol	107	5.542	5.542	0.000	99	261807	80.0	80.8	
63 Bis(2-chloroethoxy)methane	93	5.632	5.632	0.000	94	327972	80.0	80.6	
64 Benzoic acid	105	5.664	5.664	0.000	95	356342	160.0	149.6	
65 3,5-Dimethylphenol	107	5.670	5.670	0.000	98	271202	80.0	82.0	
68 2,4-Dichlorophenol	162	5.755	5.755	0.000	99	221603	80.0	81.5	
70 1,2,4-Trichlorobenzene	180	5.846	5.846	0.000	99	227690	80.0	79.8	
72 Naphthalene	128	5.926	5.926	0.000	100	751574	80.0	79.8	
73 4-Chloroaniline	127	5.958	5.958	0.000	99	343874	80.0	80.9	
74 2,6-Dichlorophenol	162	5.974	5.974	0.000	97	219623	80.0	81.7	
76 Hexachlorobutadiene	225	6.054	6.054	0.000	99	125051	80.0	80.9	
80 Caprolactam	55	6.289	6.289	0.000	96	154925	80.0	87.2	M
83 4-Chloro-3-methylphenol	107	6.434	6.434	0.000	99	230717	80.0	81.6	
87 2-Methylnaphthalene	142	6.610	6.610	0.000	99	511461	80.0	80.2	
89 1-Methylnaphthalene	142	6.711	6.711	0.000	99	483004	80.0	79.7	
90 Hexachlorocyclopentadiene	237	6.781	6.781	0.000	100	127377	80.0	82.6	
91 1,2,4,5-Tetrachlorobenzene	216	6.786	6.786	0.000	97	218493	80.0	78.8	
94 2,4,6-Trichlorophenol	196	6.888	6.888	0.000	84	141684	80.0	80.8	
95 2,3-Dichlorobenzenamine	161	6.888	6.888	0.000	92	257936	80.0	80.7	
96 2,4,5-Trichlorophenol	196	6.925	6.925	0.000	98	166995	80.0	83.8	
100 1,1'-Biphenyl	154	7.075	7.075	0.000	94	614792	80.0	79.8	
102 2-Chloronaphthalene	162	7.101	7.101	0.000	100	487355	80.0	79.7	
105 2-Nitroaniline	65	7.187	7.187	0.000	98	138100	80.0	77.8	
111 Dimethyl phthalate	163	7.369	7.369	0.000	99	553645	80.0	79.6	
112 1,3-Dinitrobenzene	168	7.395	7.395	0.000	86	64722	80.0	66.0	
113 2,6-Dinitrotoluene	165	7.422	7.422	0.000	95	114876	80.0	76.8	
115 Acenaphthylene	152	7.518	7.518	0.000	100	759641	80.0	80.6	
117 3-Nitroaniline	138	7.598	7.598	0.000	98	145946	80.0	79.0	
119 Acenaphthene	153	7.694	7.694	0.000	98	471435	80.0	79.1	
120 2,4-Dinitrophenol	184	7.705	7.705	0.000	96	98392	160.0	140.3	
121 4-Nitrophenol	109	7.764	7.764	0.000	98	145747	160.0	171.7	
124 2,4-Dinitrotoluene	165	7.833	7.833	0.000	97	152475	80.0	77.7	
125 Dibenzofuran	168	7.871	7.871	0.000	100	691456	80.0	78.4	
129 2,3,4,6-Tetrachlorophenol	232	7.988	7.988	0.000	72	139236	80.0	83.7	
131 Hexadecane	57	8.100	8.100	0.000	97	371804	80.0	81.3	
132 Diethyl phthalate	149	8.074	8.074	0.000	100	550007	80.0	80.6	
134 4-Chlorophenyl phenyl ethe	204	8.202	8.202	0.000	98	261875	80.0	78.6	
135 Fluorene	166	8.218	8.218	0.000	99	545939	80.0	77.6	
138 4-Nitroaniline	138	8.223	8.223	0.000	97	147389	80.0	82.2	
139 4,6-Dinitro-2-methylphenol	198	8.255	8.255	0.000	93	157903	160.0	145.2	
140 Diphenylamine	169	8.319	8.319	0.000	95	428402	68.4	67.8	
141 N-Nitrosodiphenylamine	169	8.319	8.319	0.000	98	428402	80.0	79.7	
142 1,2-Diphenylhydrazine	77	8.362	8.362	0.000	96	636368	80.9	81.8	
143 Azobenzene	77	8.362	8.362	0.000	96	636368	80.0	80.9	
145 2,4,6 - Tribromophenol	330	8.458	8.458	0.000	96	77406	80.0	83.2	
152 4-Bromophenyl phenyl ether	248	8.699	8.699	0.000	98	167028	80.0	79.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.790	8.790	0.000	98	169052	80.0	79.7	
155 Atrazine	200	8.848	8.848	0.000	96	162046	80.0	78.8	
156 n-Octadecane	85	9.030	9.030	0.000	97	175391	80.0	81.3	
157 Pentachlorophenol	266	8.977	8.977	0.000	97	204363	160.0	168.8	
163 Phenanthrene	178	9.190	9.190	0.000	100	842597	80.0	78.8	
164 Anthracene	178	9.244	9.244	0.000	100	879800	80.0	79.5	
165 Carbazole	167	9.393	9.393	0.000	100	854923	80.0	79.5	
166 Alachlor	188	9.537	9.537	0.000	93	117309	80.0	81.6	
169 Di-n-butyl phthalate	149	9.751	9.751	0.000	100	1011159	80.0	80.8	
176 Fluoranthene	202	10.595	10.595	0.000	100	1016557	80.0	80.0	
180 Pyrene	202	10.932	10.932	0.000	99	1067291	80.0	81.5	
186 Famphur	218	11.957	11.957	0.000	99	376170	80.0	82.4	
187 Butyl benzyl phthalate	149	12.086	12.086	0.000	93	494282	80.0	83.9	
190 3,3'-Dichlorobenzidine	252	13.261	13.261	0.000	99	408530	80.0	85.7	
192 Benzo[a]anthracene	228	13.304	13.304	0.000	100	1045535	80.0	81.3	
193 Bis(2-ethylhexyl) phthalat	149	13.496	13.496	0.000	99	704200	80.0	84.1	
194 Chrysene	228	13.395	13.395	0.000	99	1004519	80.0	81.2	
197 Di-n-octyl phthalate	149	15.328	15.328	0.000	100	1249780	80.0	85.3	
198 Benzo[b]fluoranthene	252	16.215	16.215	0.000	99	1036209	80.0	81.0	
200 Benzo[k]fluoranthene	252	16.295	16.295	0.000	99	1071155	80.0	83.1	
201 Benzo[e]pyrene	252	17.006	17.006	0.000	97	993364	80.0	81.8	
202 Benzo[a]pyrene	252	17.155	17.155	0.000	100	1040920	80.0	82.3	
208 Indeno[1,2,3-cd]pyrene	276	20.467	20.467	0.000	74	943365	80.0	81.5	
209 Dibenz(a,h)anthracene	278	20.564	20.564	0.000	73	935190	80.0	80.7	
210 Benzo[g,h,i]perylene	276	21.210	21.210	0.000	99	996322	80.0	81.1	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA080_00028 Amount Added: 200.00 Units: uL

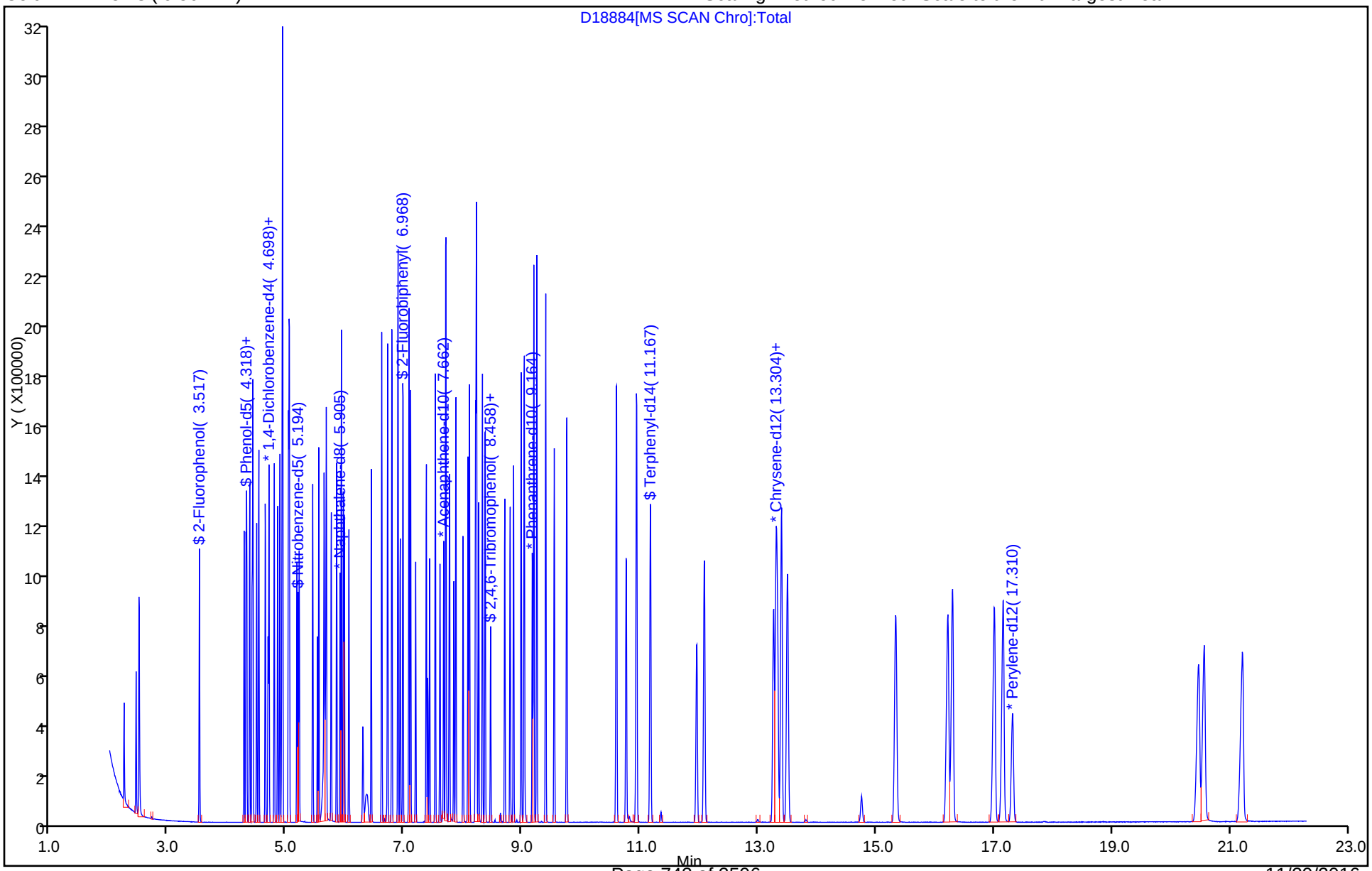
Report Date: 10-Nov-2016 11:40:41 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18884.D

Injection Date:	09-Nov-2016 07:22:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	ICIS HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver

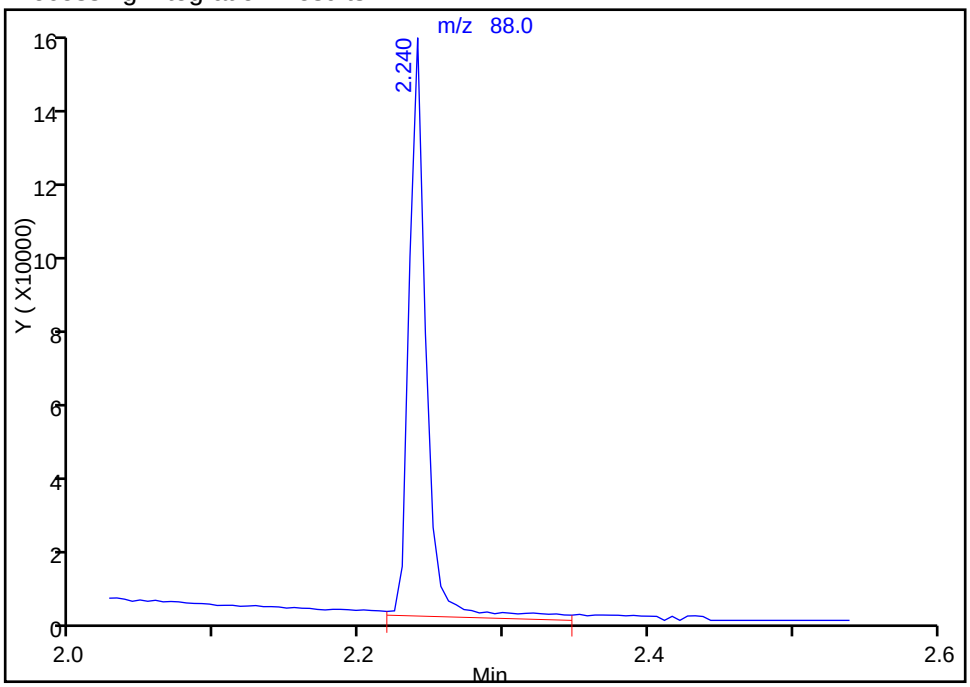
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Injection Date: 09-Nov-2016 07:22:30 Instrument ID: SMS_D
Lims ID: ICIS HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

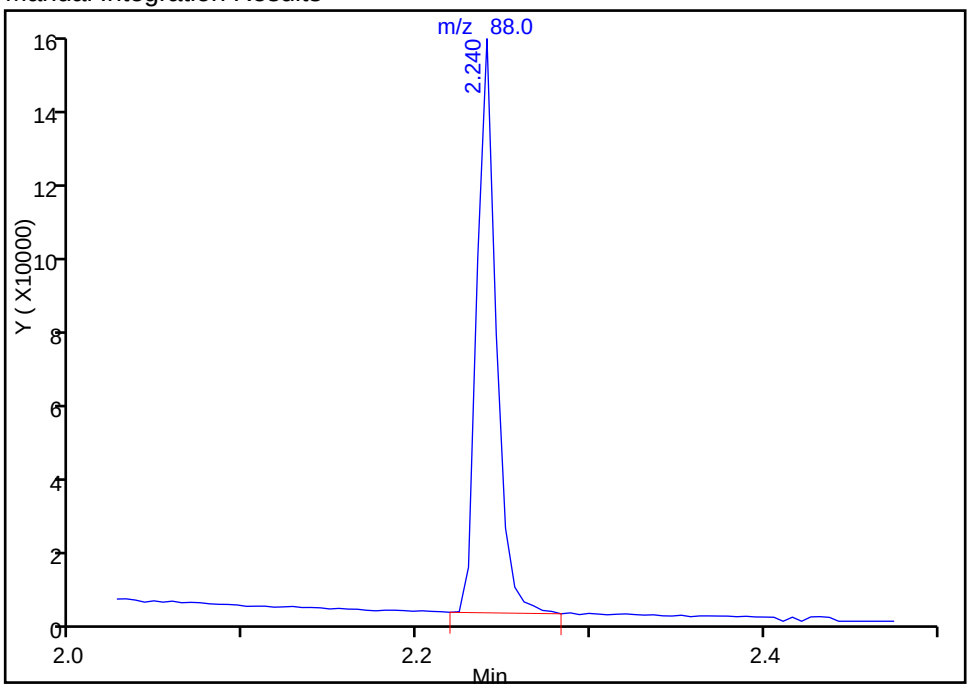
Processing Integration Results

RT: 2.24
Area: 127689
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 117386
Amount: 81.207512
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 08:06:10
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18885.D
Lims ID: STD004 HSL
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 09-Nov-2016 07:50:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD004 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:42 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 08:17:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.683	4.681	0.002	98	94459	40.0	40.0	
* 2 Naphthalene-d8	136	5.901	5.905	-0.004	100	364722	40.0	40.0	
* 3 Acenaphthene-d10	164	7.659	7.662	-0.003	99	225316	40.0	40.0	
* 4 Phenanthrene-d10	188	9.160	9.164	-0.004	99	410455	40.0	40.0	
* 5 Chrysene-d12	240	13.316	13.330	-0.014	82	476622	40.0	40.0	
* 6 Perylene-d12	264	17.301	17.310	-0.009	99	490044	40.0	40.0	
$ 7 2-Fluorophenol	112	3.519	3.517	0.002	96	13315	4.00	4.23	
$ 8 Phenol-d5	99	4.304	4.308	-0.004	97	17266	4.00	4.13	
$ 9 Nitrobenzene-d5	82	5.191	5.194	-0.003	97	11768	4.00	3.81	
$ 11 2-Fluorobiphenyl	172	6.970	6.973	-0.003	98	30690	4.00	4.49	
$ 12 2,4,6-Tribromophenol	330	8.455	8.458	-0.003	89	2987	4.00	3.35	
$ 13 Terphenyl-d14	244	11.158	11.167	-0.009	98	36074	4.00	4.14	
16 1,4-Dioxane	88	2.242	2.240	0.002	93	6348	4.00	4.56	M
17 N-Nitrosodimethylamine	74	2.439	2.443	-0.004	91	9194	4.00	4.11	
18 Pyridine	79	2.493	2.491	0.002	94	16139	4.00	4.11	
28 Phenol	94	4.315	4.318	-0.004	89	17863	4.00	4.33	
30 Aniline	93	4.368	4.372	-0.004	98	22348	4.00	4.25	
31 Alpha Methyl Styrene	118	4.421	4.425	-0.004	69	14884	4.00	4.46	
32 Bis(2-chloroethyl)ether	93	4.405	4.409	-0.004	93	13803	4.00	4.38	
35 n-Decane	43	4.523	4.527	-0.004	96	14498	4.00	4.49	
36 2-Chlorophenol	128	4.485	4.489	-0.004	97	13574	4.00	4.23	
37 1,3-Dichlorobenzene	146	4.635	4.633	0.002	98	14625	4.00	4.36	
38 1,4-Dichlorobenzene	146	4.699	4.698	0.001	90	15256	4.00	4.46	
39 Benzyl alcohol	108	4.785	4.788	-0.003	96	9423	4.00	4.08	
40 1,2-Dichlorobenzene	146	4.843	4.847	-0.004	97	14496	4.00	4.43	
41 2-Methylphenol	108	4.881	4.884	-0.003	73	13267	4.00	4.23	
43 2,2'-oxybis[1-chloropropan	45	4.918	4.917	0.001	94	20003	4.00	4.66	
44 Indene	116	4.924	4.927	-0.003	98	49160	8.00	6.34	
45 3-Methylphenol	108	5.020	5.029	-0.009	86	13629	4.00	4.24	
46 3 & 4 Methylphenol	108	5.020	5.029	-0.009	86	13629	4.00	4.24	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.020	5.029	-0.009	86	13629	4.00	4.24	
48 N-Nitrosodi-n-propylamine	70	5.030	5.039	-0.009	94	10155	4.00	4.47	
50 Acetophenone	105	5.041	5.045	-0.004	74	19363	4.00	4.60	
53 Hexachloroethane	117	5.169	5.173	-0.004	93	5420	4.00	4.25	
54 Nitrobenzene	77	5.207	5.210	-0.003	94	11549	4.00	3.77	
57 Isophorone	82	5.431	5.440	-0.009	98	26259	4.00	4.16	
59 2-Nitrophenol	139	5.516	5.520	-0.004	92	3783	4.00	4.24	
60 2,4-Dimethylphenol	107	5.538	5.542	-0.004	97	13180	4.00	4.26	
63 Bis(2-chloroethoxy)methane	93	5.629	5.632	-0.003	89	16931	4.00	4.36	
64 Benzoic acid	105	5.575	5.664	-0.089	91	4123	8.00	14.3	
65 3,5-Dimethylphenol	107	5.666	5.670	-0.004	98	13449	4.00	4.26	
68 2,4-Dichlorophenol	162	5.752	5.755	-0.003	96	10302	4.00	3.97	
70 1,2,4-Trichlorobenzene	180	5.842	5.846	-0.004	97	11654	4.00	4.28	
72 Naphthalene	128	5.923	5.926	-0.004	99	40507	4.00	4.51	
73 4-Chloroaniline	127	5.960	5.958	0.002	95	17760	4.00	4.38	
74 2,6-Dichlorophenol	162	5.976	5.974	0.002	94	10262	4.00	4.00	
76 Hexachlorobutadiene	225	6.051	6.054	-0.003	95	6363	4.00	4.31	
80 Caprolactam	55	6.259	6.289	-0.030	92	5657	4.00	3.33	
83 4-Chloro-3-methylphenol	107	6.425	6.434	-0.009	96	10940	4.00	4.06	
87 2-Methylnaphthalene	142	6.606	6.610	-0.004	99	27143	4.00	4.46	
89 1-Methylnaphthalene	142	6.708	6.711	-0.003	98	26098	4.00	4.51	
90 Hexachlorocyclopentadiene	237	6.777	6.781	-0.004	89	6089	4.00	4.12	
91 1,2,4,5-Tetrachlorobenzene	216	6.783	6.786	-0.003	95	12283	4.00	4.64	
94 2,4,6-Trichlorophenol	196	6.884	6.888	-0.004	77	7249	4.00	4.31	
95 2,3-Dichlorobenzenamine	161	6.884	6.888	-0.004	95	14712	4.00	3.45	
96 2,4,5-Trichlorophenol	196	6.921	6.925	-0.004	94	7140	4.00	3.74	
100 1,1'-Biphenyl	154	7.071	7.075	-0.004	94	33044	4.00	4.48	
102 2-Chloronaphthalene	162	7.098	7.101	-0.003	99	26739	4.00	4.56	
105 2-Nitroaniline	65	7.183	7.187	-0.004	93	3912	4.00	4.11	
111 Dimethyl phthalate	163	7.360	7.369	-0.009	99	29214	4.00	4.38	
112 1,3-Dinitrobenzene	168	7.386	7.395	-0.009	70	1354	4.00	8.93	
113 2,6-Dinitrotoluene	165	7.418	7.422	-0.004	86	3308	4.00	4.14	
115 Acenaphthylene	152	7.514	7.518	-0.004	99	39762	4.00	4.40	
117 3-Nitroaniline	138	7.595	7.598	-0.003	90	4645	4.00	4.15	
119 Acenaphthene	153	7.691	7.694	-0.003	98	26763	4.00	4.69	
120 2,4-Dinitrophenol	184	7.696	7.705	-0.009	46	1374	8.00	16.4	
121 4-Nitrophenol	109	7.744	7.764	-0.020	93	4862	8.00	5.98	
124 2,4-Dinitrotoluene	165	7.830	7.833	-0.003	88	3693	4.00	4.23	
125 Dibenzofuran	168	7.867	7.871	-0.004	99	38681	4.00	4.58	
129 2,3,4,6-Tetrachlorophenol	232	7.985	7.988	-0.003	64	5720	4.00	3.59	
131 Hexadecane	57	8.091	8.100	-0.009	96	19890	4.00	4.54	
132 Diethyl phthalate	149	8.070	8.074	-0.004	100	29036	4.00	4.44	
134 4-Chlorophenyl phenyl ethe	204	8.198	8.202	-0.004	96	14882	4.00	4.66	
135 Fluorene	166	8.209	8.218	-0.009	98	32198	4.00	4.77	
138 4-Nitroaniline	138	8.209	8.223	-0.014	88	5031	4.00	2.93	
139 4,6-Dinitro-2-methylphenol	198	8.246	8.255	-0.009	80	2310	8.00	13.7	
140 Diphenylamine	169	8.310	8.319	-0.009	95	22872	3.42	3.78	
141 N-Nitrosodiphenylamine	169	8.310	8.319	-0.009	97	22872	4.00	4.34	
142 1,2-Diphenylhydrazine	77	8.359	8.362	-0.004	95	32749	4.04	4.39	
143 Azobenzene	77	8.359	8.362	-0.004	95	32749	4.00	4.35	
145 2,4,6 - Tribromophenol	330	8.455	8.458	-0.003	89	2987	4.00	3.35	
152 4-Bromophenyl phenyl ether	248	8.695	8.699	-0.004	95	9110	4.00	4.40	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.786	8.790	-0.004	96	9091	4.00	4.37	
155 Atrazine	200	8.839	8.848	-0.009	89	8708	4.00	4.32	
156 n-Octadecane	85	9.026	9.030	-0.004	97	9112	4.00	4.31	
157 Pentachlorophenol	266	8.973	8.977	-0.004	90	6584	8.00	5.55	
163 Phenanthrene	178	9.187	9.190	-0.003	100	48366	4.00	4.62	
164 Anthracene	178	9.235	9.244	-0.009	99	49063	4.00	4.52	
165 Carbazole	167	9.384	9.393	-0.009	99	46484	4.00	4.41	
166 Alachlor	188	9.534	9.537	-0.003	90	5782	4.00	4.10	
169 Di-n-butyl phthalate	149	9.742	9.751	-0.009	100	52824	4.00	4.31	
176 Fluoranthene	202	10.586	10.595	-0.009	99	53457	4.00	4.29	
180 Pyrene	202	10.923	10.932	-0.009	99	57375	4.00	4.14	
186 Famphur	218	11.943	11.957	-0.014	95	19901	4.00	4.12	
187 Butyl benzyl phthalate	149	12.077	12.086	-0.009	90	23333	4.00	3.75	
190 3,3'-Dichlorobenzidine	252	13.241	13.261	-0.020	96	18091	4.00	3.59	
192 Benzo[a]anthracene	228	13.289	13.304	-0.015	99	54950	4.00	4.04	
193 Bis(2-ethylhexyl) phthalat	149	13.487	13.496	-0.009	94	32190	4.00	3.64	
194 Chrysene	228	13.375	13.395	-0.019	99	53710	4.00	4.11	
197 Di-n-octyl phthalate	149	15.314	15.328	-0.014	98	53431	4.00	3.45	
198 Benzo[b]fluoranthene	252	16.185	16.215	-0.030	97	52915	4.00	3.89	
200 Benzo[k]fluoranthene	252	16.265	16.295	-0.030	98	54122	4.00	3.94	
201 Benzo[e]pyrene	252	16.970	17.006	-0.036	96	51060	4.00	3.95	
202 Benzo[a]pyrene	252	17.114	17.155	-0.041	98	51834	4.00	3.85	
208 Indeno[1,2,3-cd]pyrene	276	20.421	20.467	-0.046	74	47095	4.00	3.82	
209 Dibenz(a,h)anthracene	278	20.523	20.564	-0.041	75	47583	4.00	3.85	
210 Benzo[g,h,i]perylene	276	21.164	21.210	-0.046	98	51735	4.00	3.95	
S 219 Total Cresols	108				0			8.47	
S 220 Methyl Phenols,Total	108				0			8.47	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA004_00028 Amount Added: 200.00 Units: uL

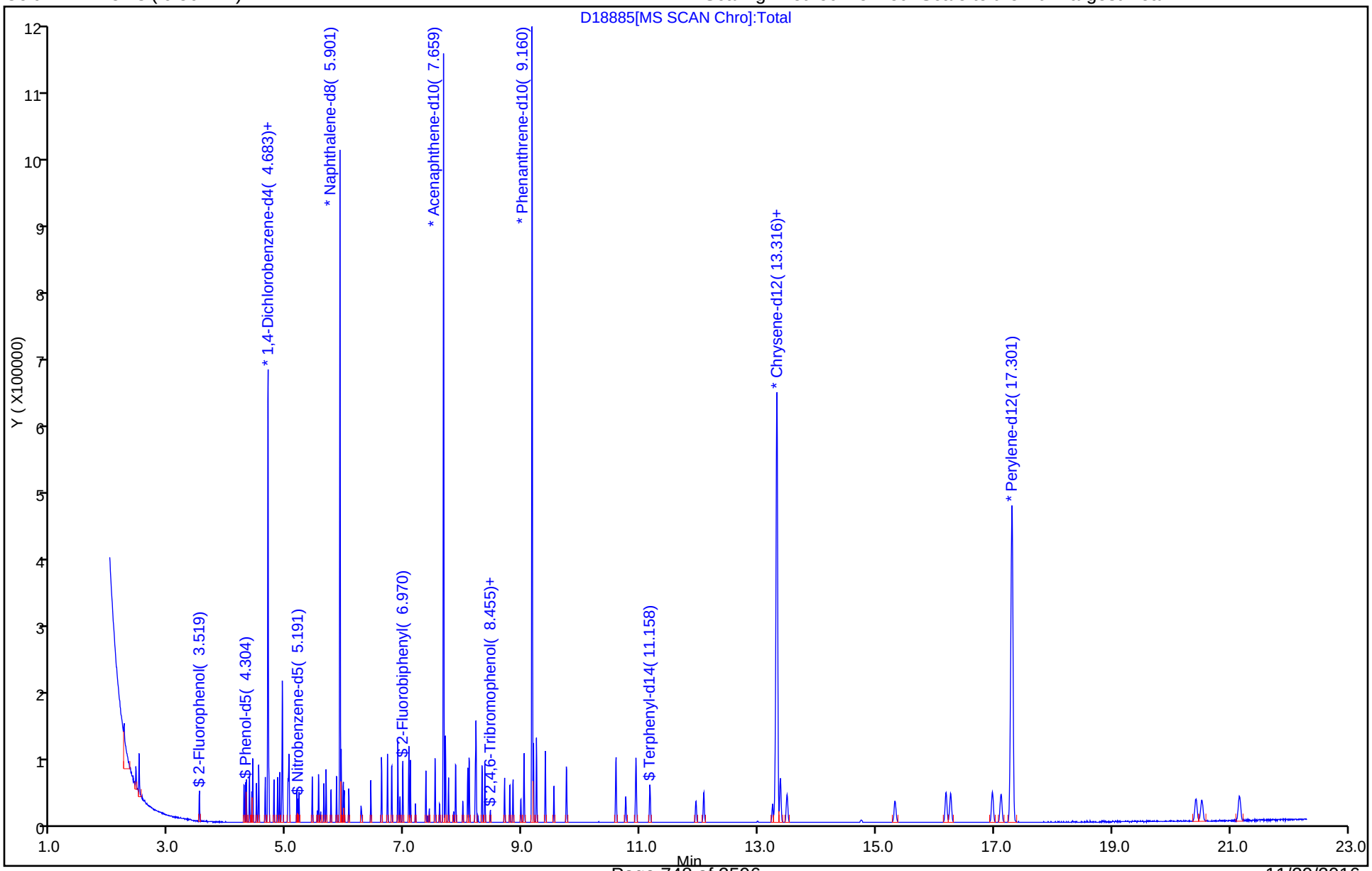
Report Date: 10-Nov-2016 11:40:43 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18885.D

Injection Date:	09-Nov-2016 07:50:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD004 HSL			Worklist Smp#:	4
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

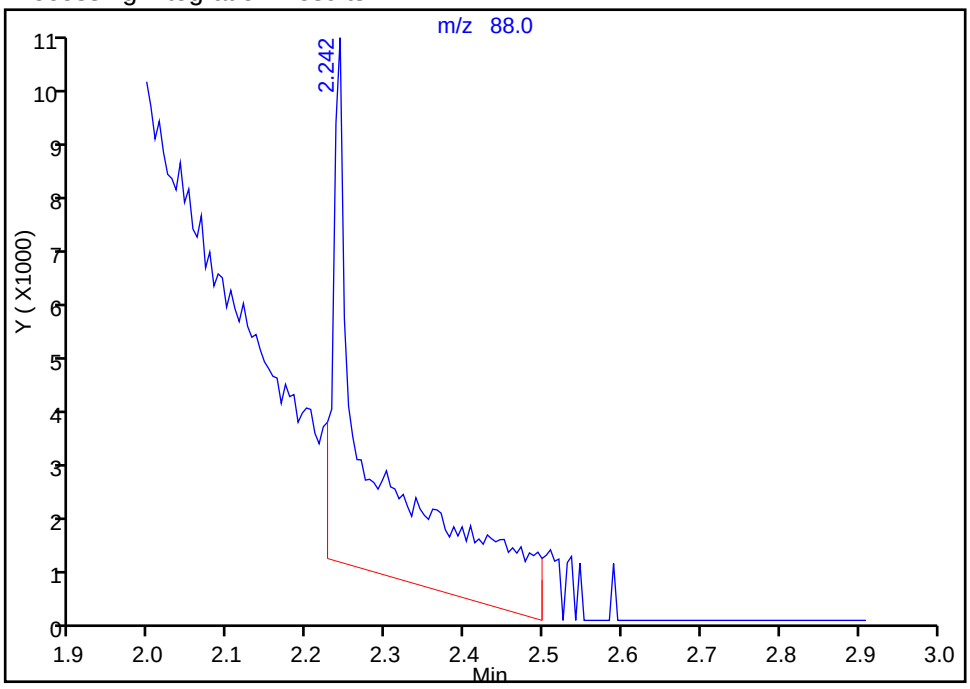
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Injection Date: 09-Nov-2016 07:50:30 Instrument ID: SMS_D
Lims ID: STD004 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

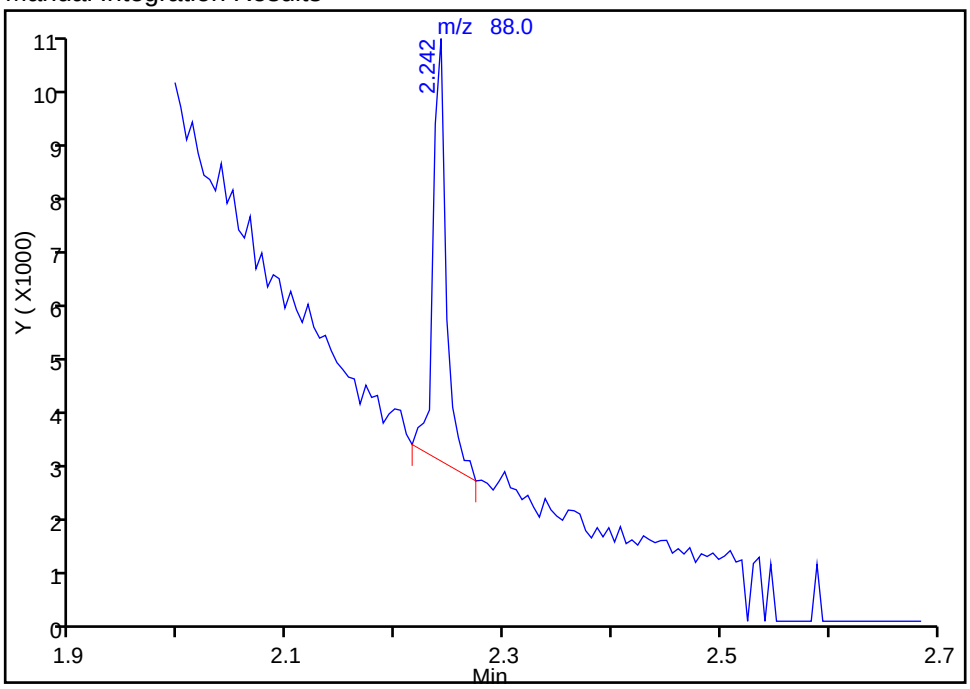
Processing Integration Results

RT: 2.24
Area: 28968
Amount: 4.000000
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 6348
Amount: 4.560769
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 08:17:52
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18886.D
Lims ID: STD010 HSL
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 09-Nov-2016 08:19:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD010 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:44 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 09:03:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.684	4.681	0.003	98	95968	40.0	40.0	
* 2 Naphthalene-d8	136	5.902	5.905	-0.003	100	364935	40.0	40.0	
* 3 Acenaphthene-d10	164	7.659	7.662	-0.003	99	223186	40.0	40.0	
* 4 Phenanthrene-d10	188	9.166	9.164	0.002	99	400227	40.0	40.0	
* 5 Chrysene-d12	240	13.316	13.330	-0.014	83	459369	40.0	40.0	
* 6 Perylene-d12	264	17.307	17.310	-0.003	99	472022	40.0	40.0	
$ 7 2-Fluorophenol	112	3.519	3.517	0.002	98	33092	10.0	10.4	
$ 8 Phenol-d5	99	4.304	4.308	-0.004	96	44687	10.0	10.5	
$ 9 Nitrobenzene-d5	82	5.191	5.194	-0.003	99	29420	10.0	9.51	
$ 11 2-Fluorobiphenyl	172	6.970	6.973	-0.003	98	76395	10.0	11.3	
$ 12 2,4,6-Tribromophenol	330	8.455	8.458	-0.003	93	8914	10.0	10.1	
$ 13 Terphenyl-d14	244	11.164	11.167	-0.003	100	89506	10.0	10.6	
16 1,4-Dioxane	88	2.242	2.240	0.002	98	14604	10.0	10.3	M
17 N-Nitrosodimethylamine	74	2.440	2.443	-0.003	91	22900	10.0	10.1	
18 Pyridine	79	2.493	2.491	0.002	95	41179	10.0	10.3	
28 Phenol	94	4.315	4.318	-0.003	88	44621	10.0	10.7	
30 Aniline	93	4.368	4.372	-0.004	99	55258	10.0	10.3	
31 Alpha Methyl Styrene	118	4.422	4.425	-0.003	69	37211	10.0	11.0	
32 Bis(2-chloroethyl)ether	93	4.406	4.409	-0.003	92	35205	10.0	11.0	
35 n-Decane	43	4.523	4.527	-0.004	97	36326	10.0	11.1	
36 2-Chlorophenol	128	4.486	4.489	-0.003	98	34460	10.0	10.6	
37 1,3-Dichlorobenzene	146	4.635	4.633	0.002	99	36316	10.0	10.7	
38 1,4-Dichlorobenzene	146	4.700	4.698	0.002	95	37700	10.0	10.8	
39 Benzyl alcohol	108	4.785	4.788	-0.003	97	24345	10.0	10.4	
40 1,2-Dichlorobenzene	146	4.844	4.847	-0.003	99	35823	10.0	10.8	
41 2-Methylphenol	108	4.881	4.884	-0.003	74	33699	10.0	10.6	
43 2,2'-oxybis[1-chloropropan	45	4.919	4.917	0.002	95	47805	10.0	11.0	
44 Indene	116	4.929	4.927	0.002	99	121576	20.0	19.4	
45 3-Methylphenol	108	5.020	5.029	-0.009	89	35199	10.0	10.8	
46 3 & 4 Methylphenol	108	5.020	5.029	-0.009	89	35199	10.0	10.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.020	5.029	-0.009	89	35199	10.0	10.8	
48 N-Nitrosodi-n-propylamine	70	5.036	5.039	-0.003	96	25225	10.0	10.9	
50 Acetophenone	105	5.041	5.045	-0.004	74	47634	10.0	11.1	
53 Hexachloroethane	117	5.170	5.173	-0.003	94	13682	10.0	10.5	
54 Nitrobenzene	77	5.207	5.210	-0.003	96	29372	10.0	9.57	
57 Isophorone	82	5.431	5.440	-0.009	98	67273	10.0	10.6	
59 2-Nitrophenol	139	5.522	5.520	0.002	96	10434	10.0	8.87	
60 2,4-Dimethylphenol	107	5.538	5.542	-0.004	98	33603	10.0	10.9	
63 Bis(2-chloroethoxy)methane	93	5.629	5.632	-0.003	89	42992	10.0	11.1	
64 Benzoic acid	105	5.592	5.664	-0.072	96	20605	20.0	20.9	
65 3,5-Dimethylphenol	107	5.666	5.670	-0.004	99	34658	10.0	11.0	
68 2,4-Dichlorophenol	162	5.752	5.755	-0.003	98	27458	10.0	10.6	
70 1,2,4-Trichlorobenzene	180	5.843	5.846	-0.003	99	30481	10.0	11.2	
72 Naphthalene	128	5.923	5.926	-0.003	99	100187	10.0	11.1	
73 4-Chloroaniline	127	5.960	5.958	0.002	98	43630	10.0	10.7	
74 2,6-Dichlorophenol	162	5.976	5.974	0.002	96	27817	10.0	10.8	
76 Hexachlorobutadiene	225	6.051	6.054	-0.003	98	16053	10.0	10.9	
80 Caprolactam	55	6.265	6.289	-0.024	95	15955	10.0	9.40	
83 4-Chloro-3-methylphenol	107	6.425	6.434	-0.009	98	28173	10.0	10.4	
87 2-Methylnaphthalene	142	6.612	6.610	0.002	99	67561	10.0	11.1	
89 1-Methylnaphthalene	142	6.708	6.711	-0.003	99	64539	10.0	11.2	
90 Hexachlorocyclopentadiene	237	6.783	6.781	0.002	96	15506	10.0	10.6	
91 1,2,4,5-Tetrachlorobenzene	216	6.783	6.786	-0.003	97	30557	10.0	11.5	
94 2,4,6-Trichlorophenol	196	6.884	6.888	-0.004	80	18494	10.0	11.1	
95 2,3-Dichlorobenzenamine	161	6.884	6.888	-0.004	95	36457	10.0	9.96	
96 2,4,5-Trichlorophenol	196	6.922	6.925	-0.003	96	19152	10.0	10.1	
100 1,1'-Biphenyl	154	7.071	7.075	-0.004	94	82671	10.0	11.3	
102 2-Chloronaphthalene	162	7.098	7.101	-0.003	100	64644	10.0	11.1	
105 2-Nitroaniline	65	7.184	7.187	-0.003	97	13105	10.0	9.46	
111 Dimethyl phthalate	163	7.360	7.369	-0.009	99	72952	10.0	11.0	
112 1,3-Dinitrobenzene	168	7.387	7.395	-0.008	86	4090	10.0	11.5	
113 2,6-Dinitrotoluene	165	7.419	7.422	-0.003	94	10572	10.0	9.15	
115 Acenaphthylene	152	7.515	7.518	-0.003	100	98599	10.0	11.0	
117 3-Nitroaniline	138	7.595	7.598	-0.003	96	13583	10.0	9.17	
119 Acenaphthene	153	7.691	7.694	-0.003	97	65300	10.0	11.5	
120 2,4-Dinitrophenol	184	7.696	7.705	-0.009	89	5897	20.0	23.1	
121 4-Nitrophenol	109	7.745	7.764	-0.019	97	15164	20.0	18.8	
124 2,4-Dinitrotoluene	165	7.830	7.833	-0.003	94	12174	10.0	8.67	
125 Dibenzofuran	168	7.867	7.871	-0.004	99	95002	10.0	11.4	
129 2,3,4,6-Tetrachlorophenol	232	7.985	7.988	-0.003	70	15306	10.0	9.69	
131 Hexadecane	57	8.097	8.100	-0.003	97	49587	10.0	11.4	
132 Diethyl phthalate	149	8.070	8.074	-0.004	100	72993	10.0	11.3	
134 4-Chlorophenyl phenyl ethe	204	8.199	8.202	-0.003	98	36172	10.0	11.4	
135 Fluorene	166	8.209	8.218	-0.009	99	77832	10.0	11.7	
138 4-Nitroaniline	138	8.209	8.223	-0.014	93	15627	10.0	9.19	
139 4,6-Dinitro-2-methylphenol	198	8.247	8.255	-0.008	92	9937	20.0	20.5	
140 Diphenylamine	169	8.316	8.319	-0.003	96	57092	8.55	9.52	
141 N-Nitrosodiphenylamine	169	8.316	8.319	-0.003	99	57092	10.0	11.1	
142 1,2-Diphenylhydrazine	77	8.359	8.362	-0.003	96	82857	10.1	11.2	
143 Azobenzene	77	8.359	8.362	-0.003	96	82857	10.0	11.1	
145 2,4,6 - Tribromophenol	330	8.455	8.458	-0.003	93	8914	10.0	10.1	
152 4-Bromophenyl phenyl ether	248	8.695	8.699	-0.004	97	22389	10.0	11.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.786	8.790	-0.004	98	22714	10.0	11.2	
155 Atrazine	200	8.840	8.848	-0.008	94	22210	10.0	11.3	
156 n-Octadecane	85	9.027	9.030	-0.003	97	23057	10.0	11.2	
157 Pentachlorophenol	266	8.973	8.977	-0.004	96	20710	20.0	17.9	
163 Phenanthrene	178	9.187	9.190	-0.003	100	115583	10.0	11.3	
164 Anthracene	178	9.235	9.244	-0.009	100	119203	10.0	11.3	
165 Carbazole	167	9.390	9.393	-0.003	100	115557	10.0	11.2	
166 Alachlor	188	9.534	9.537	-0.003	92	14591	10.0	10.6	
169 Di-n-butyl phthalate	149	9.748	9.751	-0.003	100	131699	10.0	11.0	
176 Fluoranthene	202	10.587	10.595	-0.008	99	134682	10.0	11.1	
180 Pyrene	202	10.928	10.932	-0.004	99	140276	10.0	10.5	
186 Famphur	218	11.949	11.957	-0.008	97	51305	10.0	11.0	
187 Butyl benzyl phthalate	149	12.077	12.086	-0.009	93	59245	10.0	9.87	
190 3,3'-Dichlorobenzidine	252	13.242	13.261	-0.019	98	49719	10.0	10.2	
192 Benzo[a]anthracene	228	13.290	13.304	-0.014	100	137312	10.0	10.5	
193 Bis(2-ethylhexyl) phthalat	149	13.487	13.496	-0.009	98	84491	10.0	9.91	
194 Chrysene	228	13.375	13.395	-0.019	99	131148	10.0	10.4	
197 Di-n-octyl phthalate	149	15.320	15.328	-0.008	100	145056	10.0	9.72	
198 Benzo[b]fluoranthene	252	16.190	16.215	-0.025	99	133387	10.0	10.2	
200 Benzo[k]fluoranthene	252	16.265	16.295	-0.030	99	135457	10.0	10.2	
201 Benzo[e]pyrene	252	16.976	17.006	-0.030	97	128345	10.0	10.3	
202 Benzo[a]pyrene	252	17.125	17.155	-0.030	99	131826	10.0	10.2	
208 Indeno[1,2,3-cd]pyrene	276	20.432	20.467	-0.035	74	120214	10.0	10.1	
209 Dibenz(a,h)anthracene	278	20.528	20.564	-0.036	75	121538	10.0	10.2	
210 Benzo[g,h,i]perylene	276	21.169	21.210	-0.041	99	128897	10.0	10.2	
S 219 Total Cresols	108				0			21.4	
S 220 Methyl Phenols,Total	108				0			21.4	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA010_00028 Amount Added: 200.00 Units: uL

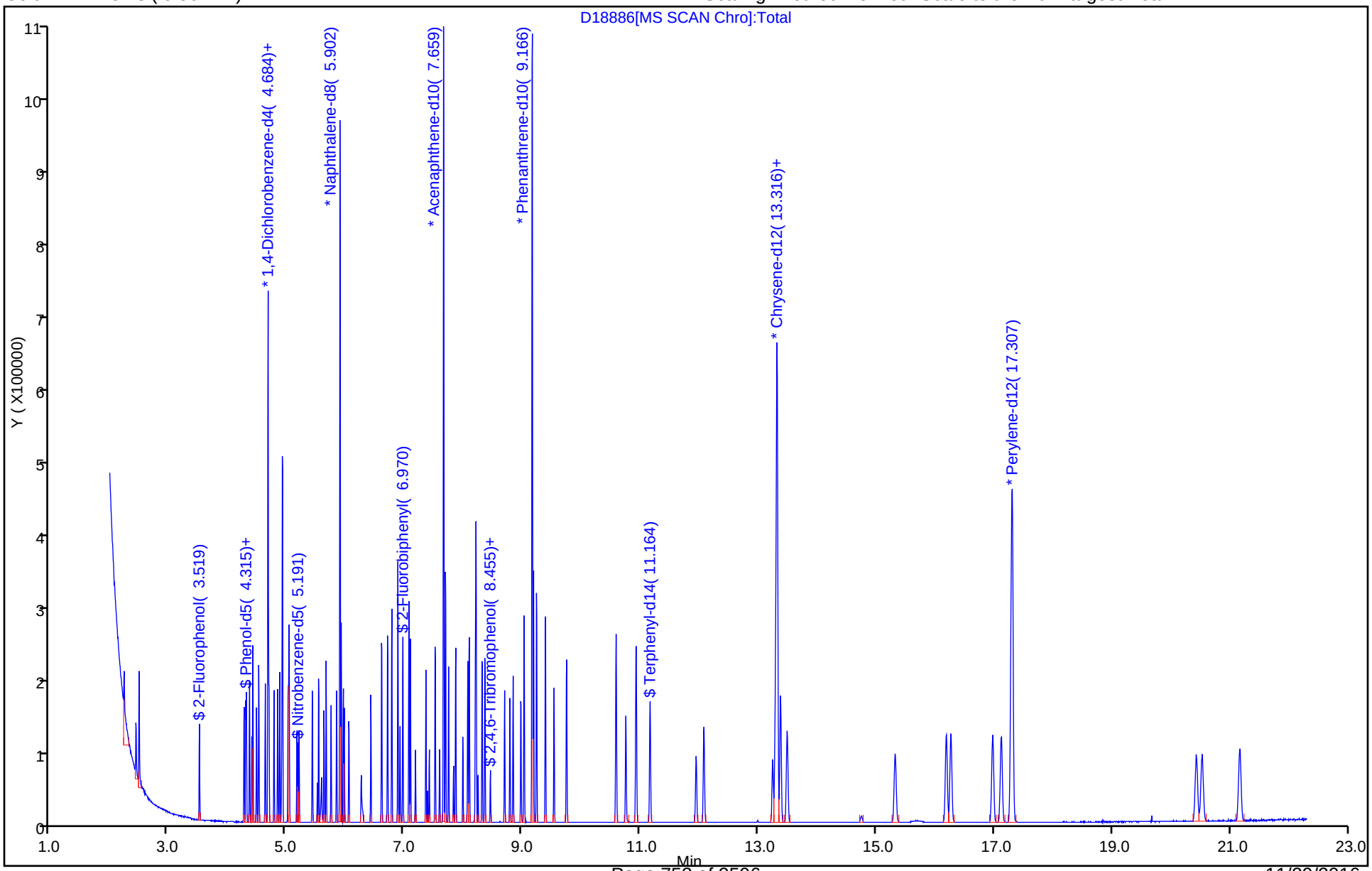
Report Date: 10-Nov-2016 11:40:44 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18886.D

Injection Date:	09-Nov-2016 08:19:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD010 HSL			Worklist Smp#:	5
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

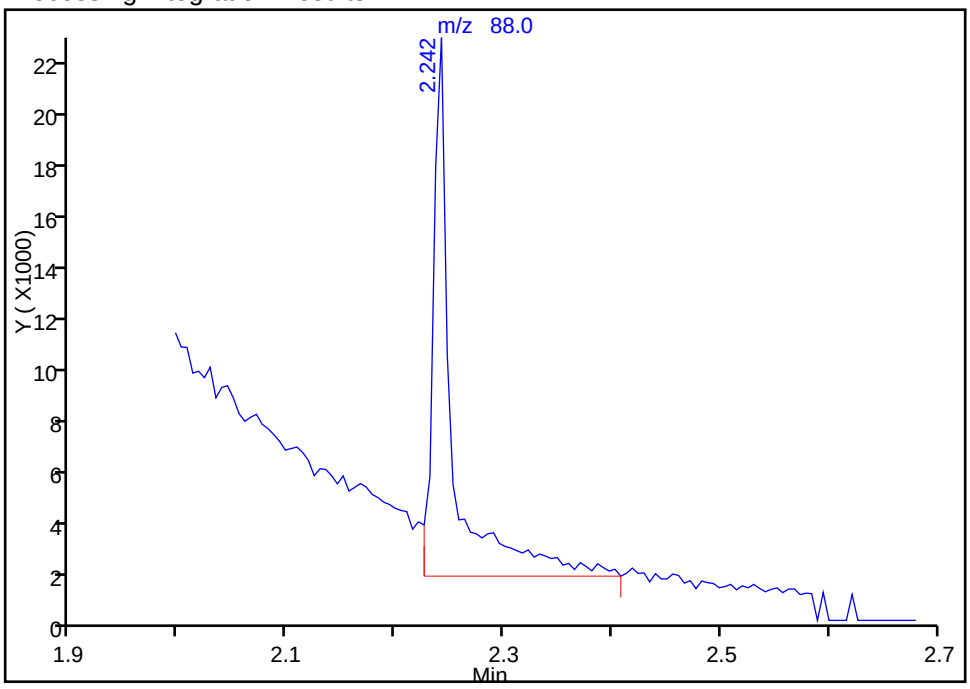
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Injection Date: 09-Nov-2016 08:19:30 Instrument ID: SMS_D
Lims ID: STD010 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

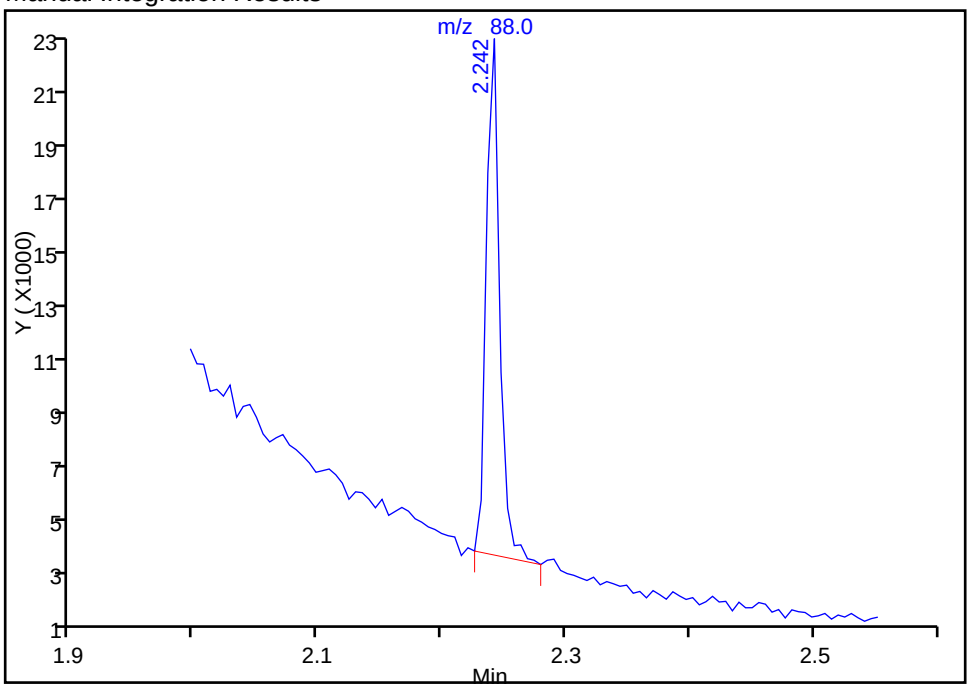
Processing Integration Results

RT: 2.24
Area: 26352
Amount: 14.503780
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 14604
Amount: 10.327373
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 09:03:28
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18887.D
Lims ID: STD020 HSL
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 09-Nov-2016 08:47:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD020 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 09:41:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.684	4.681	0.003	98	94733	40.0	40.0	
* 2 Naphthalene-d8	136	5.902	5.905	-0.003	100	370641	40.0	40.0	
* 3 Acenaphthene-d10	164	7.660	7.662	-0.002	99	230240	40.0	40.0	
* 4 Phenanthrene-d10	188	9.161	9.164	-0.003	99	413415	40.0	40.0	
* 5 Chrysene-d12	240	13.317	13.330	-0.013	84	478121	40.0	40.0	
* 6 Perylene-d12	264	17.308	17.310	-0.002	99	484908	40.0	40.0	
$ 7 2-Fluorophenol	112	3.520	3.517	0.003	99	65184	20.0	20.7	
$ 8 Phenol-d5	99	4.305	4.308	-0.003	96	88352	20.0	21.1	
$ 9 Nitrobenzene-d5	82	5.192	5.194	-0.002	98	62062	20.0	19.8	
$ 11 2-Fluorobiphenyl	172	6.971	6.973	-0.002	98	152930	20.0	21.9	
$ 12 2,4,6-Tribromophenol	330	8.456	8.458	-0.002	95	19120	20.0	21.0	
$ 13 Terphenyl-d14	244	11.164	11.167	-0.003	100	182515	20.0	20.9	
16 1,4-Dioxane	88	2.238	2.240	-0.002	98	28064	20.0	20.1	M
17 N-Nitrosodimethylamine	74	2.441	2.443	-0.002	91	45307	20.0	20.2	
18 Pyridine	79	2.494	2.491	0.003	95	79337	20.0	20.1	
28 Phenol	94	4.316	4.318	-0.002	89	87036	20.0	21.0	
30 Aniline	93	4.369	4.372	-0.003	98	109465	20.0	20.7	
31 Alpha Methyl Styrene	118	4.423	4.425	-0.002	69	72750	20.0	21.7	
32 Bis(2-chloroethyl)ether	93	4.407	4.409	-0.002	92	68668	20.0	21.7	
35 n-Decane	43	4.524	4.527	-0.003	97	69689	20.0	21.5	
36 2-Chlorophenol	128	4.487	4.489	-0.002	98	68001	20.0	21.1	
37 1,3-Dichlorobenzene	146	4.636	4.633	0.003	99	71956	20.0	21.4	
38 1,4-Dichlorobenzene	146	4.700	4.698	0.002	99	73520	20.0	21.4	
39 Benzyl alcohol	108	4.786	4.788	-0.002	98	48198	20.0	20.8	
40 1,2-Dichlorobenzene	146	4.845	4.847	-0.002	99	68864	20.0	21.0	
41 2-Methylphenol	108	4.882	4.884	-0.002	74	66704	20.0	21.2	
43 2,2'-oxybis[1-chloropropan	45	4.919	4.917	0.002	94	93043	20.0	21.6	
44 Indene	116	4.930	4.927	0.003	99	234173	40.0	41.1	
45 3-Methylphenol	108	5.021	5.029	-0.008	89	69395	20.0	21.5	
46 3 & 4 Methylphenol	108	5.021	5.029	-0.008	89	69395	20.0	21.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.021	5.029	-0.008	89	69395	20.0	21.5	
48 N-Nitrosodi-n-propylamine	70	5.032	5.039	-0.007	96	49804	20.0	21.9	
50 Acetophenone	105	5.042	5.045	-0.003	73	93884	20.0	22.2	
53 Hexachloroethane	117	5.171	5.173	-0.003	94	26993	20.0	21.1	
54 Nitrobenzene	77	5.208	5.210	-0.002	95	63552	20.0	20.4	
57 Isophorone	82	5.432	5.440	-0.008	98	135194	20.0	21.1	
59 2-Nitrophenol	139	5.518	5.520	-0.002	97	23942	20.0	18.0	
60 2,4-Dimethylphenol	107	5.539	5.542	-0.003	98	66952	20.0	21.3	
63 Bis(2-chloroethoxy)methane	93	5.630	5.632	-0.002	89	85089	20.0	21.5	
64 Benzoic acid	105	5.609	5.664	-0.055	97	61568	40.0	37.0	
65 3,5-Dimethylphenol	107	5.667	5.670	-0.003	99	69523	20.0	21.7	
68 2,4-Dichlorophenol	162	5.753	5.755	-0.002	99	55640	20.0	21.1	
70 1,2,4-Trichlorobenzene	180	5.844	5.846	-0.002	99	59580	20.0	21.5	
72 Naphthalene	128	5.924	5.926	-0.002	100	199488	20.0	21.8	
73 4-Chloroaniline	127	5.961	5.958	0.003	98	88987	20.0	21.6	
74 2,6-Dichlorophenol	162	5.977	5.974	0.003	98	55574	20.0	21.3	
76 Hexachlorobutadiene	225	6.052	6.054	-0.002	99	32238	20.0	21.5	
80 Caprolactam	55	6.266	6.289	-0.023	90	34155	20.0	19.8	M
83 4-Chloro-3-methylphenol	107	6.426	6.434	-0.008	99	57837	20.0	21.1	
87 2-Methylnaphthalene	142	6.608	6.610	-0.002	99	133693	20.0	21.6	
89 1-Methylnaphthalene	142	6.709	6.711	-0.002	99	127059	20.0	21.6	
90 Hexachlorocyclopentadiene	237	6.778	6.781	-0.003	99	32951	20.0	21.8	
91 1,2,4,5-Tetrachlorobenzene	216	6.784	6.786	-0.002	97	59755	20.0	22.2	
94 2,4,6-Trichlorophenol	196	6.885	6.888	-0.003	82	38484	20.0	22.4	
95 2,3-Dichlorobenzenamine	161	6.885	6.888	-0.003	94	70610	20.0	19.7	
96 2,4,5-Trichlorophenol	196	6.923	6.925	-0.002	98	40535	20.0	20.8	
100 1,1'-Biphenyl	154	7.072	7.075	-0.003	94	165497	20.0	22.0	
102 2-Chloronaphthalene	162	7.099	7.101	-0.002	100	129359	20.0	21.6	
105 2-Nitroaniline	65	7.184	7.187	-0.003	98	30305	20.0	18.9	
111 Dimethyl phthalate	163	7.361	7.369	-0.008	100	146989	20.0	21.6	
112 1,3-Dinitrobenzene	168	7.387	7.395	-0.008	84	12450	20.0	19.1	
113 2,6-Dinitrotoluene	165	7.420	7.422	-0.002	93	26240	20.0	19.4	
115 Acenaphthylene	152	7.516	7.518	-0.002	100	198007	20.0	21.5	
117 3-Nitroaniline	138	7.590	7.598	-0.008	97	32189	20.0	19.0	
119 Acenaphthene	153	7.692	7.694	-0.002	98	129637	20.0	22.2	
120 2,4-Dinitrophenol	184	7.697	7.705	-0.008	93	17776	40.0	39.6	
121 4-Nitrophenol	109	7.751	7.764	-0.013	97	33690	40.0	40.5	
124 2,4-Dinitrotoluene	165	7.831	7.833	-0.002	95	32715	20.0	18.8	
125 Dibenzofuran	168	7.868	7.871	-0.003	100	188225	20.0	21.8	
129 2,3,4,6-Tetrachlorophenol	232	7.986	7.988	-0.002	71	33172	20.0	20.4	
131 Hexadecane	57	8.098	8.100	-0.002	97	98146	20.0	21.9	
132 Diethyl phthalate	149	8.071	8.074	-0.003	100	146835	20.0	22.0	
134 4-Chlorophenyl phenyl ethe	204	8.199	8.202	-0.003	97	71867	20.0	22.0	
135 Fluorene	166	8.216	8.218	-0.002	99	152733	20.0	22.2	
138 4-Nitroaniline	138	8.210	8.223	-0.013	96	35325	20.0	20.1	
139 4,6-Dinitro-2-methylphenol	198	8.248	8.255	-0.007	94	30283	40.0	37.7	
140 Diphenylamine	169	8.317	8.319	-0.002	95	115812	17.1	18.7	
141 N-Nitrosodiphenylamine	169	8.317	8.319	-0.002	98	115812	20.0	21.8	
142 1,2-Diphenylhydrazine	77	8.360	8.362	-0.002	96	167754	20.2	22.0	
143 Azobenzene	77	8.360	8.362	-0.002	96	167754	20.0	21.8	
145 2,4,6 - Tribromophenol	330	8.456	8.458	-0.002	95	19120	20.0	21.0	
152 4-Bromophenyl phenyl ether	248	8.696	8.699	-0.003	98	45478	20.0	21.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.787	8.790	-0.003	98	46026	20.0	22.0	
155 Atrazine	200	8.841	8.848	-0.007	95	45057	20.0	22.2	
156 n-Octadecane	85	9.028	9.030	-0.002	97	47861	20.0	22.5	
157 Pentachlorophenol	266	8.974	8.977	-0.003	97	50538	40.0	42.3	
163 Phenanthrene	178	9.188	9.190	-0.002	100	232932	20.0	22.1	
164 Anthracene	178	9.236	9.244	-0.008	100	242142	20.0	22.2	
165 Carbazole	167	9.391	9.393	-0.002	100	233695	20.0	22.0	
166 Alachlor	188	9.535	9.537	-0.002	93	30622	20.0	21.6	
169 Di-n-butyl phthalate	149	9.749	9.751	-0.002	100	273598	20.0	22.1	
176 Fluoranthene	202	10.587	10.595	-0.008	100	270090	20.0	21.5	
180 Pyrene	202	10.929	10.932	-0.003	99	286472	20.0	20.6	
186 Famphur	218	11.950	11.957	-0.007	99	108661	20.0	22.4	
187 Butyl benzyl phthalate	149	12.078	12.086	-0.008	93	126440	20.0	20.2	
190 3,3'-Dichlorobenzidine	252	13.248	13.261	-0.013	98	104053	20.0	20.6	
192 Benzo[a]anthracene	228	13.296	13.304	-0.008	100	277341	20.0	20.3	
193 Bis(2-ethylhexyl) phthalat	149	13.488	13.496	-0.008	99	177837	20.0	20.0	
194 Chrysene	228	13.381	13.395	-0.013	99	268182	20.0	20.5	
197 Di-n-octyl phthalate	149	15.321	15.328	-0.007	100	303449	20.0	19.5	
198 Benzo[b]fluoranthene	252	16.191	16.215	-0.024	99	270586	20.0	20.1	
200 Benzo[k]fluoranthene	252	16.271	16.295	-0.024	100	280007	20.0	20.6	
201 Benzo[e]pyrene	252	16.982	17.006	-0.024	97	259739	20.0	20.3	
202 Benzo[a]pyrene	252	17.126	17.155	-0.029	100	270847	20.0	20.3	
208 Indeno[1,2,3-cd]pyrene	276	20.438	20.467	-0.029	74	241370	20.0	19.8	
209 Dibenz(a,h)anthracene	278	20.540	20.564	-0.024	73	245000	20.0	20.1	
210 Benzo[g,h,i]perylene	276	21.176	21.210	-0.034	99	257639	20.0	19.9	
S 219 Total Cresols	108				0			42.7	
S 220 Methyl Phenols,Total	108				0			42.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA020_00028 Amount Added: 200.00 Units: uL

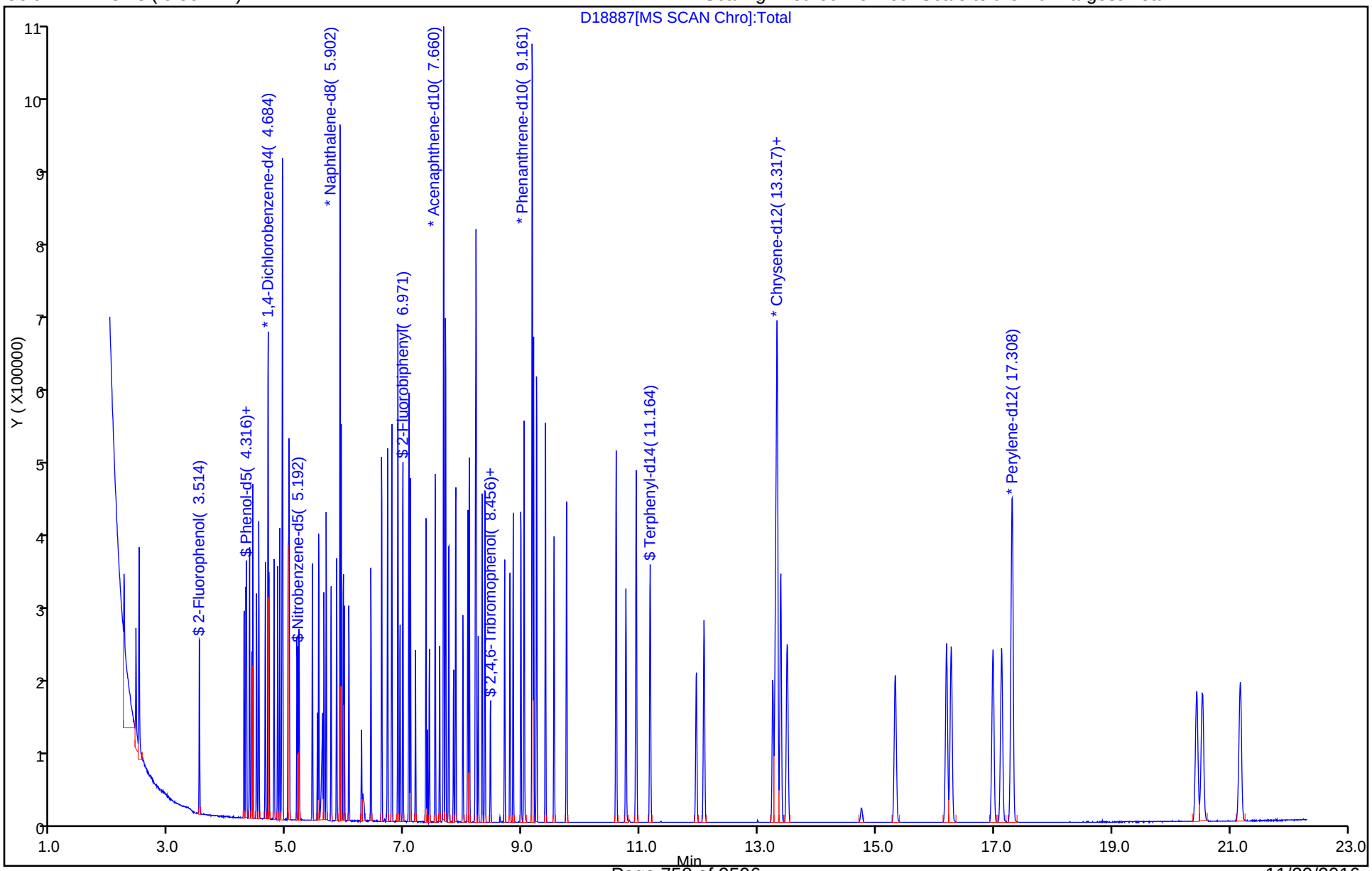
Report Date: 10-Nov-2016 11:40:47 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18887.D

Injection Date:	09-Nov-2016 08:47:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD020 HSL			Worklist Smp#:	6
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

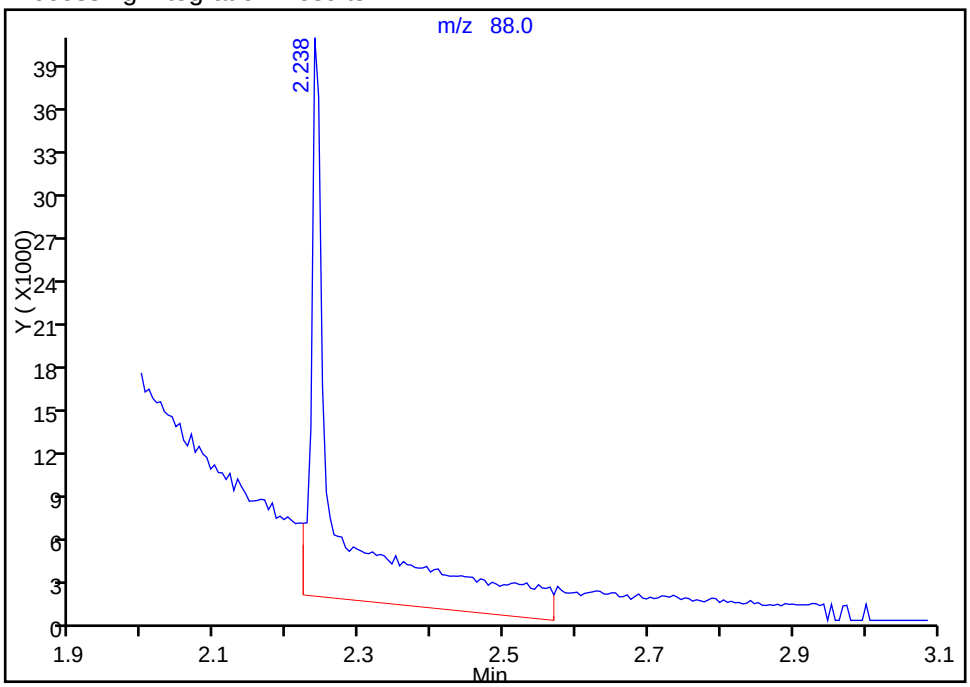
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18887.D
Injection Date: 09-Nov-2016 08:47:30 Instrument ID: SMS_D
Lims ID: STD020 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

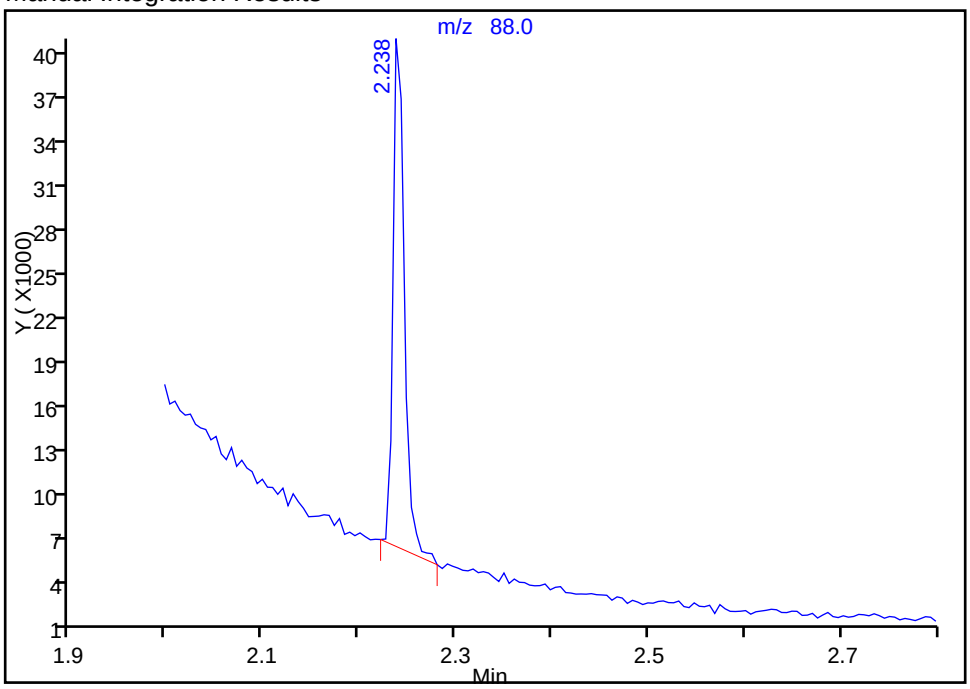
Processing Integration Results

RT: 2.24
Area: 89378
Amount: 40.083921
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 28064
Amount: 20.104476
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 09:41:23
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18888.D
Lims ID: STD050 HSL
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 09-Nov-2016 09:15:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD050 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:48 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 09:43:48

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.686	4.681	0.005	97	98035	40.0	40.0	
* 2 Naphthalene-d8	136	5.904	5.905	-0.001	100	381376	40.0	40.0	
* 3 Acenaphthene-d10	164	7.661	7.662	-0.001	99	236457	40.0	40.0	
* 4 Phenanthrene-d10	188	9.162	9.164	-0.002	99	420854	40.0	40.0	
* 5 Chrysene-d12	240	13.324	13.330	-0.006	81	466018	40.0	40.0	
* 6 Perylene-d12	264	17.309	17.310	-0.001	99	479571	40.0	40.0	
$ 7 2-Fluorophenol	112	3.521	3.517	0.004	99	169322	50.0	51.9	
$ 8 Phenol-d5	99	4.306	4.308	-0.002	97	226863	50.0	52.3	
$ 9 Nitrobenzene-d5	82	5.193	5.194	-0.001	98	172984	50.0	53.5	
$ 11 2-Fluorobiphenyl	172	6.972	6.973	-0.001	98	379667	50.0	52.9	
$ 12 2,4,6-Tribromophenol	330	8.457	8.458	-0.001	96	51101	50.0	54.6	
$ 13 Terphenyl-d14	244	11.166	11.167	-0.001	100	445906	50.0	52.3	
16 1,4-Dioxane	88	2.239	2.240	-0.001	98	71549	50.0	49.5	M
17 N-Nitrosodimethylamine	74	2.447	2.443	0.004	91	119801	50.0	51.6	
18 Pyridine	79	2.496	2.491	0.005	95	210465	50.0	51.6	
28 Phenol	94	4.317	4.318	-0.001	90	223620	50.0	52.3	
30 Aniline	93	4.371	4.372	-0.001	99	283969	50.0	52.0	
31 Alpha Methyl Styrene	118	4.424	4.425	-0.001	70	183281	50.0	52.9	
32 Bis(2-chloroethyl)ether	93	4.413	4.409	0.004	93	171852	50.0	52.5	
35 n-Decane	43	4.526	4.527	-0.001	97	173188	50.0	51.7	
36 2-Chlorophenol	128	4.488	4.489	-0.001	99	172047	50.0	51.7	
37 1,3-Dichlorobenzene	146	4.638	4.633	0.005	100	181976	50.0	52.3	
38 1,4-Dichlorobenzene	146	4.696	4.698	-0.002	99	182956	50.0	51.5	
39 Benzyl alcohol	108	4.787	4.788	-0.001	98	126039	50.0	52.5	
40 1,2-Dichlorobenzene	146	4.846	4.847	-0.001	99	176819	50.0	52.1	
41 2-Methylphenol	108	4.883	4.884	-0.001	75	168918	50.0	51.9	
43 2,2'-oxybis[1-chloropropan	45	4.921	4.917	0.004	96	233058	50.0	52.3	
44 Indene	116	4.932	4.927	0.005	99	553638	100.0	103.1	
45 3-Methylphenol	108	5.028	5.029	-0.001	92	176678	50.0	53.0	
46 3 & 4 Methylphenol	108	5.028	5.029	-0.001	92	176678	50.0	53.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.028	5.029	-0.001	92	176678	50.0	53.0	
48 N-Nitrosodi-n-propylamine	70	5.038	5.039	-0.001	95	124799	50.0	53.0	
50 Acetophenone	105	5.044	5.045	-0.001	73	235563	50.0	53.9	
53 Hexachloroethane	117	5.172	5.173	-0.001	94	69890	50.0	52.7	
54 Nitrobenzene	77	5.209	5.210	-0.001	96	174081	50.0	54.3	
57 Isophorone	82	5.439	5.440	-0.001	98	344497	50.0	52.1	
59 2-Nitrophenol	139	5.519	5.520	-0.001	98	76694	50.0	52.7	
60 2,4-Dimethylphenol	107	5.541	5.542	-0.001	99	171105	50.0	52.9	
63 Bis(2-chloroethoxy)methane	93	5.631	5.632	-0.001	98	210219	50.0	51.7	
64 Benzoic acid	105	5.642	5.664	-0.022	97	215270	100.0	95.5	
65 3,5-Dimethylphenol	107	5.669	5.670	-0.001	99	177531	50.0	53.8	
68 2,4-Dichlorophenol	162	5.754	5.755	-0.001	99	144762	50.0	53.3	
70 1,2,4-Trichlorobenzene	180	5.845	5.846	-0.001	99	149817	50.0	52.6	
72 Naphthalene	128	5.925	5.926	-0.001	100	499181	50.0	53.1	
73 4-Chloroaniline	127	5.963	5.958	0.005	98	228447	50.0	53.8	
74 2,6-Dichlorophenol	162	5.979	5.974	0.005	98	143256	50.0	53.4	
76 Hexachlorobutadiene	225	6.053	6.054	-0.001	99	80386	50.0	52.1	
80 Caprolactam	55	6.283	6.289	-0.006	96	92517	50.0	52.1	M
83 4-Chloro-3-methylphenol	107	6.433	6.434	-0.001	99	150933	50.0	53.5	
87 2-Methylnaphthalene	142	6.609	6.610	-0.001	99	338771	50.0	53.2	
89 1-Methylnaphthalene	142	6.710	6.711	-0.001	99	321340	50.0	53.1	
90 Hexachlorocyclopentadiene	237	6.780	6.781	-0.001	99	84158	50.0	54.3	
91 1,2,4,5-Tetrachlorobenzene	216	6.785	6.786	-0.001	97	145671	50.0	52.6	
94 2,4,6-Trichlorophenol	196	6.887	6.888	-0.001	83	94153	50.0	53.4	
95 2,3-Dichlorobenzenamine	161	6.887	6.888	-0.001	93	175121	50.0	51.5	
96 2,4,5-Trichlorophenol	196	6.924	6.925	-0.001	98	109936	50.0	54.8	
100 1,1'-Biphenyl	154	7.074	7.075	-0.001	94	411200	50.0	53.1	
102 2-Chloronaphthalene	162	7.100	7.101	-0.001	100	319349	50.0	52.0	
105 2-Nitroaniline	65	7.186	7.187	-0.001	98	94074	50.0	53.3	
111 Dimethyl phthalate	163	7.362	7.369	-0.007	100	368498	50.0	52.7	
112 1,3-Dinitrobenzene	168	7.389	7.395	-0.006	86	46650	50.0	49.5	
113 2,6-Dinitrotoluene	165	7.421	7.422	-0.001	97	80294	50.0	54.0	
115 Acenaphthylene	152	7.517	7.518	-0.001	100	503215	50.0	53.1	
117 3-Nitroaniline	138	7.597	7.598	-0.001	98	96677	50.0	52.6	
119 Acenaphthene	153	7.693	7.694	-0.001	97	315429	50.0	52.6	
120 2,4-Dinitrophenol	184	7.699	7.705	-0.006	94	70346	100.0	106.4	
121 4-Nitrophenol	109	7.758	7.764	-0.006	97	94274	100.0	110.4	
124 2,4-Dinitrotoluene	165	7.832	7.833	-0.001	97	103768	50.0	53.4	
125 Dibenzofuran	168	7.870	7.871	-0.001	99	462309	50.0	52.2	
129 2,3,4,6-Tetrachlorophenol	232	7.987	7.988	-0.001	71	92408	50.0	55.2	
131 Hexadecane	57	8.099	8.100	-0.001	97	241180	50.0	52.4	
132 Diethyl phthalate	149	8.073	8.074	-0.001	100	362818	50.0	52.8	
134 4-Chlorophenyl phenyl ethe	204	8.201	8.202	-0.001	98	175472	50.0	52.3	
135 Fluorene	166	8.217	8.218	-0.001	99	366211	50.0	51.7	
138 4-Nitroaniline	138	8.217	8.223	-0.006	96	96971	50.0	53.8	
139 4,6-Dinitro-2-methylphenol	198	8.254	8.255	-0.001	95	109984	100.0	104.2	
140 Diphenylamine	169	8.318	8.319	-0.001	96	285434	42.8	44.9	
141 N-Nitrosodiphenylamine	169	8.318	8.319	-0.001	99	285434	50.0	52.8	
142 1,2-Diphenylhydrazine	77	8.361	8.362	-0.001	96	415735	50.5	53.2	
143 Azobenzene	77	8.361	8.362	-0.001	96	415735	50.0	52.6	
145 2,4,6 - Tribromophenol	330	8.457	8.458	-0.001	96	51101	50.0	54.6	
152 4-Bromophenyl phenyl ether	248	8.698	8.699	-0.001	98	112257	50.0	52.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.789	8.790	-0.001	98	114053	50.0	53.5	
155 Atrazine	200	8.847	8.848	-0.001	95	108207	50.0	52.4	
156 n-Octadecane	85	9.029	9.030	-0.001	97	114988	50.0	53.1	
157 Pentachlorophenol	266	8.976	8.977	-0.001	97	137167	100.0	112.8	
163 Phenanthrene	178	9.189	9.190	-0.001	100	567243	50.0	52.8	
164 Anthracene	178	9.243	9.244	-0.001	100	590455	50.0	53.1	
165 Carbazole	167	9.392	9.393	-0.001	100	571510	50.0	52.9	
166 Alachlor	188	9.536	9.537	-0.001	93	77423	50.0	53.6	
169 Di-n-butyl phthalate	149	9.750	9.751	-0.001	100	667699	50.0	53.1	
176 Fluoranthene	202	10.589	10.595	-0.006	100	676542	50.0	53.0	
180 Pyrene	202	10.931	10.932	-0.001	99	705279	50.0	52.1	
186 Famphur	218	11.951	11.957	-0.006	99	259070	50.0	54.9	
187 Butyl benzyl phthalate	149	12.085	12.086	-0.001	93	317611	50.0	52.1	
190 3,3'-Dichlorobenzidine	252	13.255	13.261	-0.006	99	270498	50.0	54.9	
192 Benzo[a]anthracene	228	13.297	13.304	-0.007	100	686365	50.0	51.7	
193 Bis(2-ethylhexyl) phthalat	149	13.490	13.496	-0.006	99	449465	50.0	52.0	
194 Chrysene	228	13.388	13.395	-0.006	99	667728	50.0	52.2	
197 Di-n-octyl phthalate	149	15.327	15.328	-0.001	100	796681	50.0	52.6	
198 Benzo[b]fluoranthene	252	16.203	16.215	-0.012	99	684827	50.0	51.4	
200 Benzo[k]fluoranthene	252	16.289	16.295	-0.006	99	702382	50.0	52.3	
201 Benzo[e]pyrene	252	16.994	17.006	-0.012	97	660017	50.0	52.1	
202 Benzo[a]pyrene	252	17.144	17.155	-0.011	100	691863	50.0	52.5	
208 Indeno[1,2,3-cd]pyrene	276	20.456	20.467	-0.011	74	605237	50.0	50.2	
209 Dibenz(a,h)anthracene	278	20.547	20.564	-0.017	72	612787	50.0	50.7	
210 Benzo[g,h,i]perylene	276	21.198	21.210	-0.012	99	650639	50.0	50.8	
S 219 Total Cresols	108				0			104.9	
S 220 Methyl Phenols,Total	108				0			104.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA050_00029 Amount Added: 200.00 Units: uL

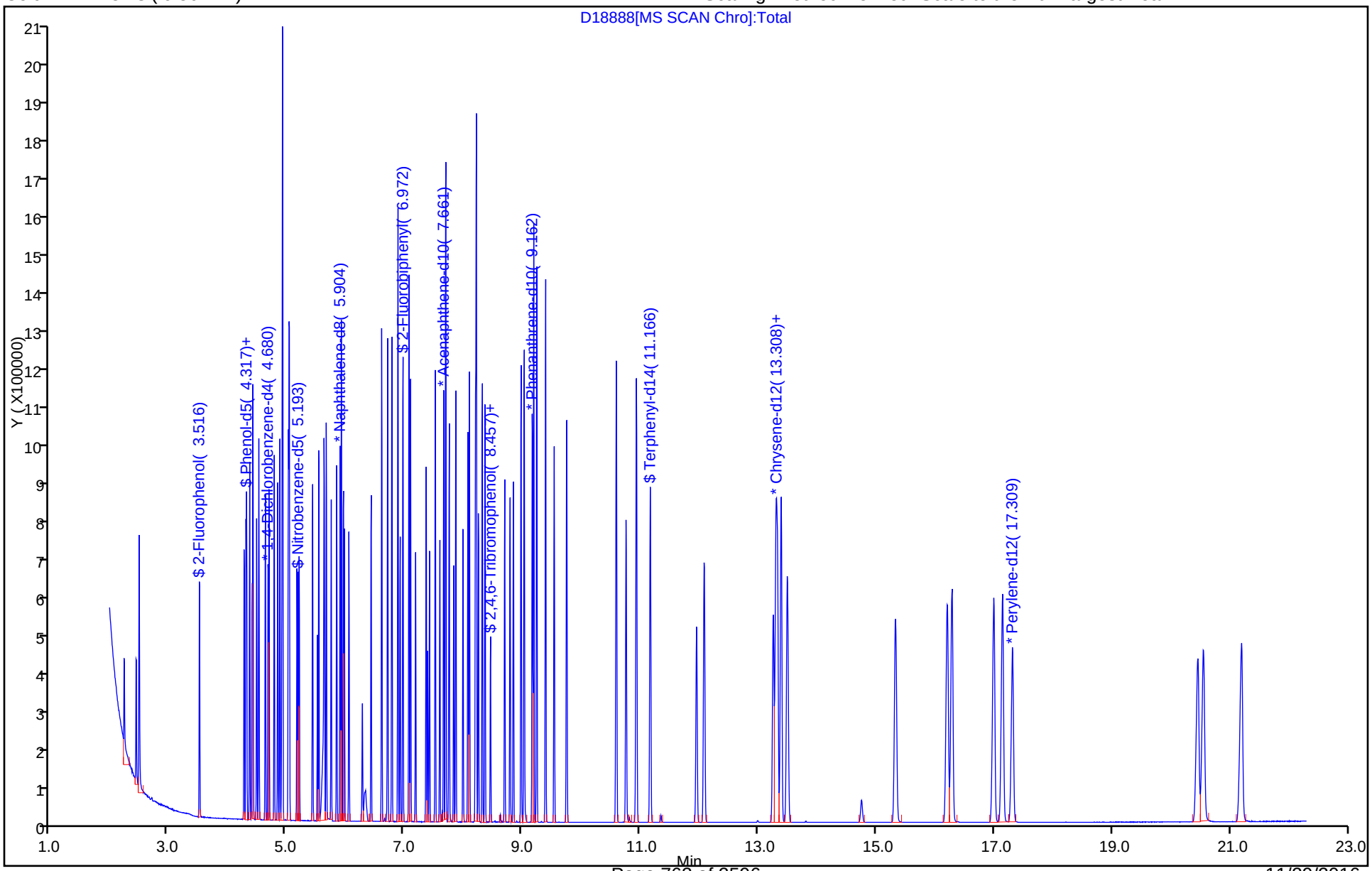
Report Date: 10-Nov-2016 11:40:49 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18888.D

Injection Date:	09-Nov-2016 09:15:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD050 HSL			Worklist Smp#:	7
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

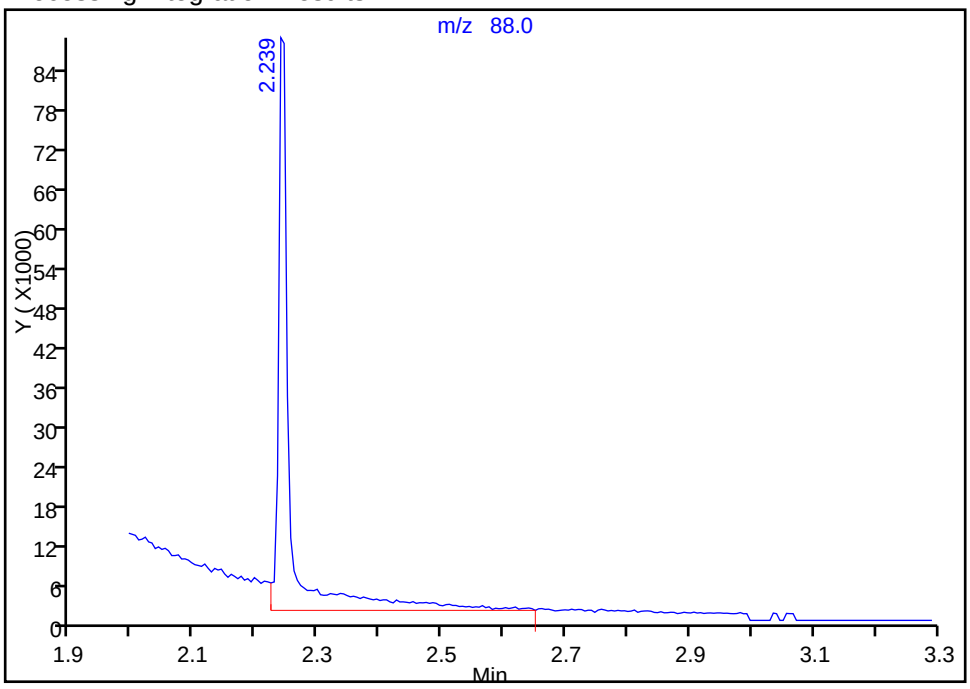
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Injection Date: 09-Nov-2016 09:15:30 Instrument ID: SMS_D
Lims ID: STD050 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

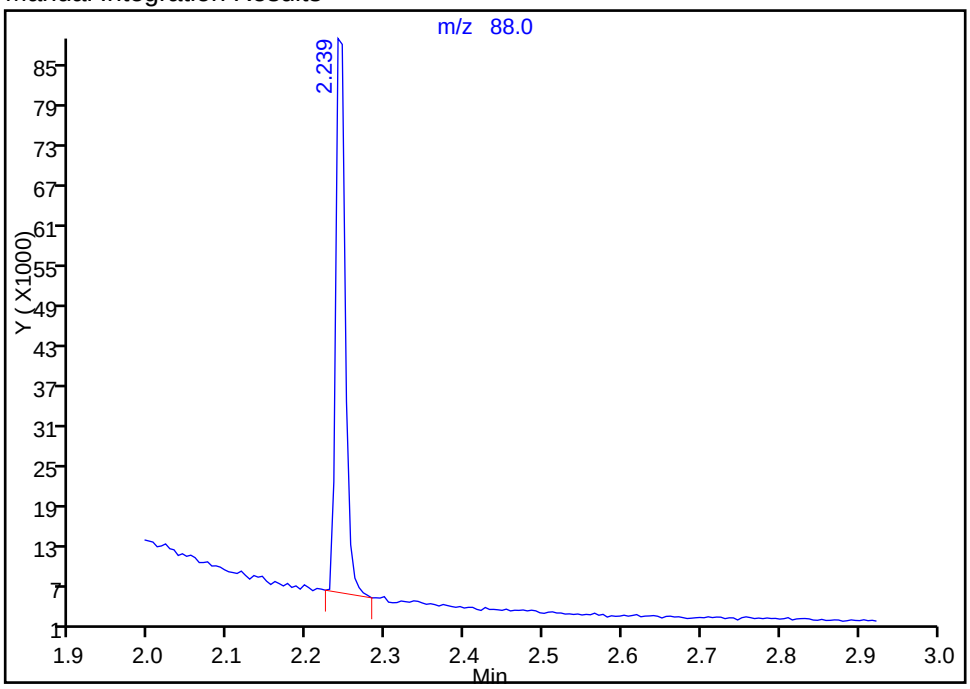
Processing Integration Results

RT: 2.24
Area: 112543
Amount: 67.729484
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 71549
Amount: 49.529837
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 09:43:48
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18889.D
Lims ID: STD120 HSL
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 09-Nov-2016 09:43:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD120 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:51 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 10:55:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.683	4.681	0.002	97	95929	40.0	40.0	
* 2 Naphthalene-d8	136	5.907	5.905	0.002	100	380904	40.0	40.0	
* 3 Acenaphthene-d10	164	7.664	7.662	0.002	99	235817	40.0	40.0	
* 4 Phenanthrene-d10	188	9.171	9.164	0.007	99	420635	40.0	40.0	
* 5 Chrysene-d12	240	13.338	13.330	0.008	93	443296	40.0	40.0	
* 6 Perylene-d12	264	17.323	17.310	0.013	99	449943	40.0	40.0	
$ 7 2-Fluorophenol	112	3.519	3.517	0.002	99	372993	120.0	116.7	
$ 8 Phenol-d5	99	4.309	4.308	0.001	98	493823	120.0	116.4	
$ 9 Nitrobenzene-d5	82	5.196	5.194	0.002	97	398372	120.0	123.4	
$ 11 2-Fluorobiphenyl	172	6.975	6.973	0.002	98	785814	120.0	109.8	
$ 12 2,4,6-Tribromophenol	330	8.460	8.458	0.002	97	114368	120.0	122.5	
$ 13 Terphenyl-d14	244	11.174	11.167	0.007	100	935139	120.0	115.3	
16 1,4-Dioxane	88	2.242	2.240	0.002	98	161742	120.0	114.4	M
17 N-Nitrosodimethylamine	74	2.450	2.443	0.007	91	269432	120.0	118.6	
18 Pyridine	79	2.498	2.491	0.007	96	466907	120.0	117.1	
28 Phenol	94	4.325	4.318	0.007	91	480117	120.0	114.7	
30 Aniline	93	4.373	4.372	0.001	99	621364	120.0	116.3	
31 Alpha Methyl Styrene	118	4.427	4.425	0.002	70	384633	120.0	113.4	
32 Bis(2-chloroethyl)ether	93	4.416	4.409	0.007	95	366439	120.0	114.4	
35 n-Decane	43	4.528	4.527	0.001	98	371599	120.0	113.3	
36 2-Chlorophenol	128	4.491	4.489	0.002	99	379050	120.0	116.3	
37 1,3-Dichlorobenzene	146	4.641	4.633	0.008	99	389739	120.0	114.5	
38 1,4-Dichlorobenzene	146	4.699	4.698	0.001	99	395475	120.0	113.8	
39 Benzyl alcohol	108	4.790	4.788	0.002	98	275337	120.0	117.3	
40 1,2-Dichlorobenzene	146	4.849	4.847	0.002	99	377516	120.0	113.7	
41 2-Methylphenol	108	4.886	4.884	0.002	74	367744	120.0	115.4	
43 2,2'-oxybis[1-chloropropan	45	4.918	4.917	0.001	95	485890	120.0	111.5	
44 Indene	116	4.934	4.927	0.007	99	1065842	240.0	235.4	
45 3-Methylphenol	108	5.031	5.029	0.001	91	371071	120.0	113.7	
46 3 & 4 Methylphenol	108	5.031	5.029	0.001	91	371071	120.0	113.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.031	5.029	0.001	91	371071	120.0	113.7	
48 N-Nitrosodi-n-propylamine	70	5.047	5.039	0.008	96	253282	120.0	109.8	
50 Acetophenone	105	5.047	5.045	0.002	75	472935	120.0	110.5	
53 Hexachloroethane	117	5.175	5.173	0.002	96	149503	120.0	115.3	
54 Nitrobenzene	77	5.217	5.210	0.007	96	391177	120.0	122.1	
57 Isophorone	82	5.447	5.440	0.007	98	754401	120.0	114.3	
59 2-Nitrophenol	139	5.522	5.520	0.002	98	187380	120.0	126.6	
60 2,4-Dimethylphenol	107	5.549	5.542	0.007	98	362394	120.0	112.2	
63 Bis(2-chloroethoxy)methane	93	5.634	5.632	0.002	95	457633	120.0	112.8	
64 Benzoic acid	105	5.688	5.664	0.024	78	596604	240.0	242.6	M
65 3,5-Dimethylphenol	107	5.677	5.670	0.007	99	367080	120.0	111.3	
68 2,4-Dichlorophenol	162	5.757	5.755	0.002	99	314557	120.0	116.0	
70 1,2,4-Trichlorobenzene	180	5.848	5.846	0.002	99	317366	120.0	111.6	
72 Naphthalene	128	5.928	5.926	0.002	100	1031530	120.0	109.9	
73 4-Chloroaniline	127	5.965	5.958	0.007	99	478031	120.0	112.8	
74 2,6-Dichlorophenol	162	5.981	5.974	0.007	98	307532	120.0	114.7	
76 Hexachlorobutadiene	225	6.056	6.054	0.002	100	175967	120.0	114.2	
80 Caprolactam	55	6.307	6.289	0.018	96	223588	120.0	126.2	M
83 4-Chloro-3-methylphenol	107	6.435	6.434	0.001	99	327636	120.0	116.3	
87 2-Methylnaphthalene	142	6.612	6.610	0.002	99	703307	120.0	110.7	
89 1-Methylnaphthalene	142	6.713	6.711	0.002	99	670194	120.0	110.9	
90 Hexachlorocyclopentadiene	237	6.783	6.781	0.002	99	176227	120.0	114.0	
91 1,2,4,5-Tetrachlorobenzene	216	6.788	6.786	0.002	97	298402	120.0	108.0	
94 2,4,6-Trichlorophenol	196	6.890	6.888	0.002	85	195627	120.0	111.2	
95 2,3-Dichlorobenzenamine	161	6.890	6.888	0.002	92	354245	120.0	119.0	
96 2,4,5-Trichlorophenol	196	6.927	6.925	0.002	98	236030	120.0	118.1	
100 1,1'-Biphenyl	154	7.077	7.075	0.002	94	850664	120.0	110.2	
102 2-Chloronaphthalene	162	7.103	7.101	0.002	100	680461	120.0	111.0	
105 2-Nitroaniline	65	7.189	7.187	0.002	98	220107	120.0	122.6	
111 Dimethyl phthalate	163	7.370	7.369	0.001	99	778324	120.0	111.6	
112 1,3-Dinitrobenzene	168	7.397	7.395	0.002	86	124231	120.0	119.4	
113 2,6-Dinitrotoluene	165	7.429	7.422	0.007	98	187298	120.0	123.7	
115 Acenaphthylene	152	7.520	7.518	0.002	100	1060701	120.0	112.2	
117 3-Nitroaniline	138	7.605	7.598	0.007	98	228928	120.0	122.7	
119 Acenaphthene	153	7.696	7.694	0.002	98	634132	120.0	106.1	
120 2,4-Dinitrophenol	184	7.707	7.705	0.002	96	197941	240.0	247.4	
121 4-Nitrophenol	109	7.771	7.764	0.007	97	214158	240.0	251.5	
124 2,4-Dinitrotoluene	165	7.840	7.833	0.007	98	249317	120.0	125.3	
125 Dibenzofuran	168	7.873	7.871	0.002	99	973066	120.0	110.1	
129 2,3,4,6-Tetrachlorophenol	232	7.995	7.988	0.007	72	204508	120.0	122.5	
131 Hexadecane	57	8.097	8.100	-0.003	97	511040	120.0	111.4	
132 Diethyl phthalate	149	8.081	8.074	0.007	100	756467	120.0	110.5	
134 4-Chlorophenyl phenyl ethe	204	8.204	8.202	0.002	98	362428	120.0	108.4	
135 Fluorene	166	8.220	8.218	0.002	100	753895	120.0	106.8	
138 4-Nitroaniline	138	8.230	8.223	0.007	96	230541	120.0	128.3	
139 4,6-Dinitro-2-methylphenol	198	8.263	8.255	0.007	95	280395	240.0	247.7	
140 Diphenylamine	169	8.321	8.319	0.002	96	603007	102.6	95.2	
141 N-Nitrosodiphenylamine	169	8.321	8.319	0.002	99	603007	120.0	111.7	
142 1,2-Diphenylhydrazine	77	8.369	8.362	0.007	96	875964	121.3	112.3	
143 Azobenzene	77	8.369	8.362	0.007	96	875964	120.0	111.1	
145 2,4,6 - Tribromophenol	330	8.460	8.458	0.002	97	114394	120.0	122.5	
152 4-Bromophenyl phenyl ether	248	8.701	8.699	0.002	98	236521	120.0	111.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.791	8.790	0.001	98	233750	120.0	109.7	
155 Atrazine	200	8.855	8.848	0.007	97	228396	120.0	110.6	
156 n-Octadecane	85	9.032	9.030	0.002	97	241666	120.0	111.6	
157 Pentachlorophenol	266	8.978	8.977	0.001	97	291705	240.0	239.9	
163 Phenanthrene	178	9.192	9.190	0.002	100	1169333	120.0	108.9	
164 Anthracene	178	9.245	9.244	0.001	100	1212184	120.0	109.1	
165 Carbazole	167	9.395	9.393	0.002	100	1190893	120.0	110.3	
166 Alachlor	188	9.539	9.537	0.002	94	166346	120.0	115.2	
169 Di-n-butyl phthalate	149	9.753	9.751	0.002	100	1403788	120.0	111.7	
176 Fluoranthene	202	10.597	10.595	0.002	100	1422884	120.0	111.5	
180 Pyrene	202	10.939	10.932	0.007	99	1495494	120.0	116.1	
186 Famphur	218	11.965	11.957	0.008	99	511349	120.0	113.9	
187 Butyl benzyl phthalate	149	12.087	12.086	0.001	94	706950	120.0	122.0	
190 3,3'-Dichlorobenzidine	252	13.268	13.261	0.007	99	566485	120.0	120.8	
192 Benzo[a]anthracene	228	13.316	13.304	0.012	100	1498114	120.0	118.6	
193 Bis(2-ethylhexyl) phthalat	149	13.503	13.496	0.007	99	1013766	120.0	123.2	
194 Chrysene	228	13.407	13.395	0.013	99	1427675	120.0	117.4	
197 Di-n-octyl phthalate	149	15.341	15.328	0.013	100	1812669	120.0	125.8	
198 Benzo[b]fluoranthene	252	16.228	16.215	0.013	99	1515960	120.0	121.2	
200 Benzo[k]fluoranthene	252	16.313	16.295	0.018	99	1503055	120.0	119.3	
201 Benzo[e]pyrene	252	17.018	17.006	0.012	98	1421157	120.0	119.6	
202 Benzo[a]pyrene	252	17.173	17.155	0.018	100	1493963	120.0	120.8	
208 Indeno[1,2,3-cd]pyrene	276	20.491	20.467	0.024	74	1366975	120.0	120.8	M
209 Dibenz(a,h)anthracene	278	20.581	20.564	0.017	74	1389539	120.0	122.6	
210 Benzo[g,h,i]perylene	276	21.233	21.210	0.023	99	1452712	120.0	120.9	
S 219 Total Cresols	108				0			229.2	
S 220 Methyl Phenols,Total	108				0			229.2	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA120_00028 Amount Added: 200.00 Units: uL

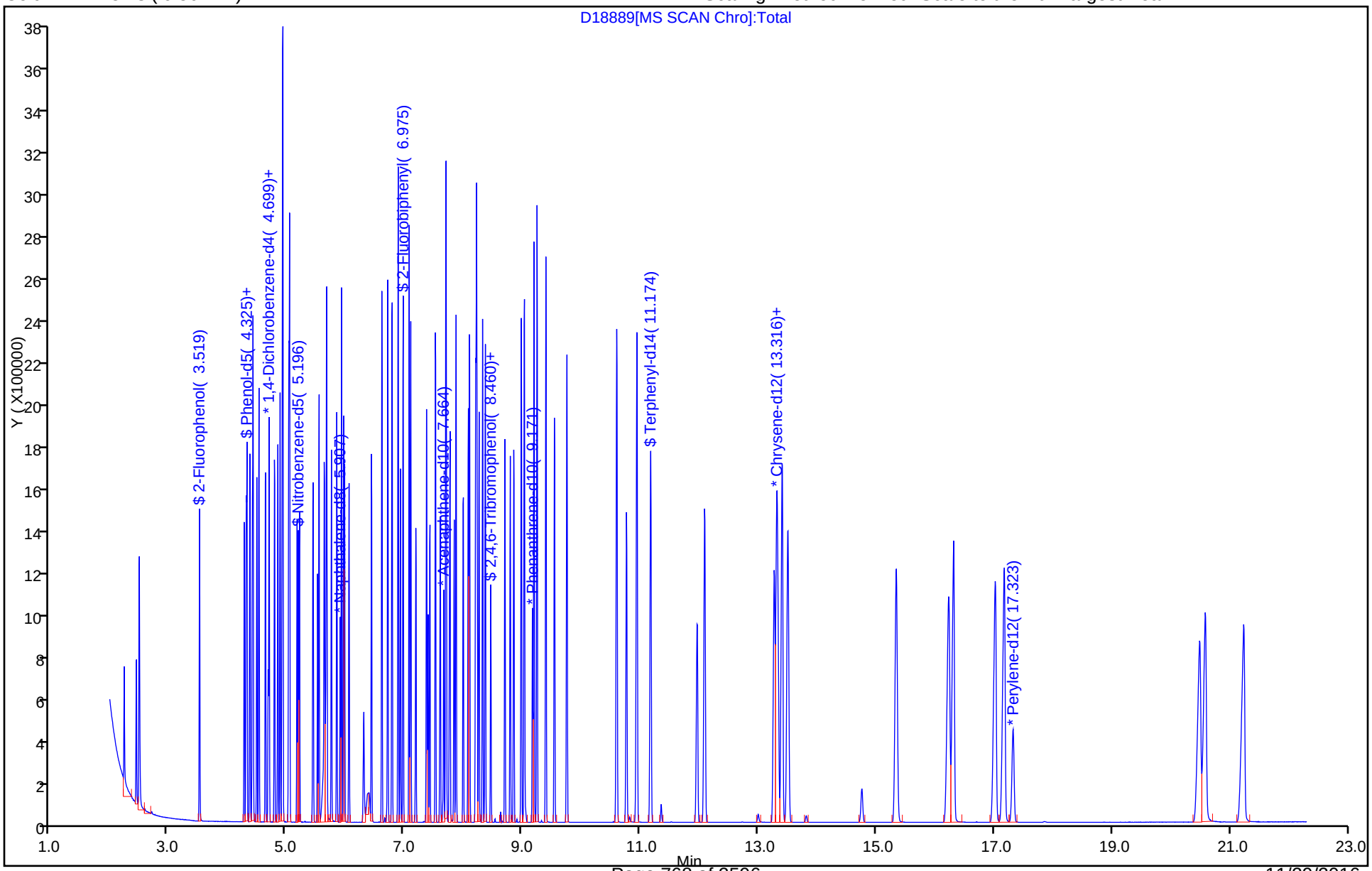
Report Date: 10-Nov-2016 11:40:51 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18889.D

Injection Date:	09-Nov-2016 09:43:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD120 HSL			Worklist Smp#:	8
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver

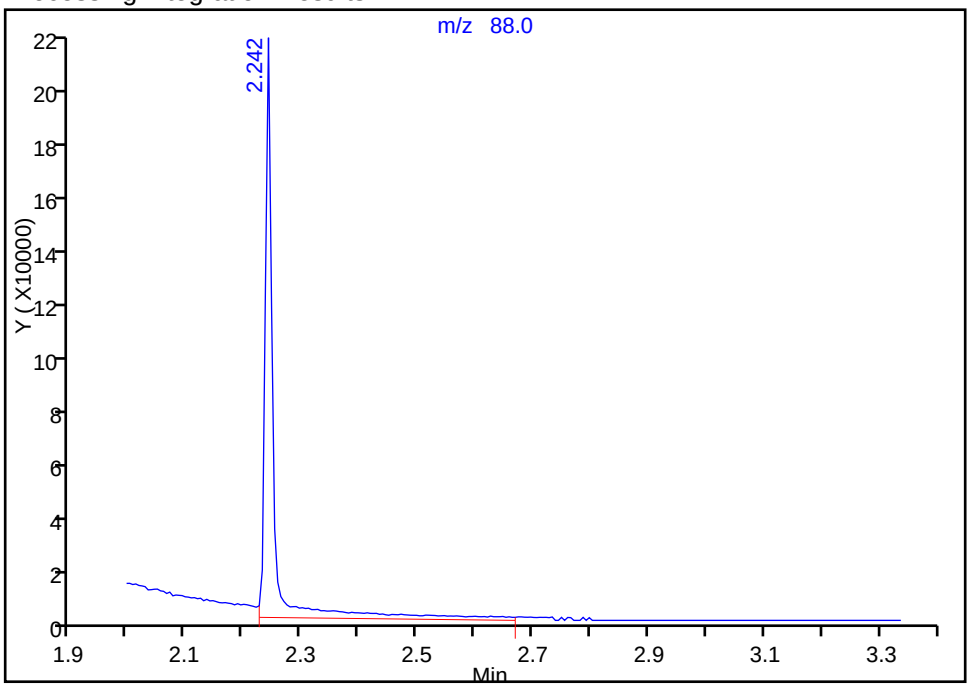
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Injection Date: 09-Nov-2016 09:43:30 Instrument ID: SMS_D
Lims ID: STD120 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

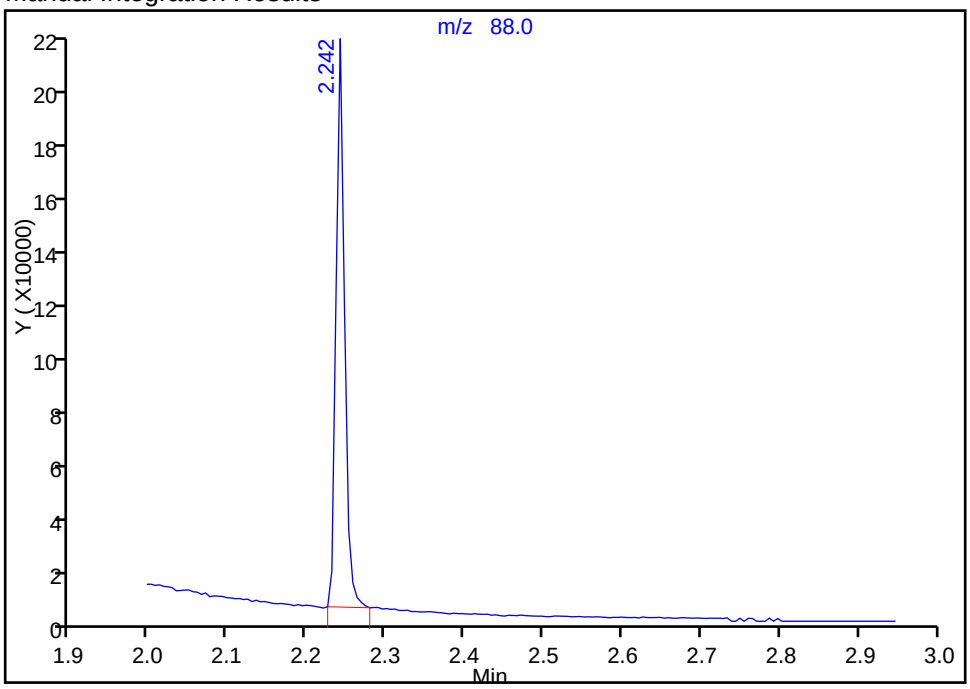
Processing Integration Results

RT: 2.24
Area: 221519
Amount: 143.6741
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 161742
Amount: 114.4241
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 10:55:25
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

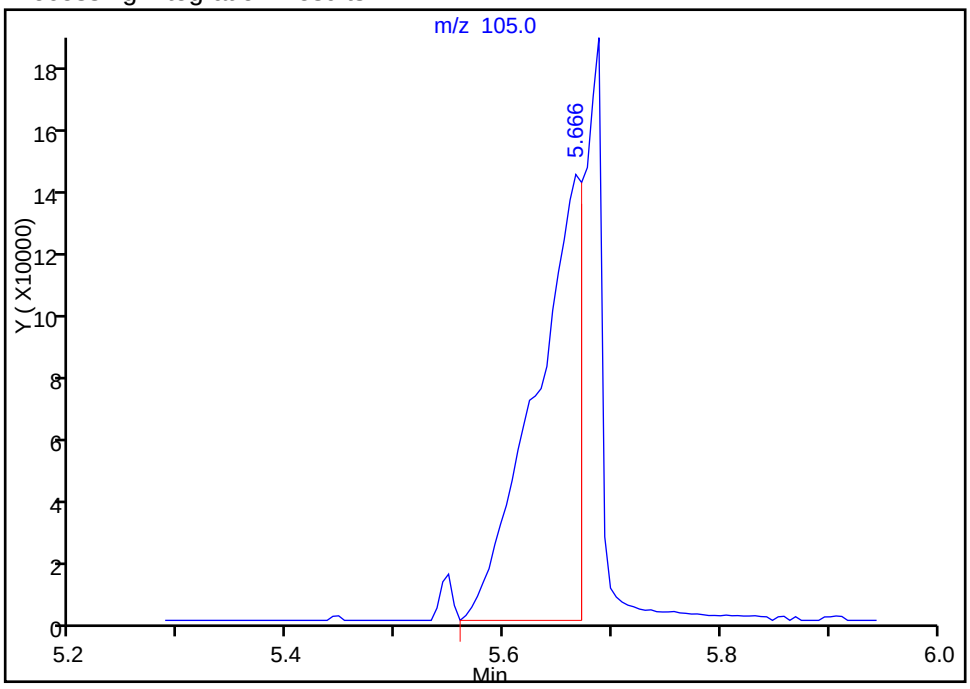
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Injection Date: 09-Nov-2016 09:43:30 Instrument ID: SMS_D
Lims ID: STD120 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

64 Benzoic acid, CAS: 65-85-0

Signal: 1

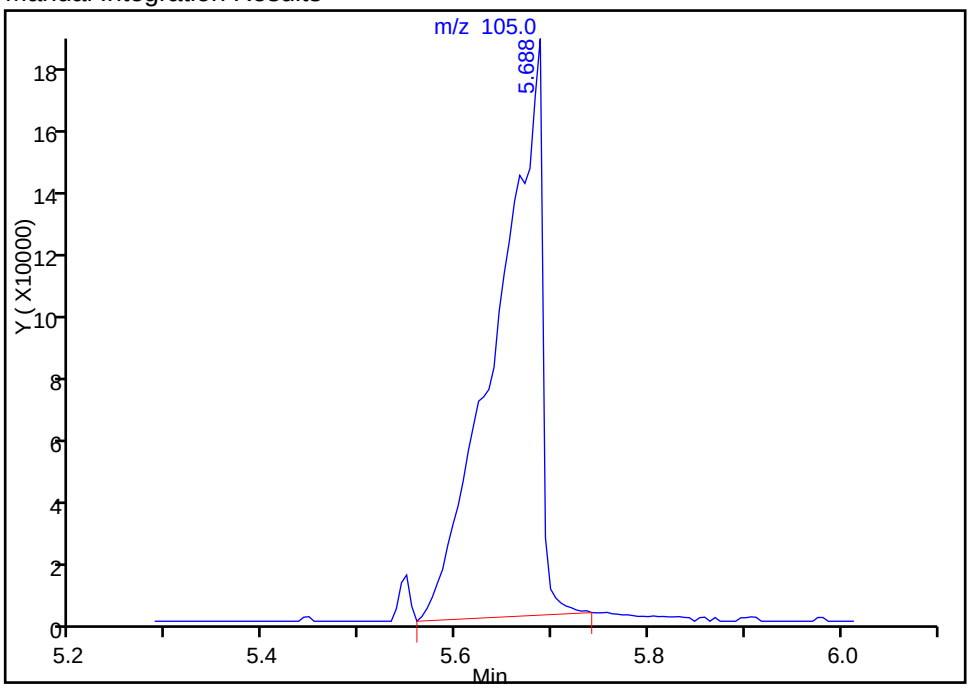
Processing Integration Results

RT: 5.67
Area: 429478
Amount: 255.5265
Amount Units: ug/ml



Manual Integration Results

RT: 5.69
Area: 596604
Amount: 242.6023
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 10:55:25
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

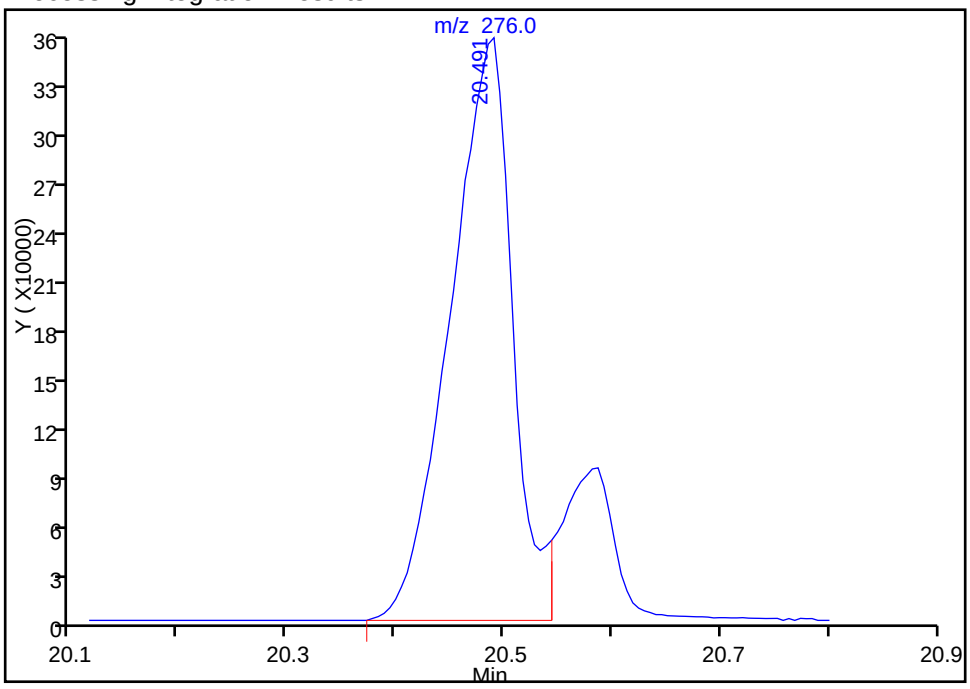
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Lims ID: STD120 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

208 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

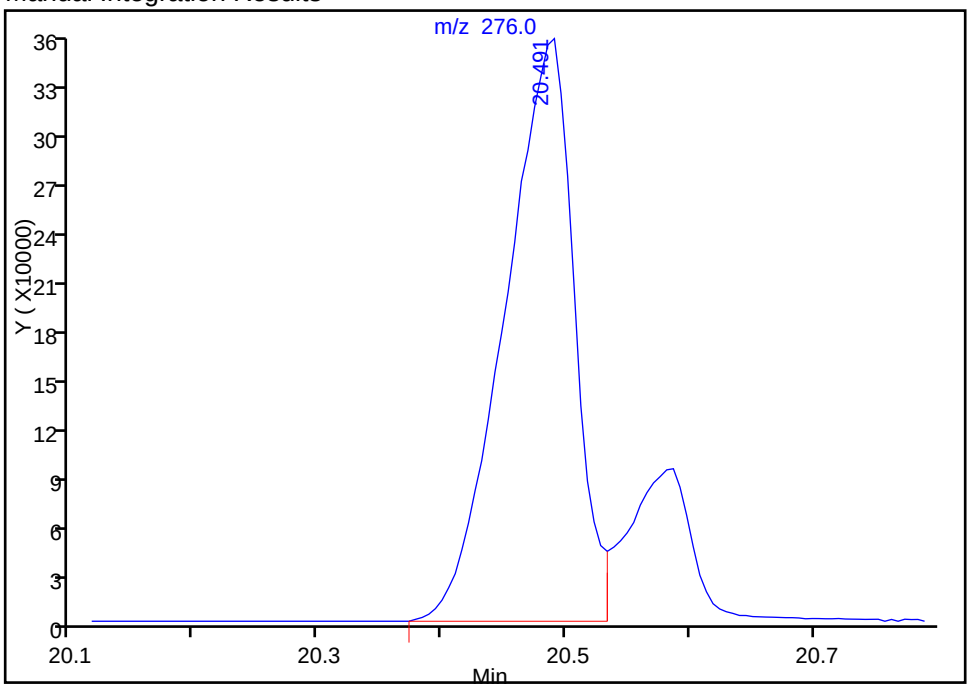
Processing Integration Results

RT: 20.49
Area: 1396839
Amount: 122.8780
Amount Units: ug/ml



Manual Integration Results

RT: 20.49
Area: 1366975
Amount: 120.7858
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 10:55:25
Audit Action: Split an Integrated Peak Audit Reason: Shouldering

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18890.D
Lims ID: STD160 HSL
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 09-Nov-2016 10:12:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD160 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:53 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 11:10:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.685	4.681	0.004	97	95837	40.0	40.0	
* 2 Naphthalene-d8	136	5.909	5.905	0.004	100	379954	40.0	40.0	
* 3 Acenaphthene-d10	164	7.666	7.662	0.004	99	234459	40.0	40.0	
* 4 Phenanthrene-d10	188	9.167	9.164	0.003	99	415934	40.0	40.0	
* 5 Chrysene-d12	240	13.339	13.330	0.009	93	445091	40.0	40.0	
* 6 Perylene-d12	264	17.325	17.310	0.015	99	448079	40.0	40.0	
$ 7 2-Fluorophenol	112	3.521	3.517	0.004	99	486584	160.0	152.4	
$ 8 Phenol-d5	99	4.317	4.308	0.009	97	639839	160.0	150.9	
$ 9 Nitrobenzene-d5	82	5.198	5.194	0.004	98	524796	160.0	163.0	
$ 11 2-Fluorobiphenyl	172	6.977	6.973	0.004	98	990902	160.0	139.3	
$ 12 2,4,6-Tribromophenol	330	8.462	8.458	0.004	97	147393	160.0	158.8	
$ 13 Terphenyl-d14	244	11.176	11.167	0.009	100	1199033	160.0	147.2	
16 1,4-Dioxane	88	2.244	2.240	0.004	98	215916	160.0	152.9	M
17 N-Nitrosodimethylamine	74	2.452	2.443	0.009	91	356168	160.0	156.9	
18 Pyridine	79	2.495	2.491	0.004	96	618617	160.0	155.3	
28 Phenol	94	4.327	4.318	0.009	90	617133	160.0	147.5	
30 Aniline	93	4.375	4.372	0.003	99	800788	160.0	150.0	
31 Alpha Methyl Styrene	118	4.429	4.425	0.004	70	476080	160.0	140.5	
32 Bis(2-chloroethyl)ether	93	4.418	4.409	0.009	95	453800	160.0	141.9	
35 n-Decane	43	4.530	4.527	0.003	98	468645	160.0	143.0	
36 2-Chlorophenol	128	4.493	4.489	0.004	99	486004	160.0	149.3	
37 1,3-Dichlorobenzene	146	4.637	4.633	0.004	99	497074	160.0	146.2	
38 1,4-Dichlorobenzene	146	4.701	4.698	0.003	99	502201	160.0	144.7	
39 Benzyl alcohol	108	4.797	4.788	0.009	98	356429	160.0	151.9	
40 1,2-Dichlorobenzene	146	4.851	4.847	0.004	99	485392	160.0	146.3	
41 2-Methylphenol	108	4.888	4.884	0.004	74	474104	160.0	149.0	
43 2,2'-oxybis[1-chloropropan	45	4.920	4.917	0.003	95	611292	160.0	140.4	
44 Indene	116	4.936	4.927	0.009	99	1307811	320.0	319.1	
45 3-Methylphenol	108	5.038	5.029	0.009	95	472016	160.0	144.8	
46 3 & 4 Methylphenol	108	5.038	5.029	0.009	95	472016	160.0	144.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.038	5.029	0.009	95	472016	160.0	144.8	
48 N-Nitrosodi-n-propylamine	70	5.048	5.039	0.009	62	323037	160.0	140.2	
50 Acetophenone	105	5.048	5.045	0.003	72	577513	160.0	135.1	
53 Hexachloroethane	117	5.177	5.173	0.004	97	191393	160.0	147.8	
54 Nitrobenzene	77	5.219	5.210	0.009	96	510338	160.0	159.8	
57 Isophorone	82	5.449	5.440	0.009	98	975781	160.0	148.2	
59 2-Nitrophenol	139	5.524	5.520	0.004	98	253450	160.0	171.1	
60 2,4-Dimethylphenol	107	5.551	5.542	0.009	99	468961	160.0	145.6	
63 Bis(2-chloroethoxy)methane	93	5.636	5.632	0.004	94	577958	160.0	142.8	
64 Benzoic acid	105	5.706	5.664	0.042	46	830633	320.0	333.6	M
65 3,5-Dimethylphenol	107	5.679	5.670	0.009	96	463593	160.0	140.9	
68 2,4-Dichlorophenol	162	5.759	5.755	0.004	99	403830	160.0	149.3	
70 1,2,4-Trichlorobenzene	180	5.850	5.846	0.004	99	407803	160.0	143.8	
72 Naphthalene	128	5.930	5.926	0.004	100	1313724	160.0	140.3	
73 4-Chloroaniline	127	5.967	5.958	0.009	99	599863	160.0	141.9	
74 2,6-Dichlorophenol	162	5.983	5.974	0.009	98	396936	160.0	148.5	
76 Hexachlorobutadiene	225	6.058	6.054	0.004	99	220733	160.0	143.6	
80 Caprolactam	55	6.320	6.289	0.031	97	292604	160.0	165.6	M
83 4-Chloro-3-methylphenol	107	6.443	6.434	0.009	99	419329	160.0	149.2	
87 2-Methylnaphthalene	142	6.614	6.610	0.004	99	884949	160.0	139.6	
89 1-Methylnaphthalene	142	6.715	6.711	0.004	99	840206	160.0	139.4	
90 Hexachlorocyclopentadiene	237	6.785	6.781	0.004	98	221711	160.0	144.3	
91 1,2,4,5-Tetrachlorobenzene	216	6.790	6.786	0.004	96	371451	160.0	134.7	
94 2,4,6-Trichlorophenol	196	6.892	6.888	0.004	87	244724	160.0	139.9	
95 2,3-Dichlorobenzenamine	161	6.892	6.888	0.004	91	431976	160.0	157.9	
96 2,4,5-Trichlorophenol	196	6.929	6.925	0.004	99	307603	160.0	154.8	
100 1,1'-Biphenyl	154	7.078	7.075	0.003	95	1068017	160.0	139.1	
102 2-Chloronaphthalene	162	7.105	7.101	0.004	100	856155	160.0	140.5	
105 2-Nitroaniline	65	7.191	7.187	0.004	98	294766	160.0	164.4	
111 Dimethyl phthalate	163	7.378	7.369	0.009	100	984192	160.0	141.9	
112 1,3-Dinitrobenzene	168	7.399	7.395	0.004	88	174864	160.0	165.9	
113 2,6-Dinitrotoluene	165	7.431	7.422	0.009	98	248267	160.0	164.3	
115 Acenaphthylene	152	7.527	7.518	0.009	100	1332641	160.0	141.8	
117 3-Nitroaniline	138	7.607	7.598	0.009	98	304204	160.0	163.5	
119 Acenaphthene	153	7.698	7.694	0.004	99	802927	160.0	135.1	
120 2,4-Dinitrophenol	184	7.714	7.705	0.009	98	279877	320.0	327.6	
121 4-Nitrophenol	109	7.778	7.764	0.014	97	281658	320.0	332.7	
124 2,4-Dinitrotoluene	165	7.842	7.833	0.009	98	327793	160.0	164.9	
125 Dibenzofuran	168	7.874	7.871	0.003	99	1221246	160.0	139.0	
129 2,3,4,6-Tetrachlorophenol	232	7.997	7.988	0.009	71	265093	160.0	159.8	
131 Hexadecane	57	8.099	8.100	-0.001	97	622113	160.0	136.4	
132 Diethyl phthalate	149	8.083	8.074	0.009	100	945163	160.0	138.8	
134 4-Chlorophenyl phenyl ethe	204	8.206	8.202	0.004	99	451512	160.0	135.8	
135 Fluorene	166	8.222	8.218	0.004	99	950783	160.0	135.5	
138 4-Nitroaniline	138	8.238	8.223	0.015	97	310493	160.0	173.7	
139 4,6-Dinitro-2-methylphenol	198	8.270	8.255	0.015	96	377739	320.0	333.2	
140 Diphenylamine	169	8.323	8.319	0.004	95	763104	136.8	121.1	
141 N-Nitrosodiphenylamine	169	8.323	8.319	0.004	98	763104	160.0	142.9	
142 1,2-Diphenylhydrazine	77	8.371	8.362	0.009	96	1111971	161.8	143.4	
143 Azobenzene	77	8.371	8.362	0.009	96	1111971	160.0	141.8	
145 2,4,6 - Tribromophenol	330	8.462	8.458	0.004	97	147393	160.0	158.8	
152 4-Bromophenyl phenyl ether	248	8.702	8.699	0.003	98	298910	160.0	142.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.793	8.790	0.003	99	294455	160.0	139.8	
155 Atrazine	200	8.857	8.848	0.009	97	289125	160.0	141.6	
156 n-Octadecane	85	9.034	9.030	0.004	97	296491	160.0	138.4	
157 Pentachlorophenol	266	8.980	8.977	0.003	98	367359	320.0	305.5	
163 Phenanthrene	178	9.199	9.190	0.009	100	1457271	160.0	137.3	
164 Anthracene	178	9.247	9.244	0.003	100	1516796	160.0	138.0	
165 Carbazole	167	9.397	9.393	0.004	100	1506577	160.0	141.1	
166 Alachlor	188	9.541	9.537	0.004	94	209211	160.0	146.6	
169 Di-n-butyl phthalate	149	9.755	9.751	0.004	100	1762151	160.0	141.8	
176 Fluoranthene	202	10.604	10.595	0.009	100	1820832	160.0	144.3	
180 Pyrene	202	10.946	10.932	0.014	99	1932501	160.0	149.5	
186 Famphur	218	11.967	11.957	0.010	99	626719	160.0	139.0	
187 Butyl benzyl phthalate	149	12.095	12.086	0.009	93	916332	160.0	157.5	
190 3,3'-Dichlorobenzidine	252	13.275	13.261	0.014	99	720018	160.0	153.0	
192 Benzo[a]anthracene	228	13.318	13.304	0.014	100	1931966	160.0	152.3	
193 Bis(2-ethylhexyl) phthalat	149	13.505	13.496	0.009	99	1315167	160.0	159.2	
194 Chrysene	228	13.414	13.395	0.020	99	1847260	160.0	151.3	
197 Di-n-octyl phthalate	149	15.343	15.328	0.015	100	2354681	160.0	162.8	
198 Benzo[b]fluoranthene	252	16.240	16.215	0.025	99	1975384	160.0	158.6	
200 Benzo[k]fluoranthene	252	16.320	16.295	0.025	99	1929176	160.0	153.8	
201 Benzo[e]pyrene	252	17.031	17.006	0.025	98	1840706	160.0	155.6	
202 Benzo[a]pyrene	252	17.180	17.155	0.025	100	1927408	160.0	156.5	
208 Indeno[1,2,3-cd]pyrene	276	20.503	20.467	0.036	74	1844789	160.0	163.7	
209 Dibenz(a,h)anthracene	278	20.599	20.564	0.035	74	1813569	160.0	160.6	
210 Benzo[g,h,i]perylene	276	21.251	21.210	0.041	99	1897460	160.0	158.6	
S 219 Total Cresols	108				0			293.8	
S 220 Methyl Phenols,Total	108				0			293.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA160_00028 Amount Added: 200.00 Units: uL

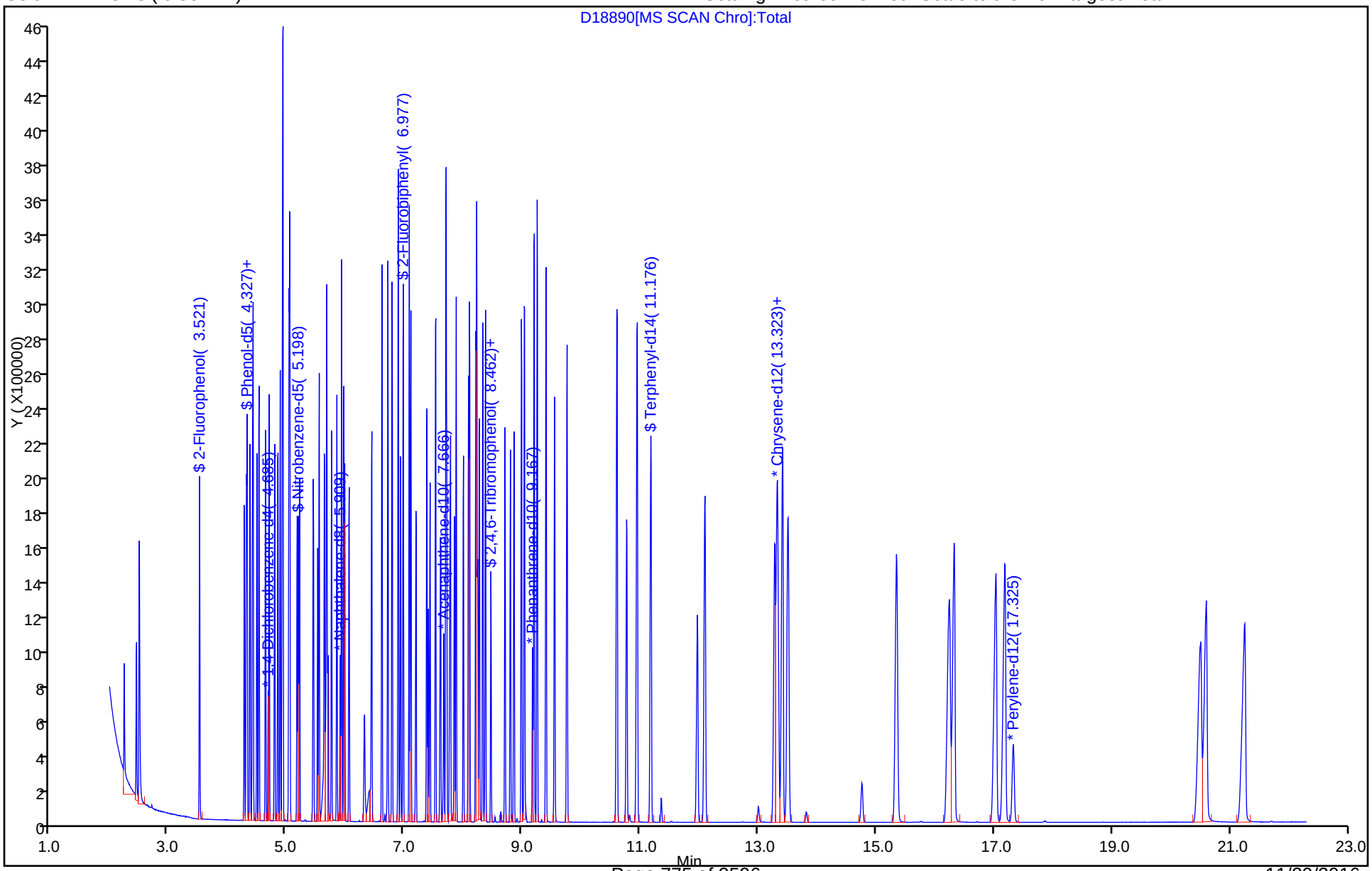
Report Date: 10-Nov-2016 11:40:54 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18890.D

Injection Date:	09-Nov-2016 10:12:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD160 HSL			Worklist Smp#:	9
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

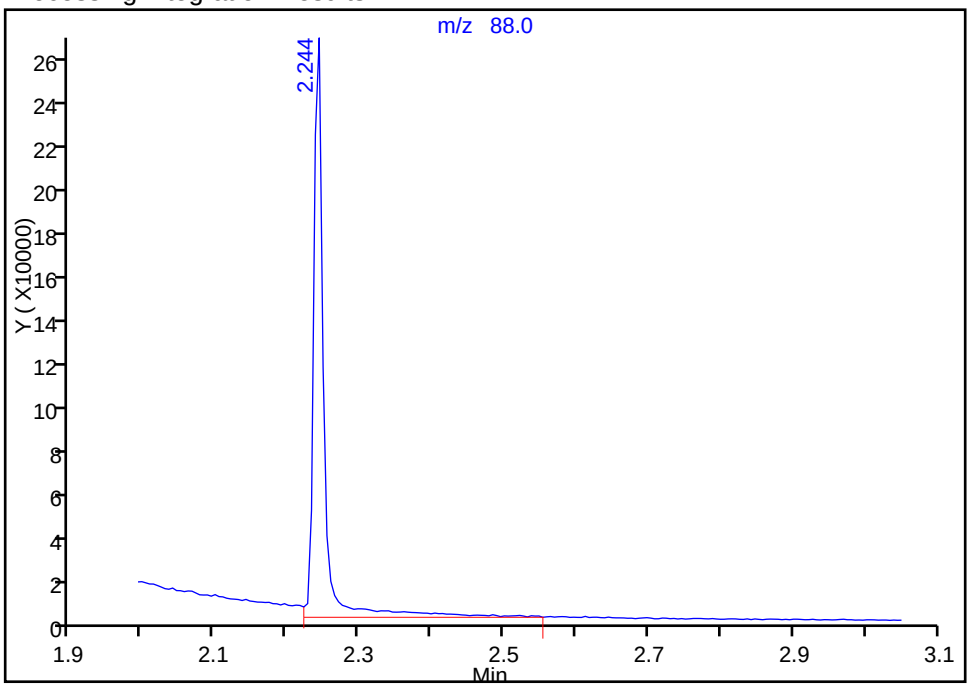
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Injection Date: 09-Nov-2016 10:12:30 Instrument ID: SMS_D
Lims ID: STD160 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

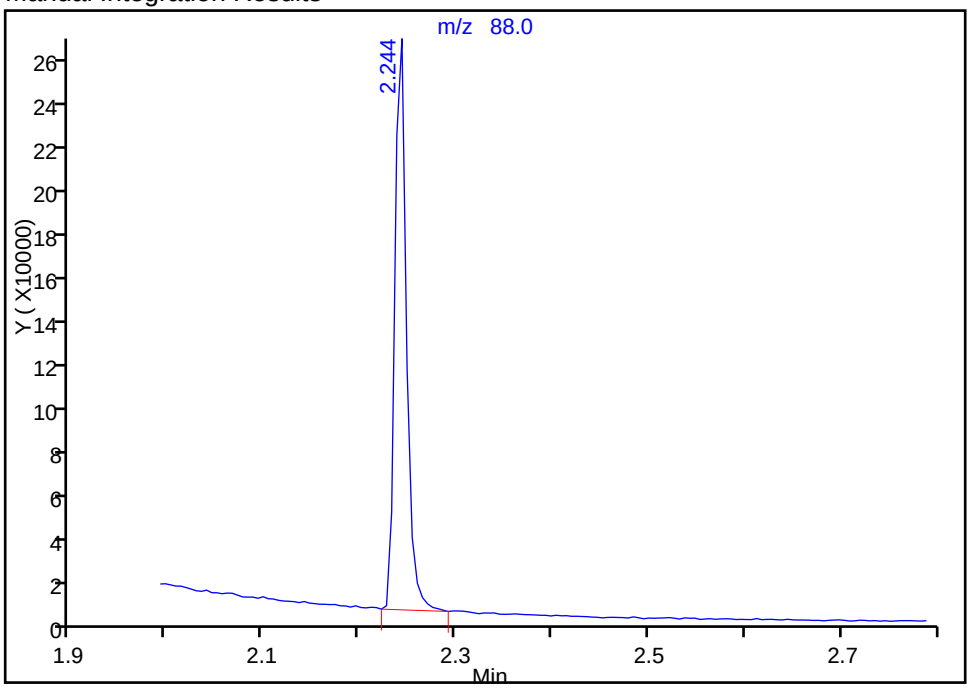
Processing Integration Results

RT: 2.24
Area: 258823
Amount: 176.1608
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 215916
Amount: 152.8960
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 11:10:43
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

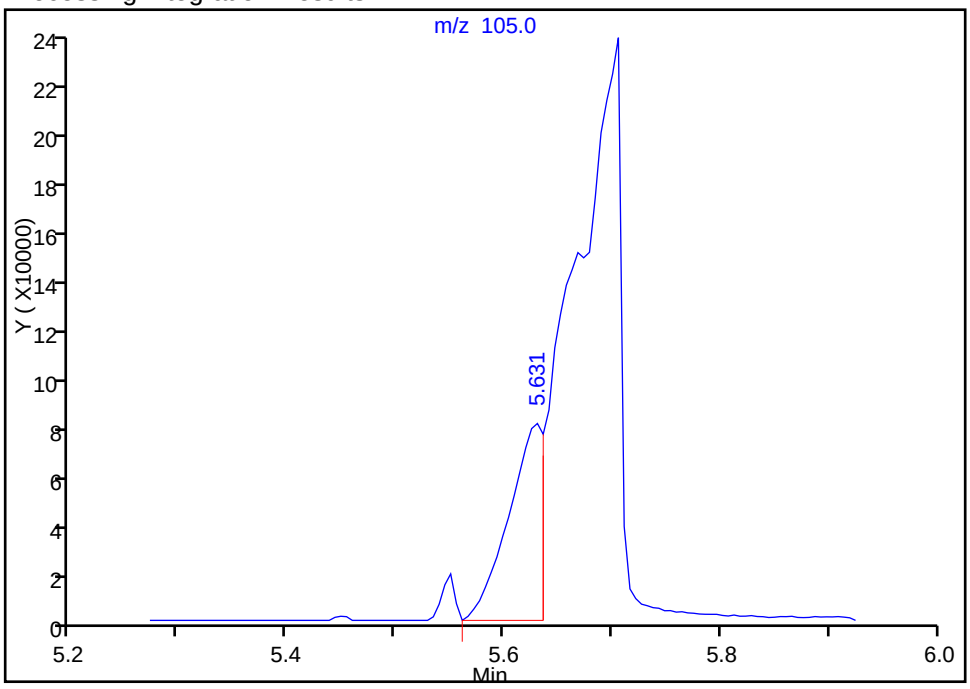
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18890.D
Injection Date: 09-Nov-2016 10:12:30 Instrument ID: SMS_D
Lims ID: STD160 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

64 Benzoic acid, CAS: 65-85-0

Signal: 1

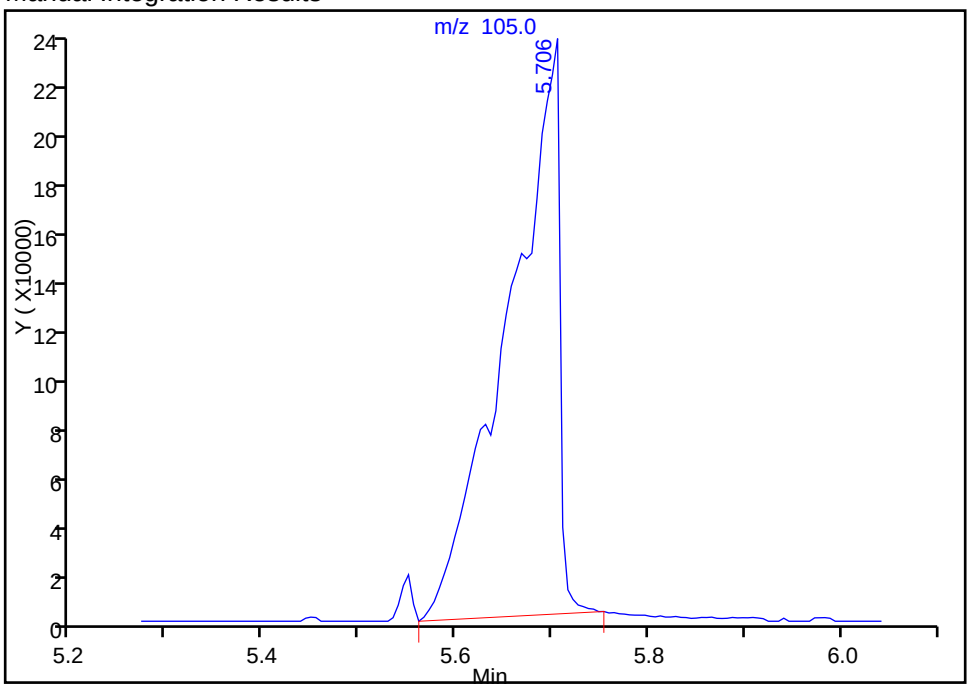
Processing Integration Results

RT: 5.63
Area: 175685
Amount: 99.468103
Amount Units: ug/ml



Manual Integration Results

RT: 5.71
Area: 830633
Amount: 333.6099
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 11:10:43
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D
Lims ID: STD200 HSL
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 09-Nov-2016 10:40:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD200 HSL
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:55 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 12:09:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.683	4.681	0.002	98	98097	40.0	40.0	
* 2 Naphthalene-d8	136	5.906	5.905	0.001	100	389479	40.0	40.0	
* 3 Acenaphthene-d10	164	7.664	7.662	0.002	99	243597	40.0	40.0	
* 4 Phenanthrene-d10	188	9.170	9.164	0.006	99	434322	40.0	40.0	
* 5 Chrysene-d12	240	13.348	13.330	0.018	94	441065	40.0	40.0	
* 6 Perylene-d12	264	17.328	17.310	0.018	99	455093	40.0	40.0	
$ 7 2-Fluorophenol	112	3.524	3.517	0.007	99	588488	200.0	180.1	
$ 8 Phenol-d5	99	4.320	4.308	0.012	98	783398	200.0	180.5	
$ 9 Nitrobenzene-d5	82	5.201	5.194	0.007	98	663776	200.0	201.1	
$ 11 2-Fluorobiphenyl	172	6.975	6.973	0.002	98	1211092	200.0	163.9	
$ 12 2,4,6-Tribromophenol	330	8.465	8.458	0.007	97	185263	200.0	192.1	
$ 13 Terphenyl-d14	244	11.179	11.167	0.012	100	1469815	200.0	182.1	
16 1,4-Dioxane	88	2.241	2.240	0.001	98	262216	200.0	181.4	M
17 N-Nitrosodimethylamine	74	2.450	2.443	0.007	92	439385	200.0	189.1	
18 Pyridine	79	2.498	2.491	0.007	96	770369	200.0	188.9	
28 Phenol	94	4.330	4.318	0.012	91	752444	200.0	175.7	
30 Aniline	93	4.378	4.372	0.006	99	1001108	200.0	183.2	
31 Alpha Methyl Styrene	118	4.432	4.425	0.007	70	564455	200.0	162.7	
32 Bis(2-chloroethyl)ether	93	4.421	4.409	0.012	95	542685	200.0	165.7	
35 n-Decane	43	4.528	4.527	0.001	98	559176	200.0	166.7	
36 2-Chlorophenol	128	4.496	4.489	0.007	99	591063	200.0	177.4	
37 1,3-Dichlorobenzene	146	4.640	4.633	0.007	100	599693	200.0	172.3	
38 1,4-Dichlorobenzene	146	4.704	4.698	0.006	99	603602	200.0	169.9	
39 Benzyl alcohol	108	4.800	4.788	0.012	98	439235	200.0	182.9	
40 1,2-Dichlorobenzene	146	4.848	4.847	0.001	99	588015	200.0	173.1	
41 2-Methylphenol	108	4.891	4.884	0.007	75	572415	200.0	175.7	
43 2,2'-oxybis[1-chloropropan	45	4.923	4.917	0.006	96	733012	200.0	164.4	
44 Indene	116	4.934	4.927	0.007	99	1517696	400.0	403.1	
45 3-Methylphenol	108	5.041	5.029	0.012	96	565048	200.0	169.4	
46 3 & 4 Methylphenol	108	5.041	5.029	0.012	96	565048	200.0	169.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.041	5.029	0.012	96	565048	200.0	169.4	
48 N-Nitrosodi-n-propylamine	70	5.051	5.039	0.012	61	398782	200.0	169.1	
50 Acetophenone	105	5.051	5.045	0.006	79	695492	200.0	158.9	
53 Hexachloroethane	117	5.174	5.173	0.001	96	231714	200.0	174.8	
54 Nitrobenzene	77	5.222	5.210	0.012	96	636366	200.0	194.3	
57 Isophorone	82	5.457	5.440	0.017	98	1238458	200.0	183.6	
59 2-Nitrophenol	139	5.527	5.520	0.007	98	321485	200.0	211.3	
60 2,4-Dimethylphenol	107	5.554	5.542	0.012	99	574778	200.0	174.0	
63 Bis(2-chloroethoxy)methane	93	5.639	5.632	0.007	93	708396	200.0	170.7	
64 Benzoic acid	105	5.725	5.664	0.061	69	1117191	400.0	433.8	M
65 3,5-Dimethylphenol	107	5.682	5.670	0.012	96	572290	200.0	169.7	
68 2,4-Dichlorophenol	162	5.762	5.755	0.007	99	505782	200.0	182.4	
70 1,2,4-Trichlorobenzene	180	5.853	5.846	0.007	99	496461	200.0	170.8	
72 Naphthalene	128	5.933	5.926	0.007	100	1560278	200.0	162.6	
73 4-Chloroaniline	127	5.970	5.958	0.012	99	725104	200.0	167.3	
74 2,6-Dichlorophenol	162	5.981	5.974	0.007	98	481519	200.0	175.7	
76 Hexachlorobutadiene	225	6.056	6.054	0.002	100	270398	200.0	171.6	
80 Caprolactam	55	6.328	6.289	0.039	96	368584	200.0	203.4	M
83 4-Chloro-3-methylphenol	107	6.446	6.434	0.012	99	515898	200.0	179.1	
87 2-Methylnaphthalene	142	6.617	6.610	0.007	99	1079422	200.0	166.1	
89 1-Methylnaphthalene	142	6.718	6.711	0.007	99	1014606	200.0	164.3	
90 Hexachlorocyclopentadiene	237	6.782	6.781	0.001	99	270634	200.0	169.5	
91 1,2,4,5-Tetrachlorobenzene	216	6.793	6.786	0.007	97	449185	200.0	158.9	
94 2,4,6-Trichlorophenol	196	6.894	6.888	0.006	95	294706	200.0	162.2	
95 2,3-Dichlorobenzenamine	161	6.889	6.888	0.001	95	521431	200.0	202.0	
96 2,4,5-Trichlorophenol	196	6.932	6.925	0.007	99	379701	200.0	183.9	
100 1,1'-Biphenyl	154	7.081	7.075	0.006	94	1282582	200.0	160.8	
102 2-Chloronaphthalene	162	7.108	7.101	0.007	100	1045612	200.0	165.1	
105 2-Nitroaniline	65	7.194	7.187	0.007	98	371125	200.0	198.9	
111 Dimethyl phthalate	163	7.381	7.369	0.012	99	1234158	200.0	171.2	
112 1,3-Dinitrobenzene	168	7.407	7.395	0.012	89	230704	200.0	208.5	
113 2,6-Dinitrotoluene	165	7.434	7.422	0.012	97	309629	200.0	196.9	
115 Acenaphthylene	152	7.525	7.518	0.007	100	1625800	200.0	166.5	
117 3-Nitroaniline	138	7.616	7.598	0.018	98	390603	200.0	201.7	
119 Acenaphthene	153	7.701	7.694	0.007	99	978114	200.0	158.4	
120 2,4-Dinitrophenol	184	7.717	7.705	0.012	97	370076	400.0	395.3	
121 4-Nitrophenol	109	7.787	7.764	0.023	98	363792	400.0	413.6	
124 2,4-Dinitrotoluene	165	7.851	7.833	0.018	98	422033	200.0	203.8	
125 Dibenzofuran	168	7.877	7.871	0.006	99	1497107	200.0	163.9	
129 2,3,4,6-Tetrachlorophenol	232	8.000	7.988	0.012	71	326230	200.0	189.2	
131 Hexadecane	57	8.102	8.100	0.002	97	742918	200.0	156.7	
132 Diethyl phthalate	149	8.086	8.074	0.012	100	1151881	200.0	162.8	
134 4-Chlorophenyl phenyl ethe	204	8.209	8.202	0.007	99	559777	200.0	162.1	
135 Fluorene	166	8.225	8.218	0.007	99	1154727	200.0	158.4	
138 4-Nitroaniline	138	8.246	8.223	0.023	96	402506	200.0	216.8	
139 4,6-Dinitro-2-methylphenol	198	8.273	8.255	0.018	93	480621	400.0	403.4	
140 Diphenylamine	169	8.326	8.319	0.007	95	931263	171.0	142.3	
141 N-Nitrosodiphenylamine	169	8.326	8.319	0.007	98	931263	200.0	167.0	
142 1,2-Diphenylhydrazine	77	8.374	8.362	0.012	96	1365474	202.2	169.5	
143 Azobenzene	77	8.374	8.362	0.012	96	1365474	200.0	167.6	
145 2,4,6 - Tribromophenol	330	8.465	8.458	0.007	97	185263	200.0	192.1	
152 4-Bromophenyl phenyl ether	248	8.705	8.699	0.006	98	369696	200.0	168.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.796	8.790	0.006	99	365819	200.0	166.3	
155 Atrazine	200	8.860	8.848	0.012	96	357081	200.0	167.5	
156 n-Octadecane	85	9.031	9.030	0.001	97	360814	200.0	161.3	
157 Pentachlorophenol	266	8.983	8.977	0.006	98	457439	400.0	364.4	
163 Phenanthrene	178	9.202	9.190	0.012	100	1782227	200.0	160.8	
164 Anthracene	178	9.250	9.244	0.006	100	1850744	200.0	161.3	
165 Carbazole	167	9.400	9.393	0.007	100	1829605	200.0	164.1	
166 Alachlor	188	9.544	9.537	0.007	94	257580	200.0	172.8	
169 Di-n-butyl phthalate	149	9.758	9.751	0.007	100	2142506	200.0	165.1	
176 Fluoranthene	202	10.607	10.595	0.012	100	2236430	200.0	169.8	
180 Pyrene	202	10.949	10.932	0.017	100	2355089	200.0	183.8	
186 Famphur	218	11.969	11.957	0.012	99	713649	200.0	159.8	
187 Butyl benzyl phthalate	149	12.098	12.086	0.012	93	1122506	200.0	194.7	
190 3,3'-Dichlorobenzidine	252	13.284	13.261	0.023	99	856533	200.0	183.6	
192 Benzo[a]anthracene	228	13.321	13.304	0.017	100	2346397	200.0	186.6	
193 Bis(2-ethylhexyl) phthalat	149	13.508	13.496	0.012	99	1614403	200.0	197.2	
194 Chrysene	228	13.417	13.395	0.023	100	2238497	200.0	185.0	
197 Di-n-octyl phthalate	149	15.351	15.328	0.023	100	2883354	200.0	201.1	
198 Benzo[b]fluoranthene	252	16.249	16.215	0.034	100	2443503	200.0	193.2	
200 Benzo[k]fluoranthene	252	16.334	16.295	0.039	99	2337806	200.0	183.5	
201 Benzo[e]pyrene	252	17.039	17.006	0.033	98	2246220	200.0	187.0	
202 Benzo[a]pyrene	252	17.194	17.155	0.039	100	2355598	200.0	188.3	
208 Indeno[1,2,3-cd]pyrene	276	20.512	20.467	0.045	79	2268435	200.0	198.2	M
209 Dibenz(a,h)anthracene	278	20.613	20.564	0.049	79	2212329	200.0	192.9	
210 Benzo[g,h,i]perylene	276	21.265	21.210	0.055	99	2343856	200.0	192.9	
S 219 Total Cresols	108				0			345.1	
S 220 Methyl Phenols,Total	108				0			345.1	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA200_00028 Amount Added: 200.00 Units: uL

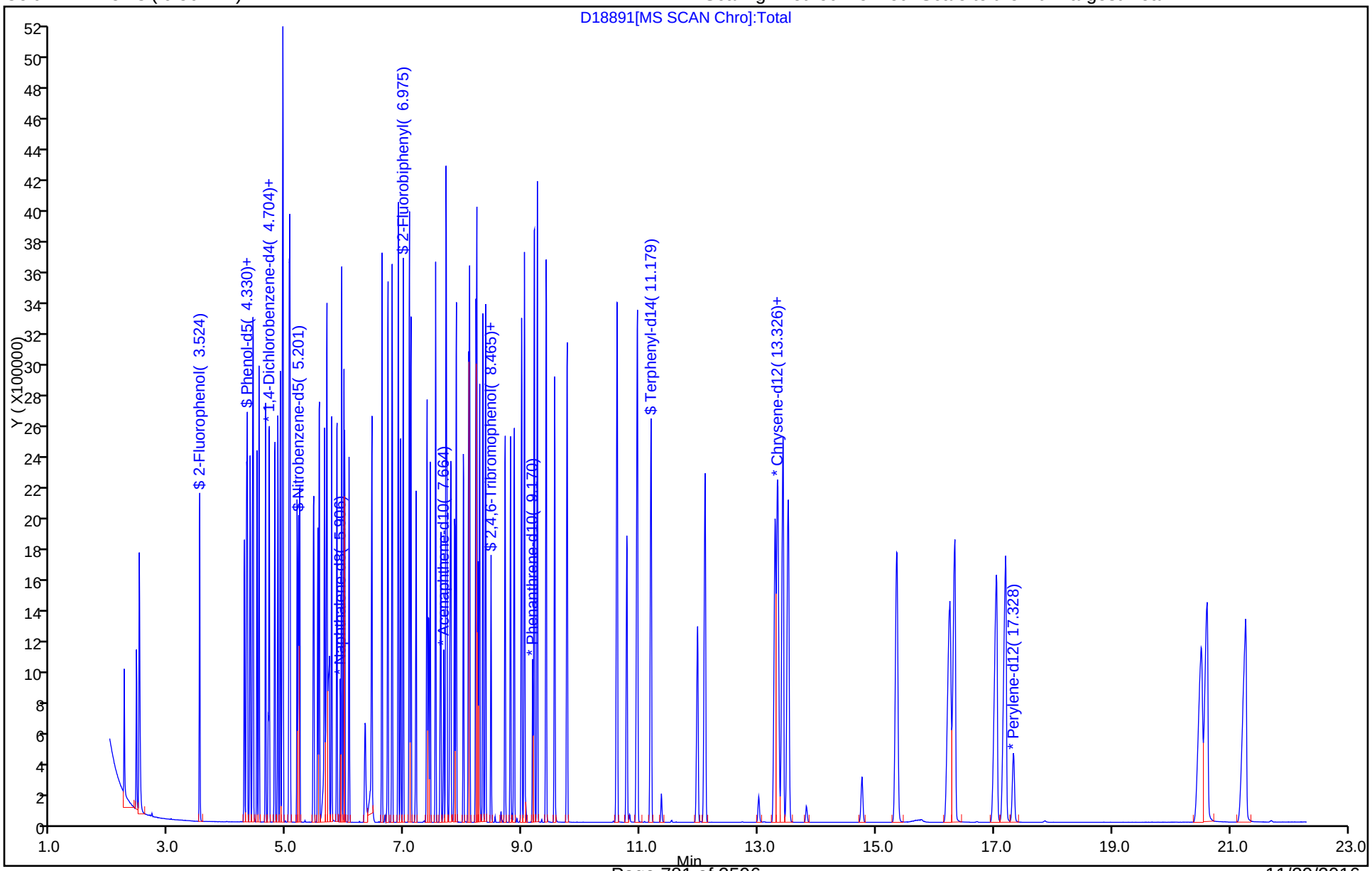
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TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Injection Date:	09-Nov-2016 10:40:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	STD200 HSL			Worklist Smp#:	10
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

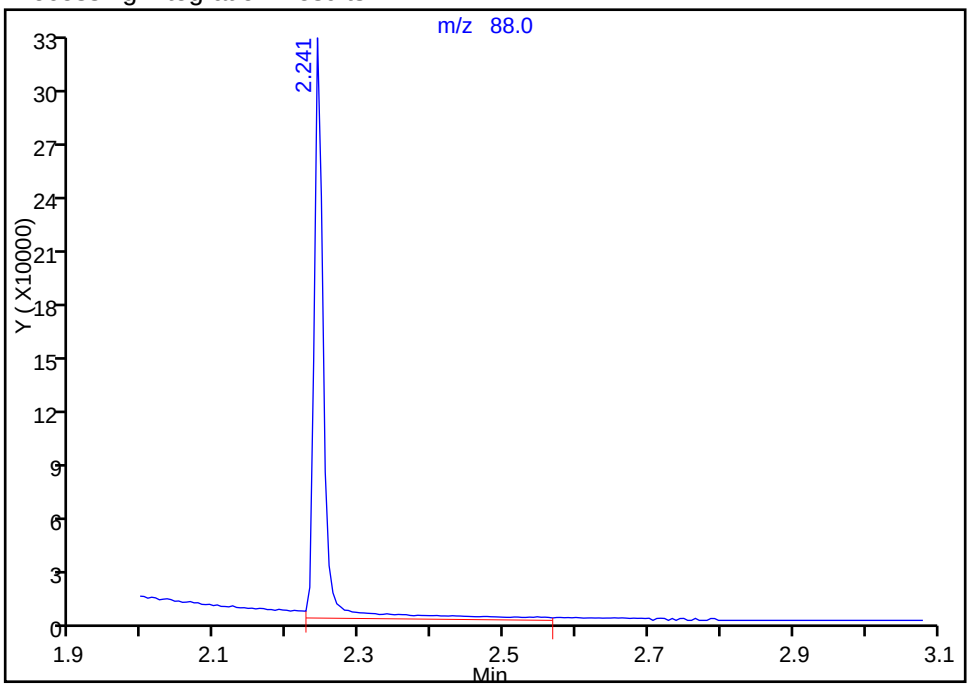
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Injection Date: 09-Nov-2016 10:40:30 Instrument ID: SMS_D
Lims ID: STD200 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

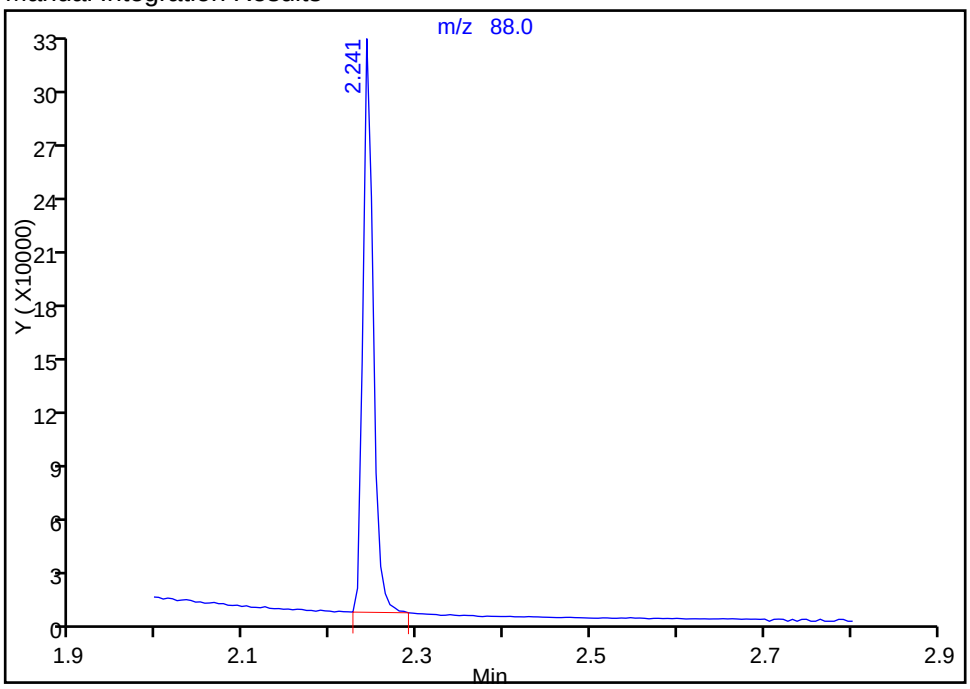
Processing Integration Results

RT: 2.24
Area: 310484
Amount: 210.4057
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 262216
Amount: 181.4045
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 12:09:46
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

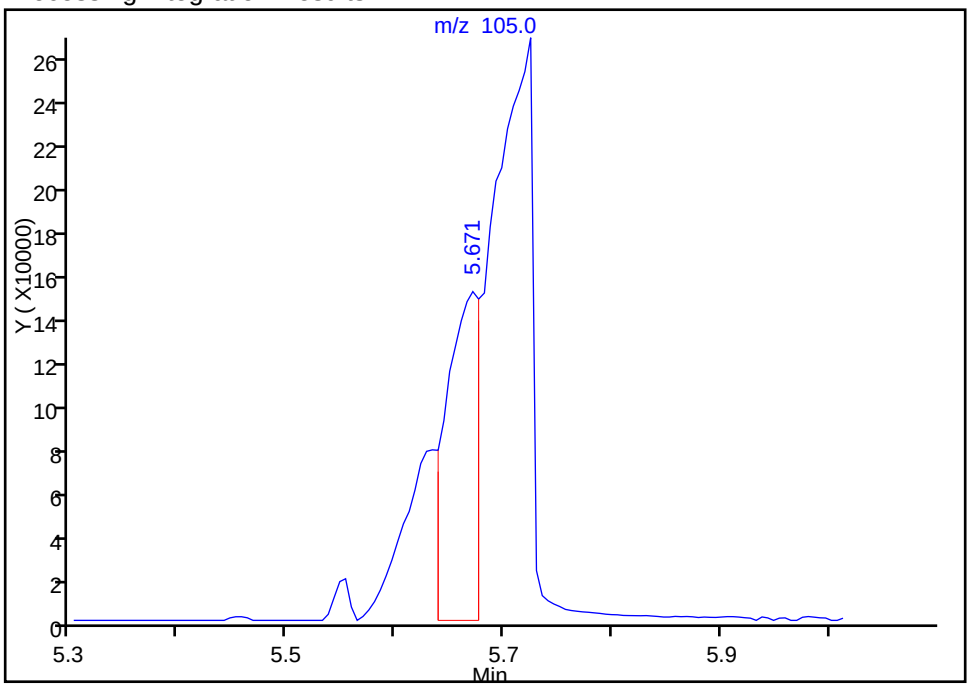
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Injection Date: 09-Nov-2016 10:40:30 Instrument ID: SMS_D
Lims ID: STD200 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

64 Benzoic acid, CAS: 65-85-0

Signal: 1

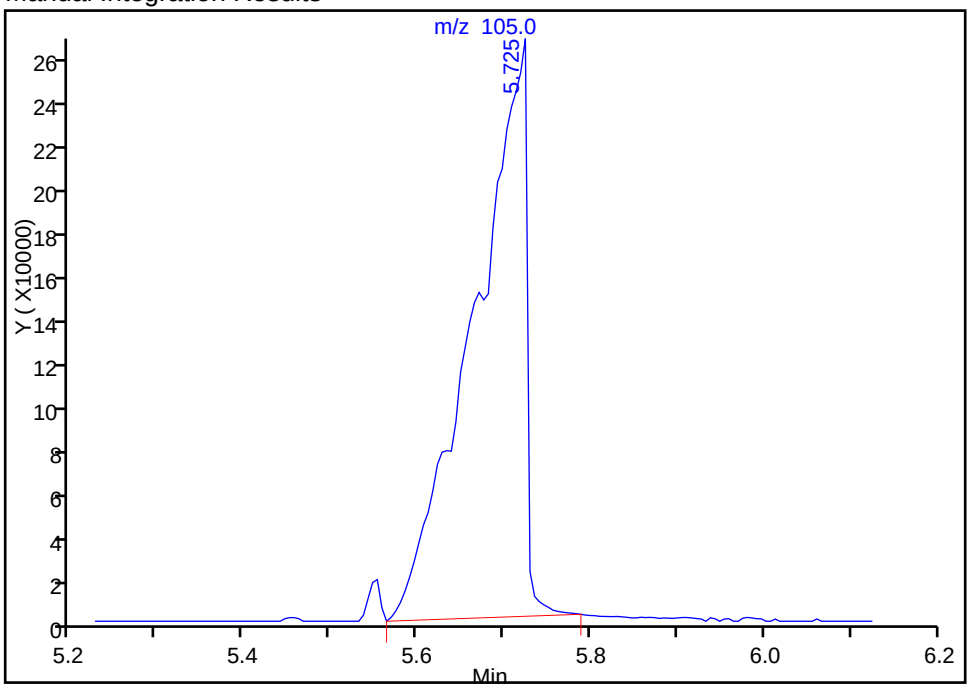
Processing Integration Results

RT: 5.67
Area: 319643
Amount: 155.9889
Amount Units: ug/ml



Manual Integration Results

RT: 5.72
Area: 1117191
Amount: 433.7831
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 12:09:46
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

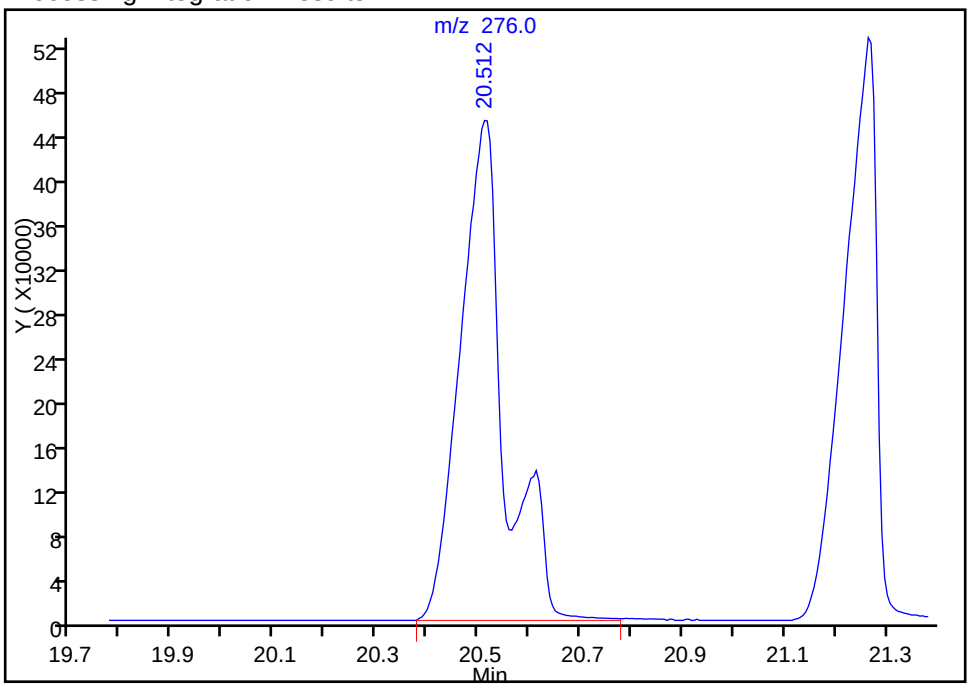
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Injection Date:	09-Nov-2016 10:40:30	Instrument ID:	SMS_D		
Lims ID:	STD200 HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

208 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

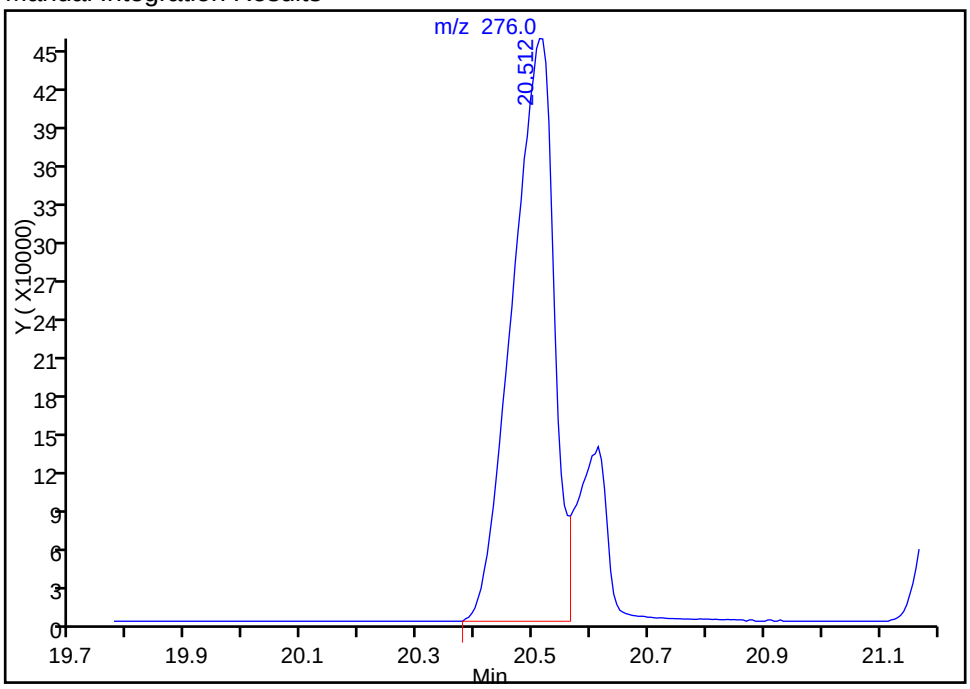
Processing Integration Results

RT: 20.51
Area: 2737397
Amount: 233.1687
Amount Units: ug/ml



Manual Integration Results

RT: 20.51
Area: 2268435
Amount: 198.1705
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 12:09:46

Audit Action: Split an Integrated Peak Audit Reason: Shouldering

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-350537/11 Calibration Date: 11/09/2016 11:09

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18892.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5894	0.5712		96900	100000	-3.1	20.0
N-Nitrosodimethylamine	Ave	0.9473	0.8204		86600	100000	-13.4	20.0
Pyridine	Ave	1.663	1.659		99800	100000	-0.2	20.0
Phenol	Ave	1.746	1.770	0.8000	101000	100000	1.3	20.0
Aniline	Ave	2.228	2.185		98100	100000	-1.9	20.0
Bis(2-chloroethyl)ether	Ave	1.335	1.300	0.7000	97300	100000	-2.7	20.0
2-Chlorophenol	Ave	1.359	1.350	0.8000	99400	100000	-0.6	20.0
1,3-Dichlorobenzene	Ave	1.419	1.392		98100	100000	-1.9	20.0
1,4-Dichlorobenzene	Ave	1.449	1.436		99200	100000	-0.8	20.0
Benzyl alcohol	Ave	0.9791	0.9902		101000	100000	1.1	20.0
1,2-Dichlorobenzene	Ave	1.385	1.362		98300	100000	-1.7	20.0
2-Methylphenol	Ave	1.328	1.356	0.7000	102000	100000	2.1	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.818	1.767	0.0100	97200	100000	-2.8	20.0
3 & 4 Methylphenol	Ave	1.360	1.359		99900	100000	-0.1	20.0
N-Nitrosodi-n-propylamine	Ave	0.9616	0.9348	0.5000	97200	100000	-2.8	20.0
Acetophenone	Ave	1.784	1.714	0.0100	96000	100000	-4.0	20.0
Hexachloroethane	Ave	0.5406	0.5543	0.3000	103000	100000	2.5	20.0
Nitrobenzene	Ave	0.3363	0.3603		107000	100000	7.1	20.0
Isophorone	Ave	0.6929	0.6994	0.4000	101000	100000	0.9	20.0
2-Nitrophenol	Lin2		0.1764	0.1000	114000	100000	13.6	20.0
2,4-Dimethylphenol	Ave	0.3392	0.3300	0.2000	97300	100000	-2.7	20.0
Bis(2-chloroethoxy)methane	Ave	0.4262	0.4165	0.3000	97700	100000	-2.3	20.0
Benzoic acid	Lin2		0.2737		214000	200000	6.8	20.0
2,4-Dichlorophenol	Ave	0.2848	0.2891	0.2000	102000	100000	1.5	20.0
1,2,4-Trichlorobenzene	Ave	0.2985	0.2881		96500	100000	-3.5	20.0
Naphthalene	Ave	0.9855	0.9623	0.7000	97600	100000	-2.4	20.0
4-Chloroaniline	Ave	0.4450	0.4412	0.0100	99100	100000	-0.9	20.0
2,6-Dichlorophenol	Ave	0.2815	0.2855		101000	100000	1.5	20.0
Hexachlorobutadiene	Ave	0.1618	0.1593	0.0100	98500	100000	-1.5	20.0
4-Chloro-3-methylphenol	Ave	0.2959	0.2989	0.2000	101000	100000	1.0	20.0
2-Methylnaphthalene	Ave	0.6673	0.6501	0.4000	97400	100000	-2.6	20.0
1-Methylnaphthalene	Ave	0.6344	0.6176		97400	100000	-2.6	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2902	0.2758	0.0100	95000	100000	-5.0	20.0
Hexachlorocyclopentadiene	Ave	0.2622	0.2992	0.0500	114000	100000	14.1	20.0
2,4,6-Trichlorophenol	Ave	0.2983	0.3054	0.2000	102000	100000	2.4	20.0
2,4,5-Trichlorophenol	Ave	0.3391	0.3735	0.2000	110000	100000	10.2	20.0
2-Chloronaphthalene	Ave	1.040	1.026	0.8000	98700	100000	-1.3	20.0
2-Nitroaniline	Lin2		0.3389	0.0100	111000	100000	11.4	20.0
Dimethyl phthalate	Ave	1.183	1.175	0.0100	99300	100000	-0.7	20.0
1,3-Dinitrobenzene	Lin1		0.1991		113000	100000	13.3	20.0
2,6-Dinitrotoluene	Lin2		0.2889	0.2000	113000	100000	12.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-350537/11 Calibration Date: 11/09/2016 11:09

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18892.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acenaphthylene	Ave	1.603	1.748	0.9000	109000	100000	9.0	20.0
3-Nitroaniline	Lin2		0.3454	0.0100	109000	100000	9.4	20.0
Acenaphthene	Ave	1.014	0.9834	0.9000	97000	100000	-3.0	20.0
2,4-Dinitrophenol	Qua		0.1568	0.0100	234000	200000	17.0	20.0
4-Nitrophenol	Ave	0.1444	0.1614	0.0100	223000	200000	11.7	20.0
2,4-Dinitrotoluene	Lin2		0.3808	0.2000	113000	100000	13.0	20.0
Dibenzofuran	Ave	1.499	1.475	0.8000	98300	100000	-1.7	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2831	0.3190	0.0100	113000	100000	12.7	20.0
Diethyl phthalate	Ave	1.162	1.169	0.0100	101000	100000	0.6	20.0
4-Chlorophenyl phenyl ether	Ave	0.5671	0.5524	0.4000	97400	100000	-2.6	20.0
Fluorene	Ave	1.197	1.139	0.9000	95100	100000	-4.9	20.0
4-Nitroaniline	Ave	0.3049	0.3202	0.0100	105000	100000	5.0	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1156	0.0100	216000	200000	8.2	20.0
Diphenylamine	Ave	1.075	1.071		84700	85000	-0.3	20.0
N-Nitrosodiphenylamine	Ave	0.5134	0.5023	0.0100	97800	100000	-2.2	20.0
1,2-Diphenylhydrazine	Ave	1.323	1.317		101000	101000	-0.5	20.0
Azobenzene	Ave	1.338	1.331		99500	100000	-0.5	20.0
4-Bromophenyl phenyl ether	Ave	0.2020	0.1977	0.1000	97900	100000	-2.1	20.0
Hexachlorobenzene	Ave	0.2026	0.2000	0.1000	98700	100000	-1.3	20.0
Pentachlorophenol	Ave	0.1156	0.1291	0.0500	223000	200000	11.6	20.0
Phenanthrene	Ave	1.021	0.9770	0.7000	95700	100000	-4.3	20.0
Anthracene	Ave	1.057	1.020	0.7000	96500	100000	-3.5	20.0
Carbazole	Ave	1.027	0.9824	0.0100	95700	100000	-4.3	20.0
Alachlor	Ave	0.1373	0.1356		98800	100000	-1.2	20.0
Di-n-butyl phthalate	Ave	1.195	1.187	0.0100	99300	100000	-0.7	20.0
Fluoranthene	Ave	1.213	1.176	0.6000	96900	100000	-3.1	20.0
Pyrene	Ave	1.162	1.175	0.6000	101000	100000	1.1	20.0
Butyl benzyl phthalate	Ave	0.5229	0.5536	0.0100	106000	100000	5.9	20.0
Benzo[a]anthracene	Ave	1.140	1.180	0.8000	103000	100000	3.5	20.0
Chrysene	Ave	1.097	1.131	0.7000	103000	100000	3.1	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7426	0.7963	0.0100	107000	100000	7.2	20.0
Di-n-octyl phthalate	Ave	1.300	1.456	0.0100	112000	100000	12.0	20.0
Benzo[b]fluoranthene	Ave	1.112	1.124	0.7000	101000	100000	1.1	20.0
Benzo[k]fluoranthene	Ave	1.120	1.149	0.7000	103000	100000	2.6	20.0
Benzo[a]pyrene	Ave	1.099	1.096	0.7000	99700	100000	-0.3	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.006	0.995	0.5000	98900	100000	-1.1	20.0
Dibenz(a,h)anthracene	Ave	1.008	1.052	0.4000	104000	100000	4.3	20.0
Benzo[g,h,i]perylene	Ave	1.068	1.128	0.5000	106000	100000	5.6	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18892.D
Lims ID: ICV HSL 1
Client ID:
Sample Type: ICV
Inject. Date: 09-Nov-2016 11:09:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV HSL 1
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:55 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 12:14:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.686	4.681	0.005	97	95764	40.0	40.0	
* 2 Naphthalene-d8	136	5.904	5.905	-0.001	100	375930	40.0	40.0	
* 3 Acenaphthene-d10	164	7.661	7.662	-0.001	99	230589	40.0	40.0	
* 4 Phenanthrene-d10	188	9.168	9.164	0.004	99	418100	40.0	40.0	
* 5 Chrysene-d12	240	13.335	13.330	0.005	86	441966	40.0	40.0	
* 6 Perylene-d12	264	17.320	17.310	0.010	99	458799	40.0	40.0	
16 1,4-Dioxane	88	2.239	2.240	-0.001	98	136749	100.0	96.9	M
17 N-Nitrosodimethylamine	74	2.448	2.443	0.005	91	196415	100.0	86.6	
18 Pyridine	79	2.496	2.491	0.005	95	397291	100.0	99.8	
28 Phenol	94	4.323	4.318	0.005	89	423661	100.0	101.3	
30 Aniline	93	4.371	4.372	-0.001	99	523055	100.0	98.1	
31 Alpha Methyl Styrene	118	4.424	4.425	-0.001	70	329763	100.0	97.4	
32 Bis(2-chloroethyl)ether	93	4.413	4.409	0.004	94	311117	100.0	97.3	
35 n-Decane	43	4.526	4.527	-0.001	97	317673	100.0	97.0	
36 2-Chlorophenol	128	4.488	4.489	-0.001	99	323264	100.0	99.4	
37 1,3-Dichlorobenzene	146	4.638	4.633	0.005	100	333336	100.0	98.1	
38 1,4-Dichlorobenzene	146	4.702	4.698	0.004	98	343909	100.0	99.2	
39 Benzyl alcohol	108	4.793	4.788	0.005	98	237070	100.0	101.1	
40 1,2-Dichlorobenzene	146	4.846	4.847	-0.001	99	326068	100.0	98.3	
41 2-Methylphenol	108	4.884	4.884	0.000	74	324646	100.0	102.1	
43 2,2'-oxybis[1-chloropropan	45	4.921	4.917	0.004	95	422940	100.0	97.2	
44 Indene	116	4.932	4.927	0.005	99	887990	200.0	185.8	
45 3-Methylphenol	108	5.028	5.029	-0.001	91	325304	100.0	99.9	
46 3 & 4 Methylphenol	108	5.028	5.029	-0.001	91	325304	100.0	99.9	
47 4-Methylphenol	108	5.028	5.029	-0.001	91	325304	100.0	99.9	
48 N-Nitrosodi-n-propylamine	70	5.044	5.039	0.005	96	223789	100.0	97.2	
50 Acetophenone	105	5.049	5.045	0.004	74	410309	100.0	96.0	
53 Hexachloroethane	117	5.172	5.173	-0.001	96	132702	100.0	102.5	
54 Nitrobenzene	77	5.215	5.210	0.005	96	338586	100.0	107.1	
57 Isophorone	82	5.444	5.440	0.004	98	657312	100.0	100.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
59 2-Nitrophenol	139	5.525	5.520	0.005	98	165781	100.0	113.6	
60 2,4-Dimethylphenol	107	5.546	5.542	0.004	99	310132	100.0	97.3	
63 Bis(2-chloroethoxy)methane	93	5.637	5.632	0.005	95	391388	100.0	97.7	
64 Benzoic acid	105	5.674	5.664	0.010	65	514525	200.0	213.6	
65 3,5-Dimethylphenol	107	5.674	5.670	0.004	93	309275	100.0	95.0	
68 2,4-Dichlorophenol	162	5.754	5.755	-0.001	99	271690	100.0	101.5	
70 1,2,4-Trichlorobenzene	180	5.850	5.846	0.004	99	270725	100.0	96.5	
72 Naphthalene	128	5.931	5.926	0.005	100	904425	100.0	97.6	
73 4-Chloroaniline	127	5.963	5.958	0.005	99	414631	100.0	99.1	
74 2,6-Dichlorophenol	162	5.979	5.974	0.005	98	268355	100.0	101.5	
76 Hexachlorobutadiene	225	6.053	6.054	-0.001	99	149752	100.0	98.5	
83 4-Chloro-3-methylphenol	107	6.433	6.434	-0.001	99	280955	100.0	101.0	
87 2-Methylnaphthalene	142	6.614	6.610	0.004	99	610973	100.0	97.4	
89 1-Methylnaphthalene	142	6.716	6.711	0.005	99	580452	100.0	97.4	
90 Hexachlorocyclopentadiene	237	6.785	6.781	0.004	99	172483	100.0	114.1	
91 1,2,4,5-Tetrachlorobenzene	216	6.785	6.786	-0.001	96	259241	100.0	95.0	
94 2,4,6-Trichlorophenol	196	6.887	6.888	-0.001	84	176040	100.0	102.4	
95 2,3-Dichlorobenzenamine	161	6.887	6.888	-0.001	92	306226	100.0	101.7	
96 2,4,5-Trichlorophenol	196	6.924	6.925	-0.001	98	215319	100.0	110.2	
100 1,1'-Biphenyl	154	7.074	7.075	-0.001	94	745379	100.0	98.7	
102 2-Chloronaphthalene	162	7.101	7.101	-0.001	100	591437	100.0	98.7	
105 2-Nitroaniline	65	7.191	7.187	0.004	98	195358	100.0	111.4	
111 Dimethyl phthalate	163	7.373	7.369	0.004	100	677473	100.0	99.3	
112 1,3-Dinitrobenzene	168	7.394	7.395	-0.001	87	114794	100.0	113.3	
113 2,6-Dinitrotoluene	165	7.426	7.422	0.004	98	166528	100.0	112.7	
115 Acenaphthylene	152	7.523	7.518	0.005	100	1007577	100.0	109.0	
117 3-Nitroaniline	138	7.603	7.598	0.005	98	199122	100.0	109.4	
119 Acenaphthene	153	7.699	7.694	0.005	98	566885	100.0	97.0	
120 2,4-Dinitrophenol	184	7.710	7.705	0.005	96	180737	200.0	234.1	
121 4-Nitrophenol	109	7.763	7.764	-0.001	97	186070	200.0	223.5	
124 2,4-Dinitrotoluene	165	7.838	7.833	0.005	98	219495	100.0	113.0	
125 Dibenzofuran	168	7.870	7.871	-0.001	99	850127	100.0	98.3	
129 2,3,4,6-Tetrachlorophenol	232	7.993	7.988	0.005	71	183884	100.0	112.7	
131 Hexadecane	57	8.099	8.100	-0.001	97	447351	100.0	99.7	
132 Diethyl phthalate	149	8.078	8.074	0.004	100	673906	100.0	100.6	
134 4-Chlorophenyl phenyl ethe	204	8.206	8.202	0.004	98	318457	100.0	97.4	
135 Fluorene	166	8.217	8.218	-0.001	99	656332	100.0	95.1	
138 4-Nitroaniline	138	8.228	8.223	0.005	97	184588	100.0	105.0	
139 4,6-Dinitro-2-methylphenol	198	8.260	8.255	0.005	94	241683	200.0	216.4	
140 Diphenylamine	169	8.319	8.319	-0.001	96	524989	85.0	84.7	
141 N-Nitrosodiphenylamine	169	8.319	8.319	-0.001	99	524989	100.0	97.8	
142 1,2-Diphenylhydrazine	77	8.367	8.362	0.005	96	767266	101.1	100.6	
143 Azobenzene	77	8.367	8.362	0.005	96	767266	100.0	99.5	
152 4-Bromophenyl phenyl ether	248	8.703	8.699	0.004	98	206605	100.0	97.9	
153 Hexachlorobenzene	284	8.794	8.790	0.004	98	209032	100.0	98.7	
156 n-Octadecane	85	9.029	9.030	-0.001	97	212784	100.0	98.8	
157 Pentachlorophenol	266	8.976	8.977	-0.001	97	269834	200.0	223.3	
163 Phenanthrene	178	9.195	9.190	0.005	100	1021226	100.0	95.7	
164 Anthracene	178	9.243	9.244	-0.001	100	1066090	100.0	96.5	
165 Carbazole	167	9.398	9.393	0.005	100	1026872	100.0	95.7	
166 Alachlor	188	9.542	9.537	0.005	94	141773	100.0	98.8	
169 Di-n-butyl phthalate	149	9.750	9.751	-0.001	100	1241071	100.0	99.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
176 Fluoranthene	202	10.594	10.595	-0.001	100	1229283	100.0	96.9	
180 Pyrene	202	10.936	10.932	0.004	99	1297952	100.0	101.1	
187 Butyl benzyl phthalate	149	12.090	12.086	0.004	93	611685	100.0	105.9	
192 Benzo[a]anthracene	228	13.308	13.304	0.004	100	1303532	100.0	103.5	
193 Bis(2-ethylhexyl) phthalat	149	13.500	13.496	0.004	98	879789	100.0	107.2	
194 Chrysene	228	13.399	13.395	0.005	99	1249204	100.0	103.0	
197 Di-n-octyl phthalate	149	15.338	15.328	0.010	100	1609234	100.0	112.0	
198 Benzo[b]fluoranthene	252	16.220	16.215	0.005	99	1289679	100.0	101.1	
200 Benzo[k]fluoranthene	252	16.305	16.295	0.010	99	1318402	100.0	102.6	
201 Benzo[e]pyrene	252	17.010	17.006	0.004	98	1222630	100.0	100.9	
202 Benzo[a]pyrene	252	17.165	17.155	0.010	100	1256838	100.0	99.7	
208 Indeno[1,2,3-cd]pyrene	276	20.483	20.467	0.016	74	1141540	100.0	98.9	
209 Dibenz(a,h)anthracene	278	20.579	20.564	0.015	74	1206277	100.0	104.3	
210 Benzo[g,h,i]perylene	276	21.230	21.210	0.020	99	1294021	100.0	105.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLB1B3SSV_00037 Amount Added: 200.00 Units: uL

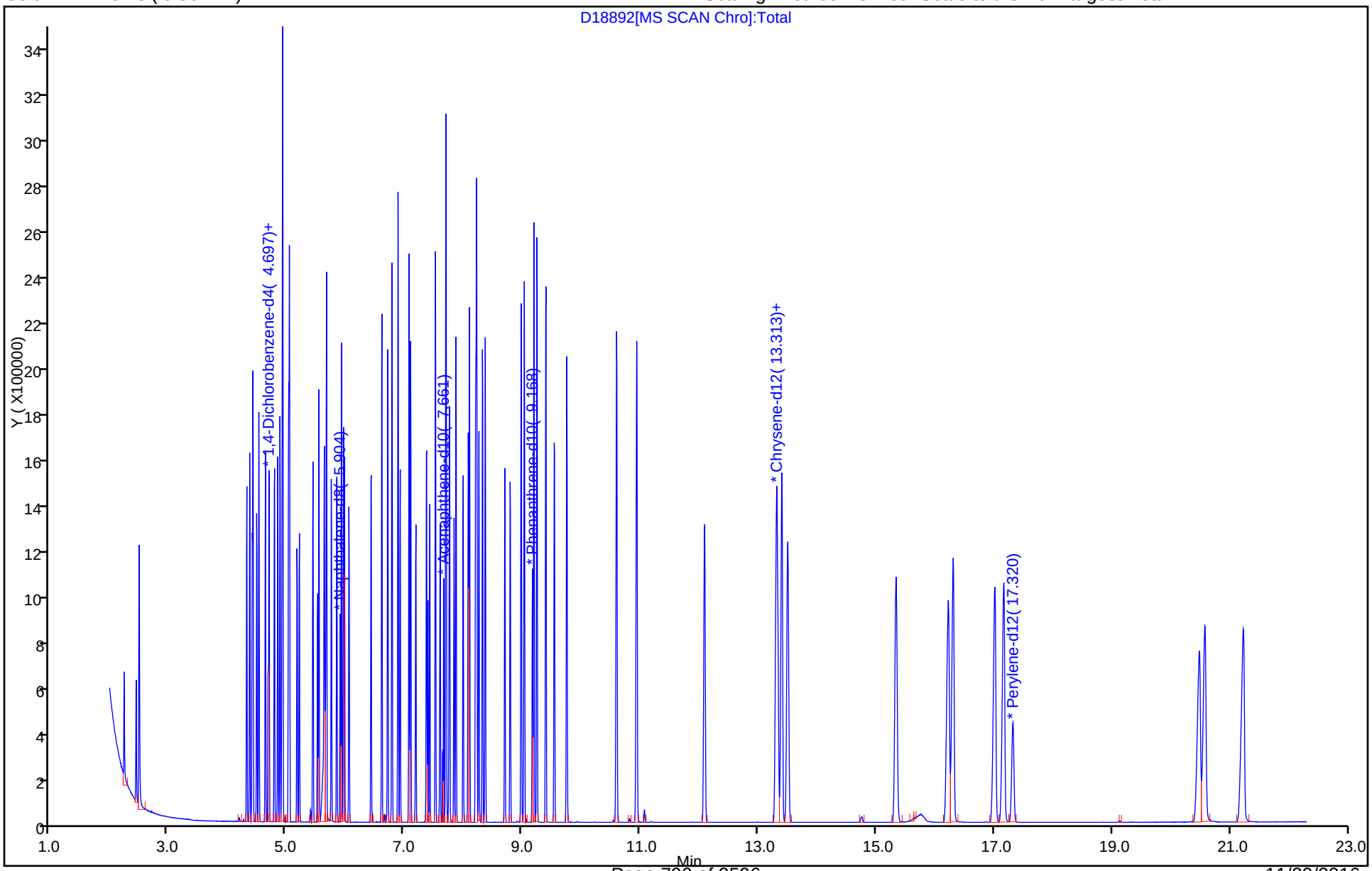
Report Date: 10-Nov-2016 11:40:57 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18892.D

Injection Date:	09-Nov-2016 11:09:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	ICV HSL 1			Worklist Smp#:	11
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

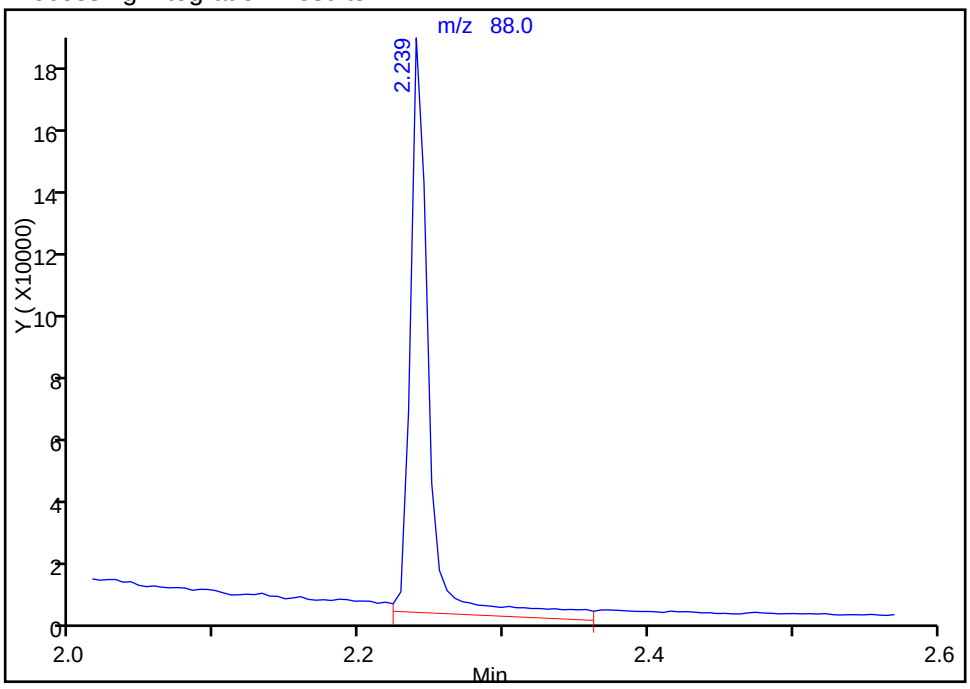
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18892.D
Injection Date: 09-Nov-2016 11:09:30 Instrument ID: SMS_D
Lims ID: ICV HSL 1
Client ID:
Operator ID: KIEKELD ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

16 1,4-Dioxane, CAS: 123-91-1

Signal: 1

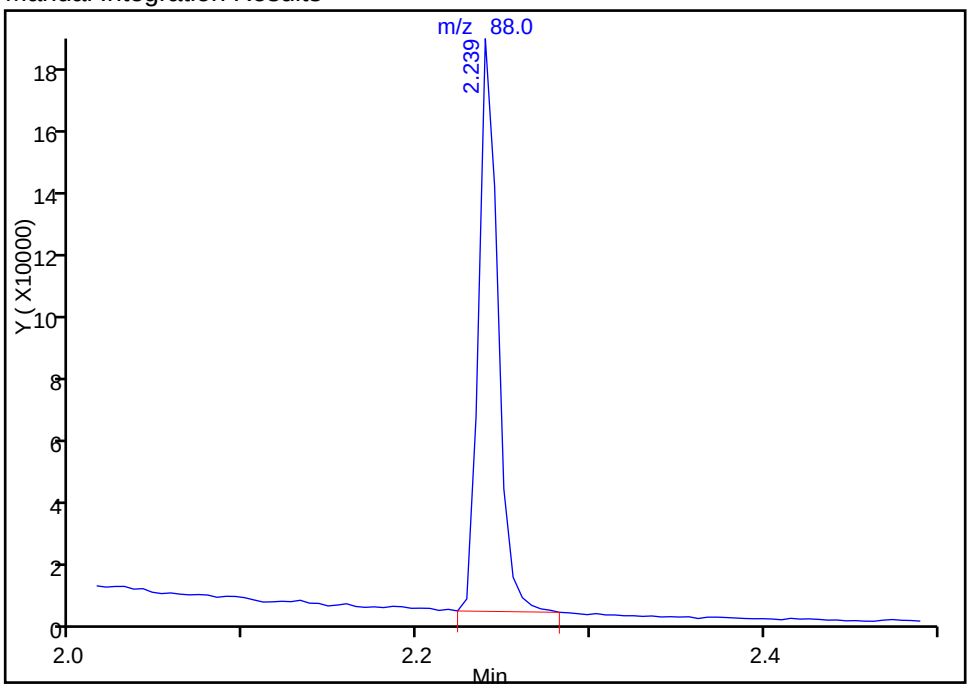
Processing Integration Results

RT: 2.24
Area: 161373
Amount: 114.3597
Amount Units: ug/ml



Manual Integration Results

RT: 2.24
Area: 136749
Amount: 96.909502
Amount Units: ug/ml



Reviewer: kiekeld, 09-Nov-2016 12:14:07
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-350537/12 Calibration Date: 11/09/2016 11:37

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18893.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Atrazine	Ave	0.1963	0.2023		103000	100000	3.0	20.0
3,3'-Dichlorobenzidine	Ave	0.4230	0.4474	0.0100	106000	100000	5.8	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18893.D
Lims ID: ICV HSL 2
Client ID:
Sample Type: ICV
Inject. Date: 09-Nov-2016 11:37:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV HSL 2
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:55 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 12:14:20

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.680	4.681	-0.001	98	92529	40.0	40.0	
* 2 Naphthalene-d8	136	5.903	5.905	-0.002	100	354490	40.0	40.0	
* 3 Acenaphthene-d10	164	7.661	7.662	-0.001	99	220845	40.0	40.0	
* 4 Phenanthrene-d10	188	9.167	9.164	0.003	99	404408	40.0	40.0	
* 5 Chrysene-d12	240	13.324	13.330	-0.006	82	473339	40.0	40.0	
* 6 Perylene-d12	264	17.309	17.310	-0.001	99	479549	40.0	40.0	
80 Caprolactam	55	6.277	6.289	-0.012	97	160792	100.0	97.5	
155 Atrazine	200	8.847	8.848	-0.001	97	204505	100.0	103.0	
190 3,3'-Dichlorobenzidine	252	13.259	13.261	-0.002	99	529453	100.0	105.8	

Reagents:

MS-HSLB2SSV_00035 Amount Added: 200.00 Units: uL

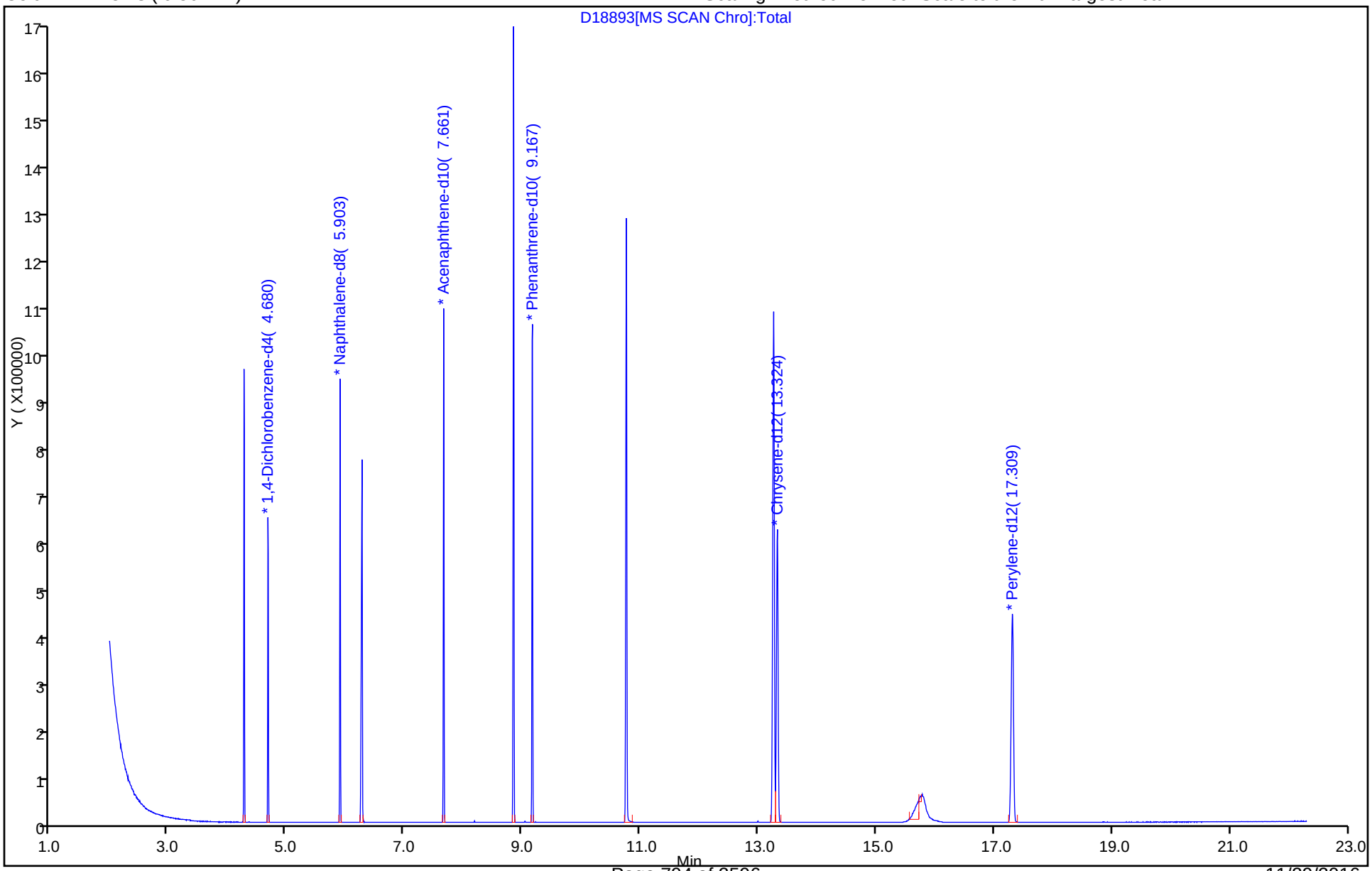
Report Date: 10-Nov-2016 11:41:00 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18893.D

Injection Date:	09-Nov-2016 11:37:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	ICV HSL 2			Worklist Smp#:	12
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-350537/13 Calibration Date: 11/09/2016 12:05

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18894.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Famphur	Ave	0.4051	0.4601		114000	100000	13.6	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18894.D
Lims ID: ICV FAM
Client ID:
Sample Type: ICV
Inject. Date: 09-Nov-2016 12:05:30 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV FAM
Operator ID: KIEKELD Instrument ID: SMS_D
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:55 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: hoeflera Date: 09-Nov-2016 16:36:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.681	4.681	0.000	98	96204	40.0	40.0	
* 2 Naphthalene-d8	136	5.904	5.905	-0.001	100	363037	40.0	40.0	
* 3 Acenaphthene-d10	164	7.662	7.662	0.000	99	220425	40.0	40.0	
* 4 Phenanthrene-d10	188	9.163	9.164	-0.001	99	399486	40.0	40.0	
* 5 Chrysene-d12	240	13.319	13.330	-0.011	82	471884	40.0	40.0	
* 6 Perylene-d12	264	17.310	17.310	0.000	99	485376	40.0	40.0	
186 Famphur	218	11.962	11.957	0.005	99	542723	100.0	113.6	

Reagents:

MS-FAMSSV_100_00016 Amount Added: 200.00 Units: uL

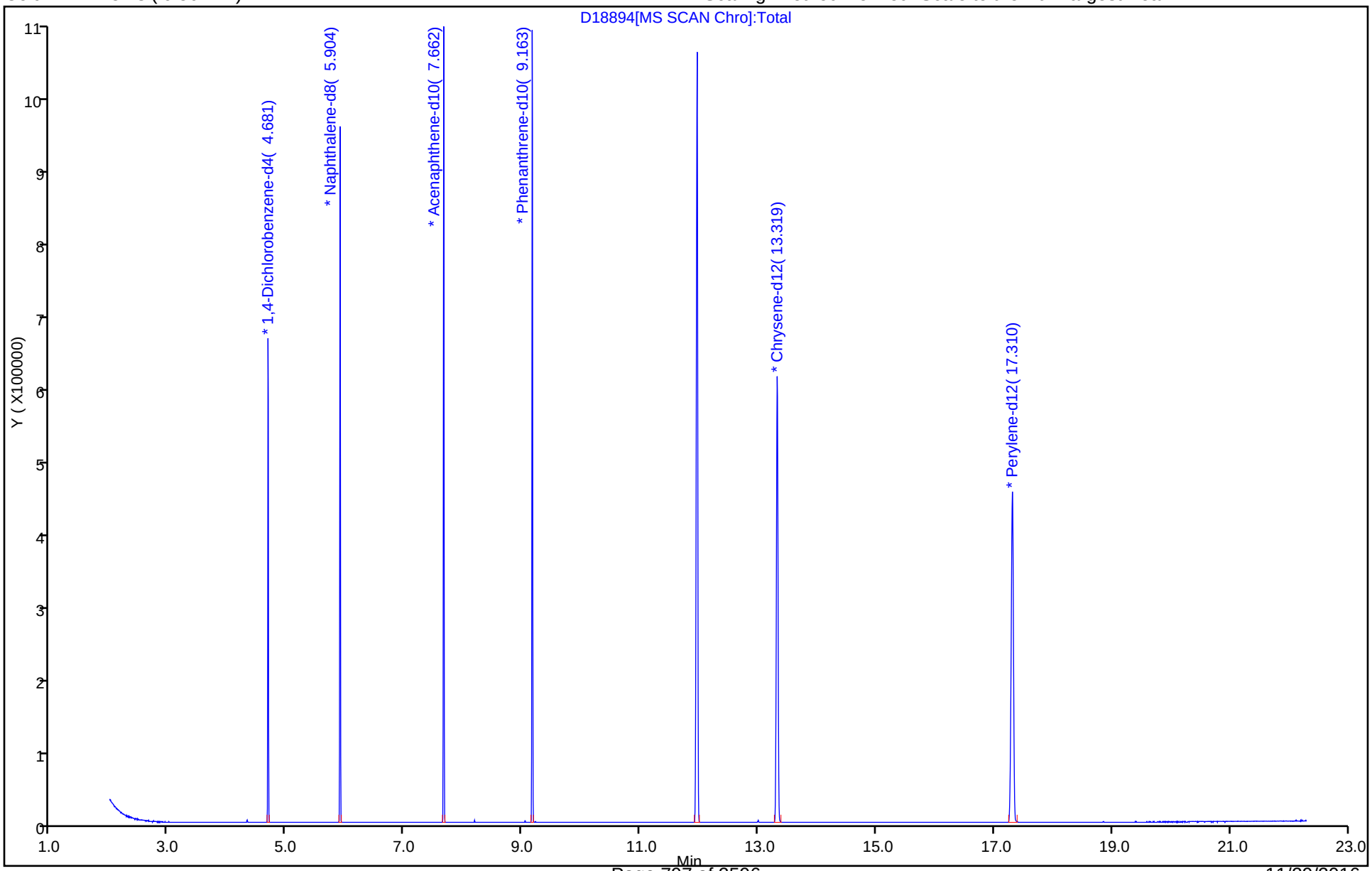
Report Date: 10-Nov-2016 11:41:01 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18894.D

Injection Date:	09-Nov-2016 12:05:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	ICV FAM			Worklist Smp#:	13
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351071/3 Calibration Date: 11/11/2016 20:45

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18958.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5894	0.5860		79500	80000	-0.6	20.0
N-Nitrosodimethylamine	Ave	0.9473	0.9470		80000	80000	-0.0	20.0
Pyridine	Ave	1.663	1.673		80500	80000	0.6	20.0
Phenol	Ave	1.746	1.770	0.8000	81100	80000	1.3	20.0
Aniline	Ave	2.228	2.259		81100	80000	1.4	20.0
Bis(2-chloroethyl)ether	Ave	1.335	1.357	0.7000	81300	80000	1.7	20.0
2-Chlorophenol	Ave	1.359	1.391	0.8000	81900	80000	2.4	20.0
1,3-Dichlorobenzene	Ave	1.419	1.451		81800	80000	2.2	20.0
1,4-Dichlorobenzene	Ave	1.449	1.463		80800	80000	1.0	20.0
Benzyl alcohol	Ave	0.9791	1.002		81900	80000	2.3	20.0
1,2-Dichlorobenzene	Ave	1.385	1.431		82700	80000	3.4	20.0
2-Methylphenol	Ave	1.328	1.369	0.7000	82400	80000	3.0	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.818	1.746	0.0100	76800	80000	-3.9	20.0
3 & 4 Methylphenol	Ave	1.360	1.410		82900	80000	3.6	20.0
N-Nitrosodi-n-propylamine	Ave	0.9616	0.9537	0.5000	79300	80000	-0.8	20.0
Acetophenone	Ave	1.784	1.829	0.0100	82000	80000	2.5	20.0
Hexachloroethane	Ave	0.5406	0.5517	0.3000	81600	80000	2.0	20.0
Nitrobenzene	Ave	0.3363	0.3513		83600	80000	4.5	20.0
Isophorone	Ave	0.6929	0.6787	0.4000	78400	80000	-2.1	20.0
2-Nitrophenol	Lin2		0.1611	0.1000	83500	80000	4.3	20.0
2,4-Dimethylphenol	Ave	0.3392	0.3388	0.2000	79900	80000	-0.1	20.0
Bis(2-chloroethoxy)methane	Ave	0.4262	0.4205	0.3000	78900	80000	-1.3	20.0
Benzoic acid	Lin2		0.2656		169000	160000	5.4	20.0
2,4-Dichlorophenol	Ave	0.2848	0.2967	0.2000	83300	80000	4.2	20.0
1,2,4-Trichlorobenzene	Ave	0.2985	0.2991		80100	80000	0.2	20.0
Naphthalene	Ave	0.9855	0.9908	0.7000	80400	80000	0.5	20.0
4-Chloroaniline	Ave	0.4450	0.4555	0.0100	81900	80000	2.4	20.0
2,6-Dichlorophenol	Ave	0.2815	0.2933		83400	80000	4.2	20.0
Hexachlorobutadiene	Ave	0.1618	0.1625	0.0100	80300	80000	0.4	20.0
4-Chloro-3-methylphenol	Ave	0.2959	0.3058	0.2000	82700	80000	3.3	20.0
2-Methylnaphthalene	Ave	0.6673	0.6759	0.4000	81000	80000	1.3	20.0
1-Methylnaphthalene	Ave	0.6344	0.6474		81600	80000	2.0	20.0
Hexachlorocyclopentadiene	Ave	0.2622	0.2595	0.0500	79200	80000	-1.0	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2902	0.2890	0.0100	79700	80000	-0.4	20.0
2,4,6-Trichlorophenol	Ave	0.2983	0.3189	0.2000	85500	80000	6.9	20.0
2,4,5-Trichlorophenol	Ave	0.3391	0.3721	0.2000	87800	80000	9.7	20.0
2-Chloronaphthalene	Ave	1.040	1.070	0.8000	82300	80000	2.9	20.0
2-Nitroaniline	Lin2		0.3207	0.0100	84800	80000	6.0	20.0
Dimethyl phthalate	Ave	1.183	1.211	0.0100	81800	80000	2.3	20.0
1,3-Dinitrobenzene	Lin1		0.1806		84300	80000	5.3	20.0
2,6-Dinitrotoluene	Lin2		0.2743	0.2000	86000	80000	7.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351071/3 | Calibration Date: 11/11/2016 20:45

Instrument ID: SMS_D | Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/09/2016 10:40

Lab File ID: D18958.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acenaphthylene	Ave	1.603	1.664	0.9000	83100	80000	3.8	20.0
3-Nitroaniline	Lin2		0.3407	0.0100	86600	80000	8.3	20.0
Acenaphthene	Ave	1.014	1.023	0.9000	80700	80000	0.9	20.0
2,4-Dinitrophenol	Qua		0.1185	0.0100	155000	160000	-2.9	20.0
4-Nitrophenol	Ave	0.1444	0.1622	0.0100	180000	160000	12.3	20.0
2,4-Dinitrotoluene	Lin2		0.3564	0.2000	85200	80000	6.5	20.0
Dibenzofuran	Ave	1.499	1.535	0.8000	81900	80000	2.4	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2831	0.3150	0.0100	89000	80000	11.3	20.0
Diethyl phthalate	Ave	1.162	1.194	0.0100	82200	80000	2.8	20.0
4-Chlorophenyl phenyl ether	Ave	0.5671	0.5684	0.4000	80200	80000	0.2	20.0
Fluorene	Ave	1.197	1.191	0.9000	79600	80000	-0.5	20.0
4-Nitroaniline	Ave	0.3049	0.3311	0.0100	86900	80000	8.6	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1016	0.0100	156000	160000	-2.8	20.0
Diphenylamine	Ave	1.075	1.091		69400	68400	1.5	20.0
N-Nitrosodiphenylamine	Ave	0.5134	0.5186	0.0100	80800	80000	1.0	20.0
1,2-Diphenylhydrazine	Ave	1.323	1.327		81100	80900	0.3	20.0
Azobenzene	Ave	1.338	1.342		80300	80000	0.3	20.0
4-Bromophenyl phenyl ether	Ave	0.2020	0.2036	0.1000	80600	80000	0.8	20.0
Hexachlorobenzene	Ave	0.2026	0.2064	0.1000	81500	80000	1.9	20.0
Atrazine	Ave	0.1963	0.1984		80900	80000	1.1	20.0
Pentachlorophenol	Ave	0.1156	0.1289	0.0500	178000	160000	11.4	20.0
Phenanthrene	Ave	1.021	1.013	0.7000	79400	80000	-0.7	20.0
Anthracene	Ave	1.057	1.059	0.7000	80100	80000	0.2	20.0
Carbazole	Ave	1.027	1.030	0.0100	80300	80000	0.3	20.0
Alachlor	Ave	0.1373	0.1389		81000	80000	1.2	20.0
Di-n-butyl phthalate	Ave	1.195	1.193	0.0100	79900	80000	-0.2	20.0
Fluoranthene	Ave	1.213	1.211	0.6000	79900	80000	-0.2	20.0
Pyrene	Ave	1.162	1.175	0.6000	80900	80000	1.1	20.0
Famphur	Ave	0.4051	0.4074		80500	80000	0.6	20.0
Butyl benzyl phthalate	Ave	0.5229	0.5303	0.0100	81100	80000	1.4	20.0
3,3'-Dichlorobenzidine	Ave	0.4230	0.4280	0.0100	80900	80000	1.2	20.0
Benzo[a]anthracene	Ave	1.140	1.162	0.8000	81500	80000	1.9	20.0
Chrysene	Ave	1.097	1.125	0.7000	82100	80000	2.6	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7426	0.7445	0.0100	80200	80000	0.3	20.0
Di-n-octyl phthalate	Ave	1.300	1.294	0.0100	79600	80000	-0.5	20.0
Benzo[b]fluoranthene	Ave	1.112	1.152	0.7000	82900	80000	3.6	20.0
Benzo[k]fluoranthene	Ave	1.120	1.175	0.7000	83900	80000	4.9	20.0
Benzo[a]pyrene	Ave	1.099	1.160	0.7000	84400	80000	5.5	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.006	1.027	0.5000	81700	80000	2.1	20.0
Dibenz(a,h)anthracene	Ave	1.008	1.047	0.4000	83100	80000	3.8	20.0
Benzo[g,h,i]perylene	Ave	1.068	1.112	0.5000	83300	80000	4.2	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351071/3 Calibration Date: 11/11/2016 20:45

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18958.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Fluorophenol (Surr)	Ave	1.332	1.324		79500	80000	-0.6	20.0
Phenol-d5 (Surr)	Ave	1.770	1.800		81400	80000	1.7	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3389	0.3575		84400	80000	5.5	20.0
2-Fluorobiphenyl (Surr)	Ave	1.214	1.232		81200	80000	1.6	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1584	0.1735		87700	80000	9.6	20.0
Terphenyl-d14 (Surr)	Ave	0.7319	0.7475		81700	80000	2.1	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18958.D
Lims ID: CCV HSL
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2016 20:45:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCV HSL
Operator ID: WICKHAMM Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: wickhamm Date: 12-Nov-2016 00:53:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.678	4.678	0.000	96	91884	40.0	40.0	
* 2 Naphthalene-d8	136	5.906	5.906	0.000	100	370203	40.0	40.0	
* 3 Acenaphthene-d10	164	7.664	7.664	0.000	99	224533	40.0	40.0	
* 4 Phenanthrene-d10	188	9.165	9.165	0.000	99	403903	40.0	40.0	
* 5 Chrysene-d12	240	13.337	13.337	0.000	82	436540	40.0	40.0	
* 6 Perylene-d12	264	17.323	17.323	0.000	99	440117	40.0	40.0	
$ 7 2-Fluorophenol	112	3.508	3.508	0.000	99	243368	80.0	79.5	
$ 8 Phenol-d5	99	4.304	4.304	0.000	97	330845	80.0	81.4	
$ 9 Nitrobenzene-d5	82	5.191	5.191	0.000	98	264704	80.0	84.4	
$ 11 2-Fluorobiphenyl	172	6.975	6.975	0.000	98	553453	80.0	81.2	
$ 12 2,4,6-Tribromophenol	330	8.460	8.460	0.000	97	77915	80.0	87.7	
$ 13 Terphenyl-d14	244	11.174	11.174	0.000	100	652611	80.0	81.7	
16 1,4-Dioxane	88	2.199	2.199	0.000	98	107690	80.0	79.5	
17 N-Nitrosodimethylamine	74	2.413	2.413	0.000	91	174025	80.0	80.0	
18 Pyridine	79	2.461	2.461	0.000	95	307475	80.0	80.5	
28 Phenol	94	4.320	4.320	0.000	88	325201	80.0	81.1	
30 Aniline	93	4.368	4.368	0.000	98	415097	80.0	81.1	
31 Alpha Methyl Styrene	118	4.421	4.421	0.000	70	263522	80.0	81.1	
32 Bis(2-chloroethyl)ether	93	4.405	4.405	0.000	95	249411	80.0	81.3	
35 n-Decane	43	4.523	4.523	0.000	97	237022	80.0	75.4	
36 2-Chlorophenol	128	4.485	4.485	0.000	99	255695	80.0	81.9	
37 1,3-Dichlorobenzene	146	4.630	4.630	0.000	100	266675	80.0	81.8	
38 1,4-Dichlorobenzene	146	4.694	4.694	0.000	99	268865	80.0	80.8	
39 Benzyl alcohol	108	4.785	4.785	0.000	98	184103	80.0	81.9	
40 1,2-Dichlorobenzene	146	4.843	4.843	0.000	99	263045	80.0	82.7	
41 2-Methylphenol	108	4.881	4.881	0.000	74	251504	80.0	82.4	
43 2,2'-oxybis[1-chloropropan	45	4.918	4.918	0.000	95	320896	80.0	76.8	
44 Indene	116	4.929	4.929	0.000	99	778787	160.0	166.2	
45 3-Methylphenol	108	5.030	5.030	0.000	93	259078	80.0	82.9	
46 3 & 4 Methylphenol	108	5.030	5.030	0.000	93	259078	80.0	82.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.030	5.030	0.000	93	259078	80.0	82.9	
48 N-Nitrosodi-n-propylamine	70	5.036	5.036	0.000	96	175250	80.0	79.3	
50 Acetophenone	105	5.041	5.041	0.000	74	336083	80.0	82.0	
53 Hexachloroethane	117	5.169	5.169	0.000	95	101379	80.0	81.6	
54 Nitrobenzene	77	5.212	5.212	0.000	96	260128	80.0	83.6	
57 Isophorone	82	5.442	5.442	0.000	98	502498	80.0	78.4	
59 2-Nitrophenol	139	5.522	5.522	0.000	98	119266	80.0	83.5	
60 2,4-Dimethylphenol	107	5.543	5.543	0.000	99	250815	80.0	79.9	
63 Bis(2-chloroethoxy)methane	93	5.634	5.634	0.000	95	311329	80.0	78.9	
64 Benzoic acid	105	5.666	5.666	0.000	85	393326	160.0	168.6	
65 3,5-Dimethylphenol	107	5.671	5.671	0.000	98	259613	80.0	81.0	
68 2,4-Dichlorophenol	162	5.757	5.757	0.000	99	219653	80.0	83.3	
70 1,2,4-Trichlorobenzene	180	5.848	5.848	0.000	99	221438	80.0	80.1	
72 Naphthalene	128	5.928	5.928	0.000	100	733563	80.0	80.4	
73 4-Chloroaniline	127	5.960	5.960	0.000	99	337233	80.0	81.9	
74 2,6-Dichlorophenol	162	5.976	5.976	0.000	98	217149	80.0	83.4	
76 Hexachlorobutadiene	225	6.056	6.056	0.000	100	120342	80.0	80.3	
80 Caprolactam	55	6.296	6.296	0.000	96	134019	80.0	77.8	M
83 4-Chloro-3-methylphenol	107	6.435	6.435	0.000	99	226394	80.0	82.7	
87 2-Methylnaphthalene	142	6.612	6.612	0.000	99	500423	80.0	81.0	
89 1-Methylnaphthalene	142	6.713	6.713	0.000	99	479326	80.0	81.6	
90 Hexachlorocyclopentadiene	237	6.783	6.783	0.000	99	116533	80.0	79.2	
91 1,2,4,5-Tetrachlorobenzene	216	6.788	6.788	0.000	97	213995	80.0	79.7	
94 2,4,6-Trichlorophenol	196	6.889	6.889	0.000	84	143215	80.0	85.5	
95 2,3-Dichlorobenzenamine	161	6.889	6.889	0.000	92	252797	80.0	83.2	
96 2,4,5-Trichlorophenol	196	6.927	6.927	0.000	98	167107	80.0	87.8	
100 1,1'-Biphenyl	154	7.076	7.076	0.000	94	605788	80.0	82.4	
102 2-Chloronaphthalene	162	7.103	7.103	0.000	100	480330	80.0	82.3	
105 2-Nitroaniline	65	7.189	7.189	0.000	98	144005	80.0	84.8	
111 Dimethyl phthalate	163	7.370	7.370	0.000	100	543688	80.0	81.8	
112 1,3-Dinitrobenzene	168	7.397	7.397	0.000	88	81083	80.0	84.3	
113 2,6-Dinitrotoluene	165	7.424	7.424	0.000	97	123193	80.0	86.0	
115 Acenaphthylene	152	7.525	7.525	0.000	100	747399	80.0	83.1	
117 3-Nitroaniline	138	7.600	7.600	0.000	98	153008	80.0	86.6	
119 Acenaphthene	153	7.696	7.696	0.000	98	459238	80.0	80.7	
120 2,4-Dinitrophenol	184	7.707	7.707	0.000	96	106408	160.0	155.3	
121 4-Nitrophenol	109	7.766	7.766	0.000	97	145653	160.0	179.7	
124 2,4-Dinitrotoluene	165	7.840	7.840	0.000	98	160036	80.0	85.2	
125 Dibenzofuran	168	7.872	7.872	0.000	99	689457	80.0	81.9	
129 2,3,4,6-Tetrachlorophenol	232	7.995	7.995	0.000	71	141448	80.0	89.0	
131 Hexadecane	57	8.102	8.102	0.000	97	337557	80.0	77.3	
132 Diethyl phthalate	149	8.075	8.075	0.000	100	536192	80.0	82.2	
134 4-Chlorophenyl phenyl ethe	204	8.204	8.204	0.000	98	255230	80.0	80.2	
135 Fluorene	166	8.220	8.220	0.000	99	534943	80.0	79.6	
138 4-Nitroaniline	138	8.225	8.225	0.000	97	148689	80.0	86.9	
139 4,6-Dinitro-2-methylphenol	198	8.257	8.257	0.000	94	164111	160.0	155.6	
140 Diphenylamine	169	8.321	8.321	0.000	96	418950	68.4	69.4	
141 N-Nitrosodiphenylamine	169	8.321	8.321	0.000	99	418950	80.0	80.8	
142 1,2-Diphenylhydrazine	77	8.369	8.369	0.000	96	602610	80.9	81.1	
143 Azobenzene	77	8.369	8.369	0.000	96	602610	80.0	80.3	
145 2,4,6 - Tribromophenol	330	8.460	8.460	0.000	97	77915	80.0	87.7	
152 4-Bromophenyl phenyl ether	248	8.700	8.700	0.000	98	164432	80.0	80.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.791	8.791	0.000	98	166717	80.0	81.5	
155 Atrazine	200	8.850	8.850	0.000	96	160280	80.0	80.9	
156 n-Octadecane	85	9.032	9.032	0.000	97	160749	80.0	77.3	
157 Pentachlorophenol	266	8.978	8.978	0.000	97	208184	160.0	178.3	
163 Phenanthrene	178	9.192	9.192	0.000	100	818695	80.0	79.4	
164 Anthracene	178	9.245	9.245	0.000	100	855066	80.0	80.1	
165 Carbazole	167	9.395	9.395	0.000	100	832360	80.0	80.3	
166 Alachlor	188	9.539	9.539	0.000	94	112219	80.0	81.0	
169 Di-n-butyl phthalate	149	9.753	9.753	0.000	100	963853	80.0	79.9	
176 Fluoranthene	202	10.597	10.597	0.000	100	978469	80.0	79.9	
180 Pyrene	202	10.939	10.939	0.000	99	1026081	80.0	80.9	
186 Famphur	218	11.959	11.959	0.000	99	355696	80.0	80.5	
187 Butyl benzyl phthalate	149	12.087	12.087	0.000	93	462993	80.0	81.1	
190 3,3'-Dichlorobenzidine	252	13.268	13.268	0.000	99	373660	80.0	80.9	
192 Benzo[a]anthracene	228	13.311	13.311	0.000	100	1014425	80.0	81.5	
193 Bis(2-ethylhexyl) phthalat	149	13.503	13.503	0.000	99	649985	80.0	80.2	
194 Chrysene	228	13.401	13.401	0.000	99	982575	80.0	82.1	
197 Di-n-octyl phthalate	149	15.341	15.341	0.000	100	1129631	80.0	79.6	
198 Benzo[b]fluoranthene	252	16.222	16.222	0.000	99	1014142	80.0	82.9	
200 Benzo[k]fluoranthene	252	16.302	16.302	0.000	100	1034171	80.0	83.9	
201 Benzo[e]pyrene	252	17.013	17.013	0.000	98	977118	80.0	84.1	
202 Benzo[a]pyrene	252	17.162	17.162	0.000	100	1021110	80.0	84.4	
208 Indeno[1,2,3-cd]pyrene	276	20.474	20.474	0.000	74	904201	80.0	81.7	
209 Dibenz(a,h)anthracene	278	20.576	20.576	0.000	76	921279	80.0	83.1	
210 Benzo[g,h,i]perylene	276	21.222	21.222	0.000	100	979221	80.0	83.3	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLACCV080_00113 Amount Added: 200.00 Units: uL

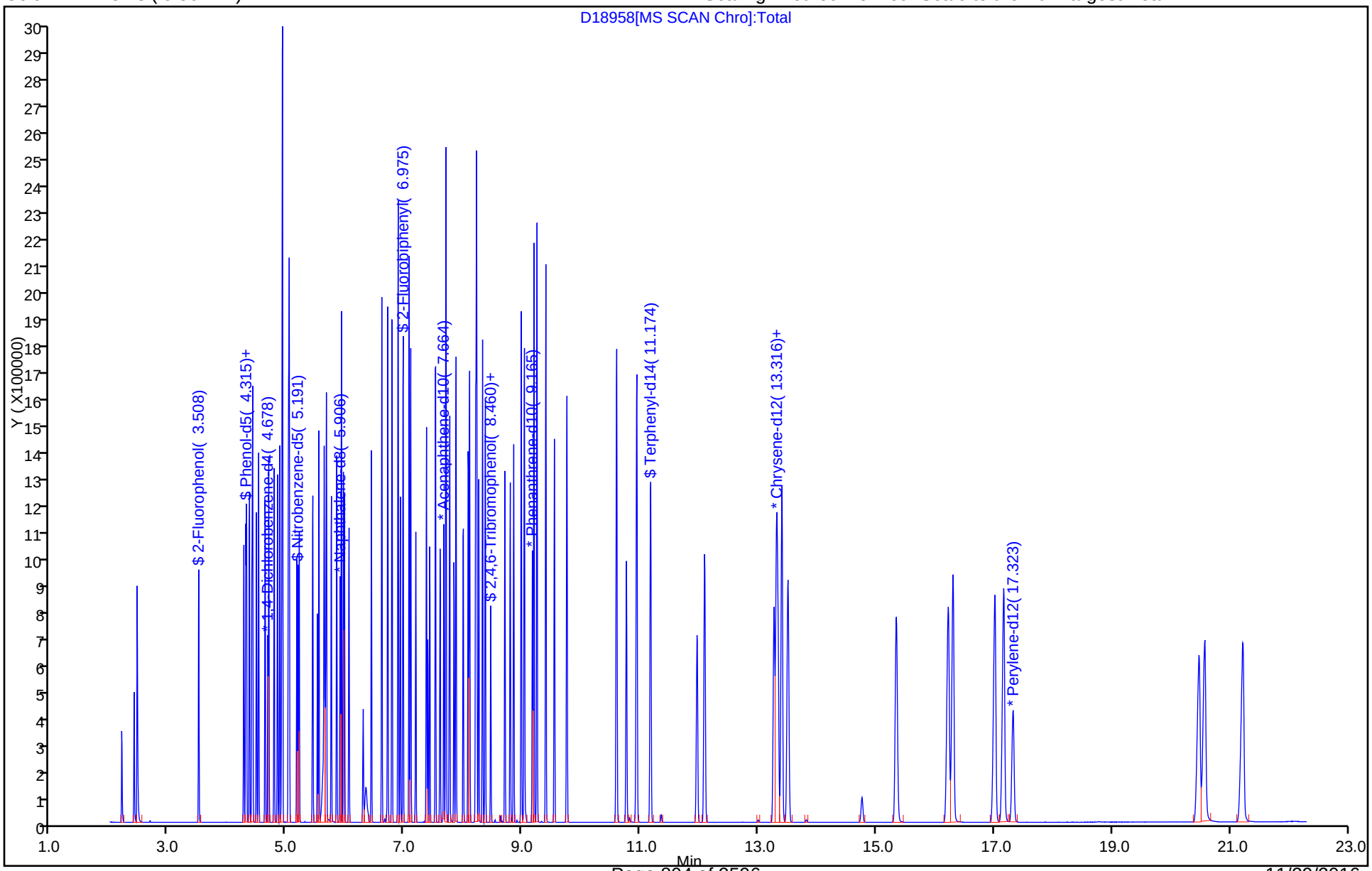
Report Date: 12-Nov-2016 14:01:48 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18958.D

Injection Date:	11-Nov-2016 20:45:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	CCV HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351071/25 Calibration Date: 11/12/2016 07:08

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18980.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5894	0.6001		81400	80000	1.8	50.0
N-Nitrosodimethylamine	Ave	0.9473	0.9574		80900	80000	1.1	50.0
Pyridine	Ave	1.663	1.685		81100	80000	1.4	50.0
Phenol	Ave	1.746	1.799	0.8000	82400	80000	3.0	50.0
Aniline	Ave	2.228	2.278		81800	80000	2.2	50.0
Bis(2-chloroethyl)ether	Ave	1.335	1.369	0.7000	82000	80000	2.5	50.0
2-Chlorophenol	Ave	1.359	1.426	0.8000	83900	80000	4.9	50.0
1,3-Dichlorobenzene	Ave	1.419	1.493		84200	80000	5.2	50.0
1,4-Dichlorobenzene	Ave	1.449	1.516		83700	80000	4.6	50.0
Benzyl alcohol	Ave	0.9791	1.023		83600	80000	4.5	50.0
1,2-Dichlorobenzene	Ave	1.385	1.469		84800	80000	6.1	50.0
2-Methylphenol	Ave	1.328	1.385	0.7000	83400	80000	4.3	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.818	1.791	0.0100	78800	80000	-1.5	50.0
3 & 4 Methylphenol	Ave	1.360	1.426		83900	80000	4.8	50.0
N-Nitrosodi-n-propylamine	Ave	0.9616	0.9606	0.5000	79900	80000	-0.1	50.0
Acetophenone	Ave	1.784	1.840	0.0100	82500	80000	3.1	50.0
Hexachloroethane	Ave	0.5406	0.5582	0.3000	82600	80000	3.2	50.0
Nitrobenzene	Ave	0.3363	0.3695		87900	80000	9.9	50.0
Isophorone	Ave	0.6929	0.7006	0.4000	80900	80000	1.1	50.0
2-Nitrophenol	Lin2		0.1862	0.1000	96200	80000	20.3	50.0
2,4-Dimethylphenol	Ave	0.3392	0.3532	0.2000	83300	80000	4.1	50.0
Bis(2-chloroethoxy)methane	Ave	0.4262	0.4276	0.3000	80300	80000	0.3	50.0
Benzoic acid	Lin2		0.2815		178000	160000	11.2	50.0
2,4-Dichlorophenol	Ave	0.2848	0.3109	0.2000	87400	80000	9.2	50.0
1,2,4-Trichlorobenzene	Ave	0.2985	0.3117		83500	80000	4.4	50.0
Naphthalene	Ave	0.9855	1.025	0.7000	83200	80000	4.1	50.0
4-Chloroaniline	Ave	0.4450	0.4699	0.0100	84500	80000	5.6	50.0
2,6-Dichlorophenol	Ave	0.2815	0.3041		86400	80000	8.0	50.0
Hexachlorobutadiene	Ave	0.1618	0.1689	0.0100	83500	80000	4.3	50.0
4-Chloro-3-methylphenol	Ave	0.2959	0.3171	0.2000	85700	80000	7.2	50.0
2-Methylnaphthalene	Ave	0.6673	0.6973	0.4000	83600	80000	4.5	50.0
1-Methylnaphthalene	Ave	0.6344	0.6614		83400	80000	4.3	50.0
Hexachlorocyclopentadiene	Ave	0.2622	0.2469	0.0500	75300	80000	-5.9	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2902	0.3033	0.0100	83600	80000	4.5	50.0
2,4,6-Trichlorophenol	Ave	0.2983	0.3240	0.2000	86900	80000	8.6	50.0
2,4,5-Trichlorophenol	Ave	0.3391	0.3748	0.2000	88400	80000	10.5	50.0
2-Chloronaphthalene	Ave	1.040	1.072	0.8000	82500	80000	3.1	50.0
2-Nitroaniline	Lin2		0.3318	0.0100	87700	80000	9.6	50.0
Dimethyl phthalate	Ave	1.183	1.228	0.0100	83000	80000	3.8	50.0
1,3-Dinitrobenzene	Lin1		0.2017		93200	80000	16.5	50.0
2,6-Dinitrotoluene	Lin2		0.2923	0.2000	91600	80000	14.5	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351071/25 Calibration Date: 11/12/2016 07:08

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18980.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acenaphthylene	Ave	1.603	1.665	0.9000	83100	80000	3.9	50.0
3-Nitroaniline	Lin2		0.3578	0.0100	90900	80000	13.6	50.0
Acenaphthene	Ave	1.014	1.020	0.9000	80500	80000	0.6	50.0
2,4-Dinitrophenol	Qua		0.1454	0.0100	184000	160000	14.8	50.0
4-Nitrophenol	Ave	0.1444	0.1659	0.0100	184000	160000	14.9	50.0
2,4-Dinitrotoluene	Lin2		0.3909	0.2000	93200	80000	16.5	50.0
Dibenzofuran	Ave	1.499	1.543	0.8000	82300	80000	2.9	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.2831	0.3238	0.0100	91500	80000	14.4	50.0
Diethyl phthalate	Ave	1.162	1.210	0.0100	83300	80000	4.1	50.0
4-Chlorophenyl phenyl ether	Ave	0.5671	0.5828	0.4000	82200	80000	2.8	50.0
Fluorene	Ave	1.197	1.208	0.9000	80700	80000	0.9	50.0
4-Nitroaniline	Ave	0.3049	0.3579	0.0100	93900	80000	17.4	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1148	0.0100	174000	160000	8.9	50.0
Diphenylamine	Ave	1.075	1.129		71900	68400	5.1	50.0
N-Nitrosodiphenylamine	Ave	0.5134	0.5267	0.0100	82100	80000	2.6	50.0
1,2-Diphenylhydrazine	Ave	1.323	1.331		81400	80900	0.6	50.0
Azobenzene	Ave	1.338	1.346		80500	80000	0.6	50.0
4-Bromophenyl phenyl ether	Ave	0.2020	0.2079	0.1000	82300	80000	2.9	50.0
Hexachlorobenzene	Ave	0.2026	0.2062	0.1000	81400	80000	1.8	50.0
Atrazine	Ave	0.1963	0.2038		83100	80000	3.8	50.0
Pentachlorophenol	Ave	0.1156	0.1299	0.0500	180000	160000	12.3	50.0
Phenanthrene	Ave	1.021	1.035	0.7000	81100	80000	1.4	50.0
Anthracene	Ave	1.057	1.071	0.7000	81100	80000	1.3	50.0
Carbazole	Ave	1.027	1.053	0.0100	82000	80000	2.5	50.0
Alachlor	Ave	0.1373	0.1457		84900	80000	6.1	50.0
Di-n-butyl phthalate	Ave	1.195	1.217	0.0100	81500	80000	1.8	50.0
Fluoranthene	Ave	1.213	1.241	0.6000	81800	80000	2.3	50.0
Pyrene	Ave	1.162	1.212	0.6000	83400	80000	4.3	50.0
Famphur	Ave	0.4051	0.3982		78600	80000	-1.7	50.0
Butyl benzyl phthalate	Ave	0.5229	0.5458	0.0100	83500	80000	4.4	50.0
3,3'-Dichlorobenzidine	Ave	0.4230	0.4187	0.0100	79200	80000	-1.0	50.0
Benzo[a]anthracene	Ave	1.140	1.170	0.8000	82100	80000	2.6	50.0
Chrysene	Ave	1.097	1.135	0.7000	82800	80000	3.5	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.7426	0.7604	0.0100	81900	80000	2.4	50.0
Di-n-octyl phthalate	Ave	1.300	1.334	0.0100	82100	80000	2.6	50.0
Benzo[b]fluoranthene	Ave	1.112	1.171	0.7000	84300	80000	5.4	50.0
Benzo[k]fluoranthene	Ave	1.120	1.183	0.7000	84500	80000	5.7	50.0
Benzo[a]pyrene	Ave	1.099	1.171	0.7000	85200	80000	6.5	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.006	1.042	0.5000	82800	80000	3.5	50.0
Dibenz(a,h)anthracene	Ave	1.008	1.042	0.4000	82700	80000	3.4	50.0
Benzo[g,h,i]perylene	Ave	1.068	1.078	0.5000	80700	80000	0.9	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351071/25 Calibration Date: 11/12/2016 07:08

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D18980.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Fluorophenol (Surr)	Ave	1.332	1.371		82300	80000	2.9	50.0
Phenol-d5 (Surr)	Ave	1.770	1.841		83200	80000	4.0	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3389	0.3793		89500	80000	11.9	50.0
2-Fluorobiphenyl (Surr)	Ave	1.214	1.251		82500	80000	3.1	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.1584	0.1833		92600	80000	15.7	50.0
Terphenyl-d14 (Surr)	Ave	0.7319	0.7707		84200	80000	5.3	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18980.D
Lims ID: CCVC HSL
Client ID:
Sample Type: CCVC
Inject. Date: 12-Nov-2016 07:08:30 ALS Bottle#: 24 Worklist Smp#: 25
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: WICKHAMM Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:03:52 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 14:00:49

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.675	4.675	0.000	96	86958	40.0	40.0	
* 2 Naphthalene-d8	136	5.903	5.903	0.000	100	345833	40.0	40.0	
* 3 Acenaphthene-d10	164	7.661	7.661	0.000	99	219040	40.0	40.0	
* 4 Phenanthrene-d10	188	9.162	9.162	0.000	99	401507	40.0	40.0	
* 5 Chrysene-d12	240	13.324	13.324	0.000	83	431861	40.0	40.0	
* 6 Perylene-d12	264	17.309	17.309	0.000	99	423630	40.0	40.0	
$ 7 2-Fluorophenol	112	3.505	3.505	0.000	99	238482	80.0	82.3	
$ 8 Phenol-d5	99	4.301	4.301	0.000	97	320176	80.0	83.2	
$ 9 Nitrobenzene-d5	82	5.187	5.187	0.000	97	262323	80.0	89.5	
$ 11 2-Fluorobiphenyl	172	6.966	6.966	0.000	98	548143	80.0	82.5	
$ 12 2,4,6-Tribromophenol	330	8.457	8.457	0.000	97	80283	80.0	92.6	
$ 13 Terphenyl-d14	244	11.165	11.165	0.000	100	665638	80.0	84.2	
16 1,4-Dioxane	88	2.201	2.201	0.000	96	104365	80.0	81.4	
17 N-Nitrosodimethylamine	74	2.410	2.410	0.000	90	166509	80.0	80.9	
18 Pyridine	79	2.463	2.463	0.000	95	293103	80.0	81.1	
28 Phenol	94	4.317	4.317	0.000	90	312872	80.0	82.4	
30 Aniline	93	4.365	4.365	0.000	98	396145	80.0	81.8	
31 Alpha Methyl Styrene	118	4.418	4.418	0.000	70	254912	80.0	82.9	
32 Bis(2-chloroethyl)ether	93	4.402	4.402	0.000	94	238027	80.0	82.0	
35 n-Decane	43	4.520	4.520	0.000	98	233281	80.0	78.5	
36 2-Chlorophenol	128	4.482	4.482	0.000	99	247922	80.0	83.9	
37 1,3-Dichlorobenzene	146	4.627	4.627	0.000	100	259722	80.0	84.2	
38 1,4-Dichlorobenzene	146	4.691	4.691	0.000	99	263582	80.0	83.7	
39 Benzyl alcohol	108	4.781	4.781	0.000	98	177989	80.0	83.6	
40 1,2-Dichlorobenzene	146	4.840	4.840	0.000	99	255454	80.0	84.8	
41 2-Methylphenol	108	4.878	4.878	0.000	74	240949	80.0	83.4	
43 2,2'-oxybis[1-chloropropan	45	4.915	4.915	0.000	96	311484	80.0	78.8	
44 Indene	116	4.926	4.926	0.000	99	749429	160.0	169.7	
45 3-Methylphenol	108	5.027	5.027	0.000	93	247990	80.0	83.9	
46 3 & 4 Methylphenol	108	5.027	5.027	0.000	93	247990	80.0	83.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.027	5.027	0.000	93	247990	80.0	83.9	
48 N-Nitrosodi-n-propylamine	70	5.033	5.033	0.000	96	167063	80.0	79.9	
50 Acetophenone	105	5.038	5.038	0.000	71	320075	80.0	82.5	
53 Hexachloroethane	117	5.166	5.166	0.000	96	97073	80.0	82.6	
54 Nitrobenzene	77	5.209	5.209	0.000	96	255572	80.0	87.9	
57 Isophorone	82	5.439	5.439	0.000	98	484548	80.0	80.9	
59 2-Nitrophenol	139	5.519	5.519	0.000	98	128780	80.0	96.2	
60 2,4-Dimethylphenol	107	5.540	5.540	0.000	99	244270	80.0	83.3	
63 Bis(2-chloroethoxy)methane	93	5.631	5.631	0.000	95	295779	80.0	80.3	
64 Benzoic acid	105	5.663	5.663	0.000	89	389351	160.0	177.9	
65 3,5-Dimethylphenol	107	5.668	5.668	0.000	98	250743	80.0	83.7	
68 2,4-Dichlorophenol	162	5.754	5.754	0.000	99	215064	80.0	87.4	
70 1,2,4-Trichlorobenzene	180	5.845	5.845	0.000	99	215571	80.0	83.5	
72 Naphthalene	128	5.925	5.925	0.000	100	709264	80.0	83.2	
73 4-Chloroaniline	127	5.957	5.957	0.000	99	325001	80.0	84.5	
74 2,6-Dichlorophenol	162	5.973	5.973	0.000	98	210337	80.0	86.4	
76 Hexachlorobutadiene	225	6.053	6.053	0.000	99	116792	80.0	83.5	
80 Caprolactam	55	6.293	6.293	0.000	96	138860	80.0	86.3	M
83 4-Chloro-3-methylphenol	107	6.432	6.432	0.000	99	219304	80.0	85.7	
87 2-Methylnaphthalene	142	6.608	6.608	0.000	99	482291	80.0	83.6	
89 1-Methylnaphthalene	142	6.710	6.710	0.000	99	457495	80.0	83.4	
90 Hexachlorocyclopentadiene	237	6.779	6.779	0.000	99	108141	80.0	75.3	
91 1,2,4,5-Tetrachlorobenzene	216	6.785	6.785	0.000	97	209812	80.0	83.6	
94 2,4,6-Trichlorophenol	196	6.886	6.886	0.000	85	141926	80.0	86.9	
95 2,3-Dichlorobenzenamine	161	6.886	6.886	0.000	92	248409	80.0	83.9	
96 2,4,5-Trichlorophenol	196	6.924	6.924	0.000	98	164191	80.0	88.4	
100 1,1'-Biphenyl	154	7.073	7.073	0.000	94	592985	80.0	82.7	
102 2-Chloronaphthalene	162	7.100	7.100	0.000	100	469649	80.0	82.5	
105 2-Nitroaniline	65	7.185	7.185	0.000	98	145374	80.0	87.7	
111 Dimethyl phthalate	163	7.367	7.367	0.000	100	537999	80.0	83.0	
112 1,3-Dinitrobenzene	168	7.388	7.388	0.000	87	88373	80.0	93.2	
113 2,6-Dinitrotoluene	165	7.421	7.421	0.000	98	128063	80.0	91.6	
115 Acenaphthylene	152	7.517	7.517	0.000	100	729389	80.0	83.1	
117 3-Nitroaniline	138	7.597	7.597	0.000	98	156728	80.0	90.9	
119 Acenaphthene	153	7.693	7.693	0.000	98	446723	80.0	80.5	
120 2,4-Dinitrophenol	184	7.704	7.704	0.000	96	127433	160.0	183.7	
121 4-Nitrophenol	109	7.762	7.762	0.000	96	145340	160.0	183.8	
124 2,4-Dinitrotoluene	165	7.832	7.832	0.000	98	171227	80.0	93.2	
125 Dibenzofuran	168	7.864	7.864	0.000	99	676055	80.0	82.3	
129 2,3,4,6-Tetrachlorophenol	232	7.987	7.987	0.000	71	141858	80.0	91.5	
131 Hexadecane	57	8.094	8.094	0.000	97	341930	80.0	80.2	
132 Diethyl phthalate	149	8.072	8.072	0.000	100	529911	80.0	83.3	
134 4-Chlorophenyl phenyl ethe	204	8.200	8.200	0.000	98	255321	80.0	82.2	
135 Fluorene	166	8.211	8.211	0.000	99	529371	80.0	80.7	
138 4-Nitroaniline	138	8.222	8.222	0.000	97	156780	80.0	93.9	
139 4,6-Dinitro-2-methylphenol	198	8.254	8.254	0.000	95	184413	160.0	174.3	
140 Diphenylamine	169	8.318	8.318	0.000	95	422981	68.4	71.9	
141 N-Nitrosodiphenylamine	169	8.318	8.318	0.000	99	422981	80.0	82.1	
142 1,2-Diphenylhydrazine	77	8.361	8.361	0.000	96	589542	80.9	81.4	
143 Azobenzene	77	8.361	8.361	0.000	96	589542	80.0	80.5	
145 2,4,6 - Tribromophenol	330	8.457	8.457	0.000	97	80283	80.0	92.6	
152 4-Bromophenyl phenyl ether	248	8.697	8.697	0.000	97	166954	80.0	82.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.783	8.783	0.000	98	165568	80.0	81.4	
155 Atrazine	200	8.847	8.847	0.000	97	163662	80.0	83.1	
156 n-Octadecane	85	9.023	9.023	0.000	97	161154	80.0	77.9	
157 Pentachlorophenol	266	8.975	8.975	0.000	98	208609	160.0	179.7	
163 Phenanthrene	178	9.189	9.189	0.000	100	831499	80.0	81.1	
164 Anthracene	178	9.242	9.242	0.000	100	860110	80.0	81.1	
165 Carbazole	167	9.392	9.392	0.000	100	845445	80.0	82.0	
166 Alachlor	188	9.536	9.536	0.000	94	116993	80.0	84.9	
169 Di-n-butyl phthalate	149	9.744	9.744	0.000	100	977182	80.0	81.5	
176 Fluoranthene	202	10.588	10.588	0.000	100	996493	80.0	81.8	
180 Pyrene	202	10.930	10.930	0.000	99	1046554	80.0	83.4	
186 Famphur	218	11.951	11.951	0.000	100	343896	80.0	78.6	
187 Butyl benzyl phthalate	149	12.079	12.079	0.000	93	471372	80.0	83.5	
190 3,3'-Dichlorobenzidine	252	13.254	13.254	0.000	99	361594	80.0	79.2	
192 Benzo[a]anthracene	228	13.297	13.297	0.000	100	1010587	80.0	82.1	
193 Bis(2-ethylhexyl) phthalat	149	13.489	13.489	0.000	99	656742	80.0	81.9	
194 Chrysene	228	13.388	13.388	0.000	99	980630	80.0	82.8	
197 Di-n-octyl phthalate	149	15.322	15.322	0.000	100	1151842	80.0	82.1	
198 Benzo[b]fluoranthene	252	16.208	16.208	0.000	100	992492	80.0	84.3	
200 Benzo[k]fluoranthene	252	16.288	16.288	0.000	99	1002603	80.0	84.5	
201 Benzo[e]pyrene	252	16.999	16.999	0.000	98	933346	80.0	83.5	
202 Benzo[a]pyrene	252	17.149	17.149	0.000	100	991789	80.0	85.2	
208 Indeno[1,2,3-cd]pyrene	276	20.461	20.461	0.000	74	882522	80.0	82.8	
209 Dibenz(a,h)anthracene	278	20.557	20.557	0.000	72	883148	80.0	82.7	
210 Benzo[g,h,i]perylene	276	21.209	21.209	0.000	99	913278	80.0	80.7	
S 219 Total Cresols	108				0			167.3	
S 220 Methyl Phenols,Total	108				0			167.3	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLACCV080_00113 Amount Added: 200.00 Units: uL

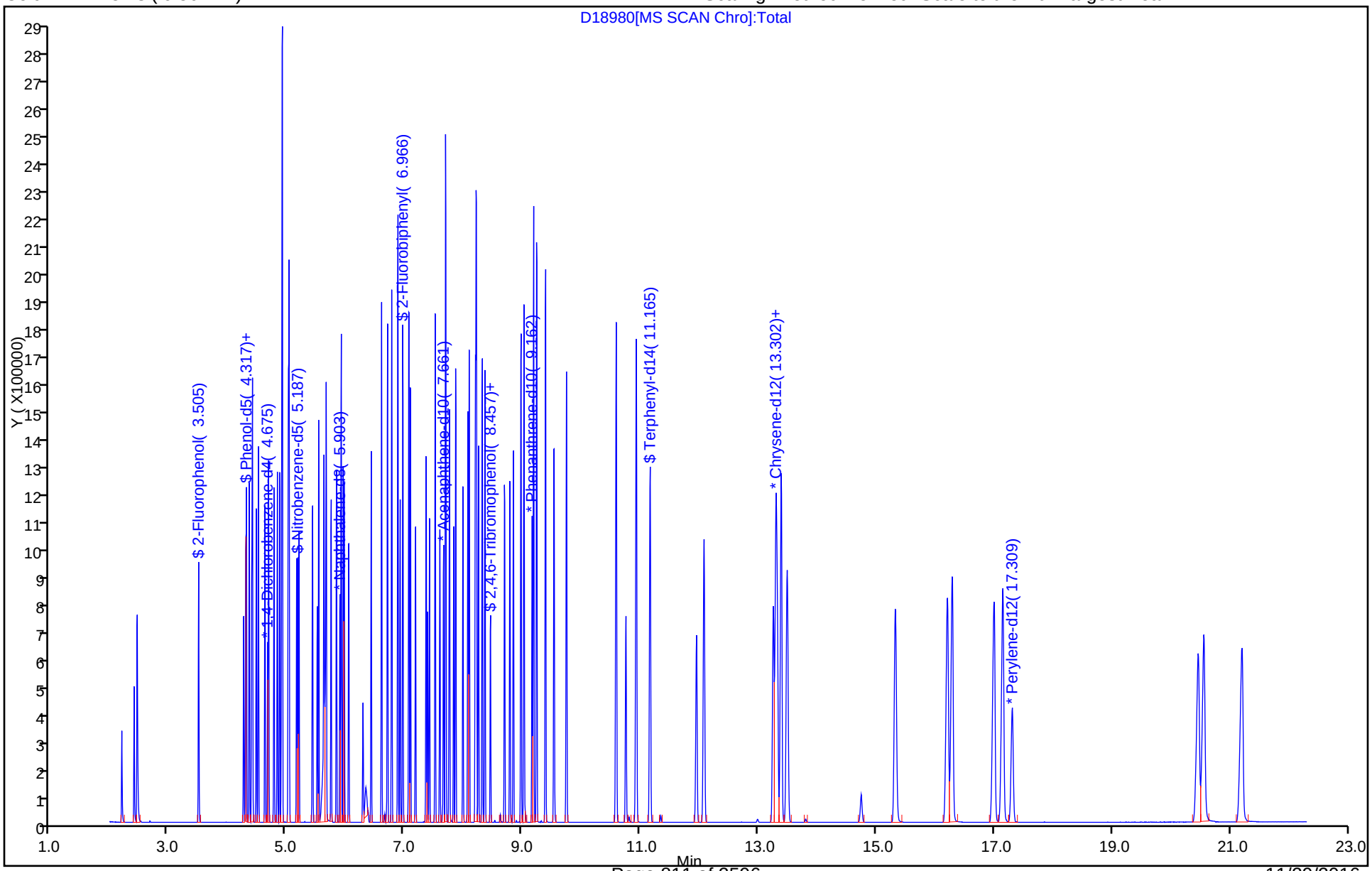
Report Date: 12-Nov-2016 14:03:53 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18980.D

Injection Date:	12-Nov-2016 07:08:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	CCVC HSL			Worklist Smp#:	25
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351625/3 Calibration Date: 11/15/2016 17:22

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D19014.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5894	0.5970		81000	80000	1.3	20.0
N-Nitrosodimethylamine	Ave	0.9473	0.9345		78900	80000	-1.3	20.0
Pyridine	Ave	1.663	1.663		80000	80000	0.0	20.0
Phenol	Ave	1.746	1.759	0.8000	80600	80000	0.7	20.0
Aniline	Ave	2.228	2.217		79600	80000	-0.5	20.0
Bis(2-chloroethyl)ether	Ave	1.335	1.318	0.7000	79000	80000	-1.3	20.0
2-Chlorophenol	Ave	1.359	1.391	0.8000	81900	80000	2.3	20.0
1,3-Dichlorobenzene	Ave	1.419	1.458		82200	80000	2.7	20.0
1,4-Dichlorobenzene	Ave	1.449	1.466		81000	80000	1.2	20.0
Benzyl alcohol	Ave	0.9791	1.008		82400	80000	3.0	20.0
1,2-Dichlorobenzene	Ave	1.385	1.398		80800	80000	0.9	20.0
2-Methylphenol	Ave	1.328	1.347	0.7000	81100	80000	1.4	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.818	1.682	0.0100	74000	80000	-7.5	20.0
3 & 4 Methylphenol	Ave	1.360	1.360		80000	80000	-0.0	20.0
N-Nitrosodi-n-propylamine	Ave	0.9616	0.9117	0.5000	75800	80000	-5.2	20.0
Acetophenone	Ave	1.784	1.784	0.0100	80000	80000	0.0	20.0
Hexachloroethane	Ave	0.5406	0.5473	0.3000	81000	80000	1.2	20.0
Nitrobenzene	Ave	0.3363	0.3591		85400	80000	6.8	20.0
Isophorone	Ave	0.6929	0.6723	0.4000	77600	80000	-3.0	20.0
2-Nitrophenol	Lin2		0.1767	0.1000	91400	80000	14.2	20.0
2,4-Dimethylphenol	Ave	0.3392	0.3427	0.2000	80800	80000	1.0	20.0
Bis(2-chloroethoxy)methane	Ave	0.4262	0.4208	0.3000	79000	80000	-1.2	20.0
Benzoic acid	Lin2		0.2740		174000	160000	8.5	20.0
2,4-Dichlorophenol	Ave	0.2848	0.2983	0.2000	83800	80000	4.8	20.0
1,2,4-Trichlorobenzene	Ave	0.2985	0.3057		81900	80000	2.4	20.0
Naphthalene	Ave	0.9855	0.9878	0.7000	80200	80000	0.2	20.0
4-Chloroaniline	Ave	0.4450	0.4553	0.0100	81900	80000	2.3	20.0
2,6-Dichlorophenol	Ave	0.2815	0.2964		84200	80000	5.3	20.0
Hexachlorobutadiene	Ave	0.1618	0.1644	0.0100	81300	80000	1.6	20.0
4-Chloro-3-methylphenol	Ave	0.2959	0.3055	0.2000	82600	80000	3.3	20.0
2-Methylnaphthalene	Ave	0.6673	0.6772	0.4000	81200	80000	1.5	20.0
1-Methylnaphthalene	Ave	0.6344	0.6441		81200	80000	1.5	20.0
Hexachlorocyclopentadiene	Ave	0.2622	0.2548	0.0500	77700	80000	-2.8	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2902	0.2930	0.0100	80800	80000	0.9	20.0
2,4,6-Trichlorophenol	Ave	0.2983	0.3186	0.2000	85400	80000	6.8	20.0
2,4,5-Trichlorophenol	Ave	0.3391	0.3612	0.2000	85200	80000	6.5	20.0
2-Chloronaphthalene	Ave	1.040	1.050	0.8000	80800	80000	1.0	20.0
2-Nitroaniline	Lin2		0.3238	0.0100	85600	80000	7.0	20.0
Dimethyl phthalate	Ave	1.183	1.197	0.0100	80900	80000	1.1	20.0
1,3-Dinitrobenzene	Lin1		0.1976		91500	80000	14.4	20.0
2,6-Dinitrotoluene	Lin2		0.2851	0.2000	89400	80000	11.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351625/3 Calibration Date: 11/15/2016 17:22

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D19014.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acenaphthylene	Ave	1.603	1.624	0.9000	81000	80000	1.3	20.0
3-Nitroaniline	Lin2		0.3444	0.0100	87600	80000	9.4	20.0
Acenaphthene	Ave	1.014	1.007	0.9000	79500	80000	-0.6	20.0
2,4-Dinitrophenol	Qua		0.1479	0.0100	186000	160000	16.4	20.0
4-Nitrophenol	Ave	0.1444	0.1581	0.0100	175000	160000	9.4	20.0
2,4-Dinitrotoluene	Lin2		0.3814	0.2000	91000	80000	13.8	20.0
Dibenzofuran	Ave	1.499	1.485	0.8000	79200	80000	-1.0	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2831	0.3101	0.0100	87600	80000	9.5	20.0
Diethyl phthalate	Ave	1.162	1.164	0.0100	80200	80000	0.2	20.0
4-Chlorophenyl phenyl ether	Ave	0.5671	0.5598	0.4000	79000	80000	-1.3	20.0
Fluorene	Ave	1.197	1.172	0.9000	78300	80000	-2.1	20.0
4-Nitroaniline	Ave	0.3049	0.3452	0.0100	90600	80000	13.2	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1216	0.0100	184000	160000	15.0	20.0
Diphenylamine	Ave	1.075	1.058		67300	68400	-1.6	20.0
N-Nitrosodiphenylamine	Ave	0.5134	0.5158	0.0100	80400	80000	0.5	20.0
1,2-Diphenylhydrazine	Ave	1.323	1.266		77400	80900	-4.3	20.0
Azobenzene	Ave	1.338	1.280		76500	80000	-4.3	20.0
4-Bromophenyl phenyl ether	Ave	0.2020	0.2026	0.1000	80200	80000	0.3	20.0
Hexachlorobenzene	Ave	0.2026	0.2043	0.1000	80700	80000	0.8	20.0
Atrazine	Ave	0.1963	0.1962		80000	80000	-0.0	20.0
Pentachlorophenol	Ave	0.1156	0.1303	0.0500	180000	160000	12.7	20.0
Phenanthrene	Ave	1.021	1.021	0.7000	80000	80000	0.0	20.0
Anthracene	Ave	1.057	1.065	0.7000	80600	80000	0.7	20.0
Carbazole	Ave	1.027	1.046	0.0100	81500	80000	1.9	20.0
Alachlor	Ave	0.1373	0.1398		81500	80000	1.8	20.0
Di-n-butyl phthalate	Ave	1.195	1.193	0.0100	79800	80000	-0.2	20.0
Fluoranthene	Ave	1.213	1.228	0.6000	81000	80000	1.2	20.0
Pyrene	Ave	1.162	1.186	0.6000	81700	80000	2.1	20.0
Famphur	Ave	0.4051	0.4143		81800	80000	2.3	20.0
Butyl benzyl phthalate	Ave	0.5229	0.5352	0.0100	81900	80000	2.3	20.0
3,3'-Dichlorobenzidine	Ave	0.4230	0.4324	0.0100	81800	80000	2.2	20.0
Benzo[a]anthracene	Ave	1.140	1.157	0.8000	81200	80000	1.5	20.0
Chrysene	Ave	1.097	1.125	0.7000	82000	80000	2.5	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7426	0.7306	0.0100	78700	80000	-1.6	20.0
Di-n-octyl phthalate	Ave	1.300	1.266	0.0100	77900	80000	-2.6	20.0
Benzo[b]fluoranthene	Ave	1.112	1.162	0.7000	83600	80000	4.6	20.0
Benzo[k]fluoranthene	Ave	1.120	1.187	0.7000	84800	80000	6.0	20.0
Benzo[a]pyrene	Ave	1.099	1.163	0.7000	84600	80000	5.7	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.006	1.041	0.5000	82800	80000	3.5	20.0
Dibenz(a,h)anthracene	Ave	1.008	1.044	0.4000	82900	80000	3.6	20.0
Benzo[g,h,i]perylene	Ave	1.068	1.114	0.5000	83500	80000	4.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351625/3 Calibration Date: 11/15/2016 17:22

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D19014.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Fluorophenol (Surr)	Ave	1.332	1.348		80900	80000	1.2	20.0
Phenol-d5 (Surr)	Ave	1.770	1.791		80900	80000	1.2	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3389	0.3651		86200	80000	7.7	20.0
2-Fluorobiphenyl (Surr)	Ave	1.214	1.220		80400	80000	0.5	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1584	0.1707		86200	80000	7.8	20.0
Terphenyl-d14 (Surr)	Ave	0.7319	0.7529		82300	80000	2.9	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19014.D
Lims ID: CCV HSL
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 17:22:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCV HSL
Operator ID: HOEFLERA Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: hoeflera Date: 15-Nov-2016 18:21:25

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.664	4.664	0.000	96	92392	40.0	40.0	
* 2 Naphthalene-d8	136	5.898	5.898	0.000	100	365528	40.0	40.0	
* 3 Acenaphthene-d10	164	7.656	7.656	0.000	99	226225	40.0	40.0	
* 4 Phenanthrene-d10	188	9.162	9.162	0.000	99	396643	40.0	40.0	
* 5 Chrysene-d12	240	13.329	13.329	0.000	98	426135	40.0	40.0	
* 6 Perylene-d12	264	17.314	17.314	0.000	99	413584	40.0	40.0	
$ 7 2-Fluorophenol	112	3.489	3.489	0.000	99	249050	80.0	80.9	
$ 8 Phenol-d5	99	4.301	4.301	0.000	97	330871	80.0	80.9	
$ 9 Nitrobenzene-d5	82	5.182	5.182	0.000	97	266906	80.0	86.2	
$ 11 2-Fluorobiphenyl	172	6.967	6.967	0.000	98	551927	80.0	80.4	
$ 12 2,4,6-Tribromophenol	330	8.457	8.457	0.000	96	77231	80.0	86.2	
$ 13 Terphenyl-d14	244	11.166	11.166	0.000	100	641643	80.0	82.3	
16 1,4-Dioxane	88	2.159	2.159	0.000	98	110306	80.0	81.0	
17 N-Nitrosodimethylamine	74	2.372	2.372	0.000	91	172686	80.0	78.9	
18 Pyridine	79	2.426	2.426	0.000	95	307335	80.0	80.0	
28 Phenol	94	4.312	4.312	0.000	91	324984	80.0	80.6	
30 Aniline	93	4.354	4.354	0.000	98	409641	80.0	79.6	
31 Alpha Methyl Styrene	118	4.408	4.408	0.000	70	264050	80.0	80.8	
32 Bis(2-chloroethyl)ether	93	4.397	4.397	0.000	94	243564	80.0	79.0	
35 n-Decane	43	4.509	4.509	0.000	97	234864	80.0	74.3	
36 2-Chlorophenol	128	4.472	4.472	0.000	99	256966	80.0	81.9	
37 1,3-Dichlorobenzene	146	4.622	4.622	0.000	100	269460	80.0	82.2	
38 1,4-Dichlorobenzene	146	4.680	4.680	0.000	99	270904	80.0	81.0	
39 Benzyl alcohol	108	4.776	4.776	0.000	97	186317	80.0	82.4	
40 1,2-Dichlorobenzene	146	4.830	4.830	0.000	99	258312	80.0	80.8	
41 2-Methylphenol	108	4.878	4.878	0.000	74	248912	80.0	81.1	
43 2,2'-oxybis[1-chloropropan	45	4.905	4.905	0.000	96	310739	80.0	74.0	
44 Indene	116	4.915	4.915	0.000	99	781005	160.0	165.7	
45 3-Methylphenol	108	5.022	5.022	0.000	94	251367	80.0	80.0	
46 3 & 4 Methylphenol	108	5.022	5.022	0.000	94	251367	80.0	80.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.022	5.022	0.000	94	251367	80.0	80.0	
48 N-Nitrosodi-n-propylamine	70	5.028	5.028	0.000	95	168463	80.0	75.8	
50 Acetophenone	105	5.033	5.033	0.000	77	329728	80.0	80.0	
53 Hexachloroethane	117	5.161	5.161	0.000	95	101133	80.0	81.0	
54 Nitrobenzene	77	5.198	5.198	0.000	96	262548	80.0	85.4	
57 Isophorone	82	5.428	5.428	0.000	98	491512	80.0	77.6	
59 2-Nitrophenol	139	5.514	5.514	0.000	98	129182	80.0	91.4	
60 2,4-Dimethylphenol	107	5.540	5.540	0.000	98	250540	80.0	80.8	
63 Bis(2-chloroethoxy)methane	93	5.626	5.626	0.000	94	307660	80.0	79.0	
64 Benzoic acid	105	5.669	5.669	0.000	65	400634	160.0	173.6	
65 3,5-Dimethylphenol	107	5.669	5.669	0.000	97	256046	80.0	80.9	
68 2,4-Dichlorophenol	162	5.749	5.749	0.000	99	218088	80.0	83.8	
70 1,2,4-Trichlorobenzene	180	5.840	5.840	0.000	99	223472	80.0	81.9	
72 Naphthalene	128	5.920	5.920	0.000	100	722110	80.0	80.2	
73 4-Chloroaniline	127	5.957	5.957	0.000	98	332842	80.0	81.9	
74 2,6-Dichlorophenol	162	5.973	5.973	0.000	98	216684	80.0	84.2	
76 Hexachlorobutadiene	225	6.048	6.048	0.000	99	120213	80.0	81.3	
80 Caprolactam	55	6.294	6.294	0.000	96	136756	80.0	80.4	M
83 4-Chloro-3-methylphenol	107	6.438	6.438	0.000	99	223325	80.0	82.6	
87 2-Methylnaphthalene	142	6.603	6.603	0.000	99	495038	80.0	81.2	
89 1-Methylnaphthalene	142	6.705	6.705	0.000	99	470903	80.0	81.2	
90 Hexachlorocyclopentadiene	237	6.774	6.774	0.000	99	115299	80.0	77.7	
91 1,2,4,5-Tetrachlorobenzene	216	6.780	6.780	0.000	97	214184	80.0	80.8	
94 2,4,6-Trichlorophenol	196	6.887	6.887	0.000	88	144154	80.0	85.4	
95 2,3-Dichlorobenzenamine	161	6.881	6.881	0.000	95	254111	80.0	83.0	
96 2,4,5-Trichlorophenol	196	6.924	6.924	0.000	98	163418	80.0	85.2	
100 1,1'-Biphenyl	154	7.068	7.068	0.000	94	598839	80.0	80.8	
102 2-Chloronaphthalene	162	7.095	7.095	0.000	100	475075	80.0	80.8	
105 2-Nitroaniline	65	7.186	7.186	0.000	99	146484	80.0	85.6	
111 Dimethyl phthalate	163	7.362	7.362	0.000	99	541601	80.0	80.9	
112 1,3-Dinitrobenzene	168	7.389	7.389	0.000	88	89405	80.0	91.5	
113 2,6-Dinitrotoluene	165	7.421	7.421	0.000	98	128996	80.0	89.4	
115 Acenaphthylene	152	7.517	7.517	0.000	100	734799	80.0	81.0	
117 3-Nitroaniline	138	7.597	7.597	0.000	98	155834	80.0	87.6	
119 Acenaphthene	153	7.693	7.693	0.000	98	455671	80.0	79.5	
120 2,4-Dinitrophenol	184	7.699	7.699	0.000	96	133791	160.0	186.2	
121 4-Nitrophenol	109	7.768	7.768	0.000	97	143035	160.0	175.1	
124 2,4-Dinitrotoluene	165	7.832	7.832	0.000	98	172577	80.0	91.0	
125 Dibenzofuran	168	7.864	7.864	0.000	100	671805	80.0	79.2	
129 2,3,4,6-Tetrachlorophenol	232	7.987	7.987	0.000	71	140295	80.0	87.6	
131 Hexadecane	57	8.094	8.094	0.000	96	325818	80.0	74.0	
132 Diethyl phthalate	149	8.073	8.073	0.000	100	526630	80.0	80.2	
134 4-Chlorophenyl phenyl ethe	204	8.201	8.201	0.000	97	253262	80.0	79.0	
135 Fluorene	166	8.211	8.211	0.000	100	530390	80.0	78.3	
138 4-Nitroaniline	138	8.222	8.222	0.000	97	156187	80.0	90.6	
139 4,6-Dinitro-2-methylphenol	198	8.254	8.254	0.000	95	192953	160.0	183.9	
140 Diphenylamine	169	8.313	8.313	0.000	95	409148	68.4	67.3	
141 N-Nitrosodiphenylamine	169	8.313	8.313	0.000	99	409148	80.0	80.4	
142 1,2-Diphenylhydrazine	77	8.361	8.361	0.000	96	578917	80.9	77.4	
143 Azobenzene	77	8.361	8.361	0.000	96	578917	80.0	76.5	
145 2,4,6 - Tribromophenol	330	8.457	8.457	0.000	96	77231	80.0	86.2	
152 4-Bromophenyl phenyl ether	248	8.692	8.692	0.000	98	160693	80.0	80.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.783	8.783	0.000	98	162042	80.0	80.7	
155 Atrazine	200	8.847	8.847	0.000	97	155655	80.0	80.0	
156 n-Octadecane	85	9.023	9.023	0.000	97	154228	80.0	75.5	
157 Pentachlorophenol	266	8.975	8.975	0.000	97	206759	160.0	180.3	
163 Phenanthrene	178	9.189	9.189	0.000	100	810017	80.0	80.0	
164 Anthracene	178	9.237	9.237	0.000	100	844570	80.0	80.6	
165 Carbazole	167	9.392	9.392	0.000	100	829927	80.0	81.5	
166 Alachlor	188	9.536	9.536	0.000	95	110886	80.0	81.5	
169 Di-n-butyl phthalate	149	9.745	9.745	0.000	100	946138	80.0	79.8	
176 Fluoranthene	202	10.589	10.589	0.000	100	974146	80.0	81.0	
180 Pyrene	202	10.931	10.931	0.000	99	1011082	80.0	81.7	
186 Famphur	218	11.956	11.956	0.000	99	353087	80.0	81.8	
187 Butyl benzyl phthalate	149	12.084	12.084	0.000	93	456094	80.0	81.9	
190 3,3'-Dichlorobenzidine	252	13.260	13.260	0.000	99	368527	80.0	81.8	
192 Benzo[a]anthracene	228	13.302	13.302	0.000	100	986265	80.0	81.2	
193 Bis(2-ethylhexyl) phthalat	149	13.495	13.495	0.000	99	622647	80.0	78.7	
194 Chrysene	228	13.393	13.393	0.000	99	958431	80.0	82.0	
197 Di-n-octyl phthalate	149	15.332	15.332	0.000	99	1079381	80.0	77.9	
198 Benzo[b]fluoranthene	252	16.214	16.214	0.000	99	961498	80.0	83.6	
200 Benzo[k]fluoranthene	252	16.294	16.294	0.000	99	982046	80.0	84.8	
201 Benzo[e]pyrene	252	17.005	17.005	0.000	98	911597	80.0	83.5	
202 Benzo[a]pyrene	252	17.154	17.154	0.000	100	961581	80.0	84.6	
208 Indeno[1,2,3-cd]pyrene	276	20.472	20.472	0.000	74	861300	80.0	82.8	
209 Dibenz(a,h)anthracene	278	20.568	20.568	0.000	72	863580	80.0	82.9	
210 Benzo[g,h,i]perylene	276	21.214	21.214	0.000	99	921637	80.0	83.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLACCV080_00113 Amount Added: 200.00 Units: uL

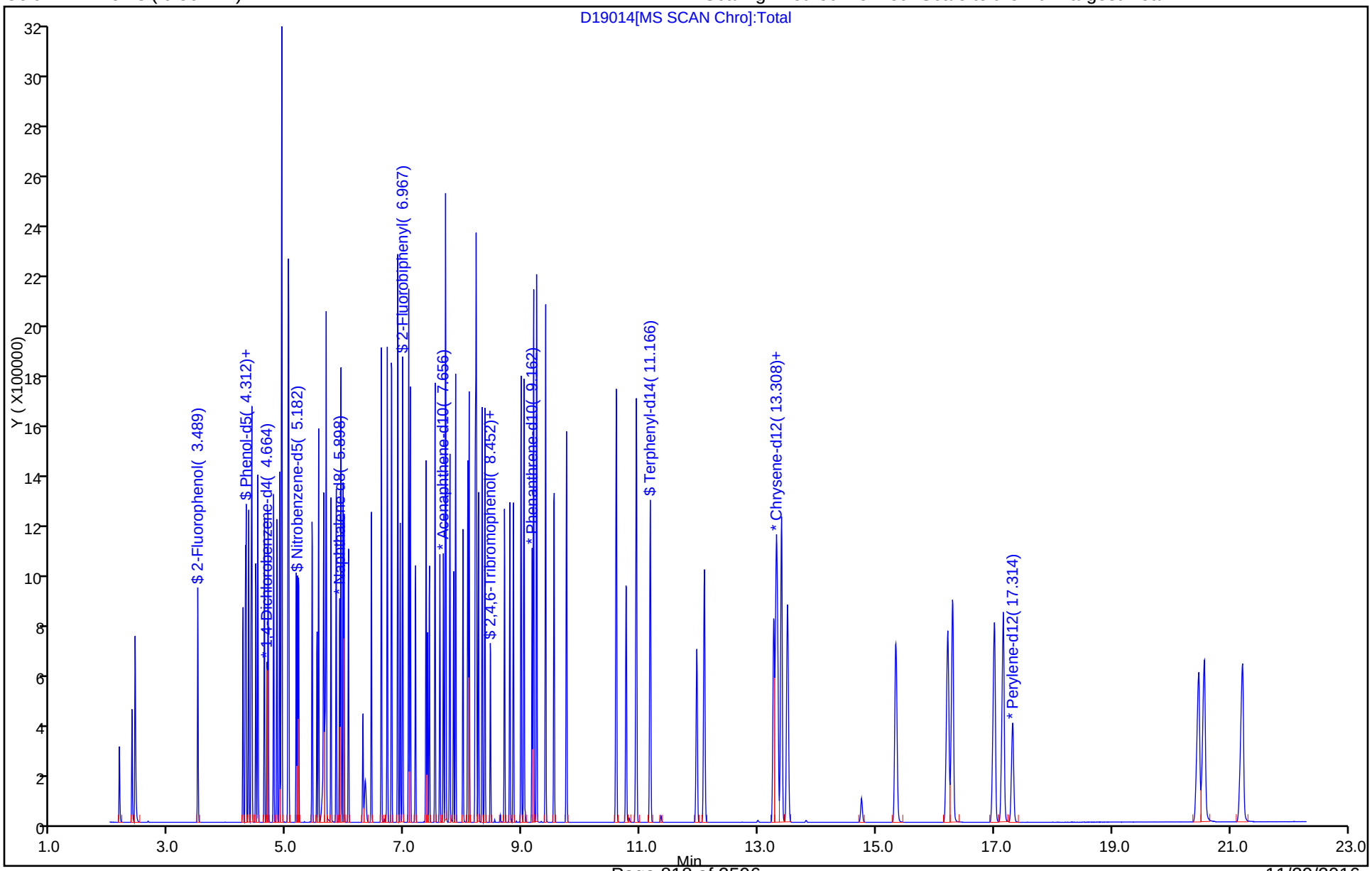
Report Date: 16-Nov-2016 08:42:33 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19014.D

Injection Date:	15-Nov-2016 17:22:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	CCV HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351625/17 | Calibration Date: 11/16/2016 03:33

Instrument ID: SMS_D | Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/09/2016 10:40

Lab File ID: D19037.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5894	0.6103		82800	80000	3.5	50.0
N-Nitrosodimethylamine	Ave	0.9473	0.9878		83400	80000	4.3	50.0
Pyridine	Ave	1.663	1.741		83700	80000	4.7	50.0
Phenol	Ave	1.746	1.858	0.8000	85100	80000	6.4	50.0
Aniline	Ave	2.228	2.320		83300	80000	4.1	50.0
Bis(2-chloroethyl)ether	Ave	1.335	1.385	0.7000	83000	80000	3.7	50.0
2-Chlorophenol	Ave	1.359	1.486	0.8000	87500	80000	9.4	50.0
1,3-Dichlorobenzene	Ave	1.419	1.521		85700	80000	7.2	50.0
1,4-Dichlorobenzene	Ave	1.449	1.535		84800	80000	6.0	50.0
Benzyl alcohol	Ave	0.9791	1.056		86300	80000	7.9	50.0
1,2-Dichlorobenzene	Ave	1.385	1.486		85800	80000	7.3	50.0
2-Methylphenol	Ave	1.328	1.426	0.7000	85900	80000	7.4	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.818	1.770	0.0100	77900	80000	-2.6	50.0
3 & 4 Methylphenol	Ave	1.360	1.421		83600	80000	4.5	50.0
N-Nitrosodi-n-propylamine	Ave	0.9616	0.9609	0.5000	79900	80000	-0.0	50.0
Acetophenone	Ave	1.784	1.869	0.0100	83800	80000	4.7	50.0
Hexachloroethane	Ave	0.5406	0.5763	0.3000	85300	80000	6.6	50.0
Nitrobenzene	Ave	0.3363	0.3776		89800	80000	12.3	50.0
Isophorone	Ave	0.6929	0.6897	0.4000	79600	80000	-0.5	50.0
2-Nitrophenol	Lin2		0.1982	0.1000	102000	80000	27.9	50.0
2,4-Dimethylphenol	Ave	0.3392	0.3525	0.2000	83100	80000	3.9	50.0
Bis(2-chloroethoxy)methane	Ave	0.4262	0.4251	0.3000	79800	80000	-0.3	50.0
Benzoic acid	Lin2		0.3035		191000	160000	19.3	50.0
2,4-Dichlorophenol	Ave	0.2848	0.3089	0.2000	86800	80000	8.5	50.0
1,2,4-Trichlorobenzene	Ave	0.2985	0.3146		84300	80000	5.4	50.0
Naphthalene	Ave	0.9855	1.029	0.7000	83500	80000	4.4	50.0
4-Chloroaniline	Ave	0.4450	0.4723	0.0100	84900	80000	6.1	50.0
2,6-Dichlorophenol	Ave	0.2815	0.3067		87200	80000	9.0	50.0
Hexachlorobutadiene	Ave	0.1618	0.1673	0.0100	82700	80000	3.4	50.0
4-Chloro-3-methylphenol	Ave	0.2959	0.3149	0.2000	85100	80000	6.4	50.0
2-Methylnaphthalene	Ave	0.6673	0.6947	0.4000	83300	80000	4.1	50.0
1-Methylnaphthalene	Ave	0.6344	0.6647		83800	80000	4.8	50.0
Hexachlorocyclopentadiene	Ave	0.2622	0.2703	0.0500	82500	80000	3.1	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2902	0.3001	0.0100	82700	80000	3.4	50.0
2,4,6-Trichlorophenol	Ave	0.2983	0.3397	0.2000	91100	80000	13.8	50.0
2,4,5-Trichlorophenol	Ave	0.3391	0.3856	0.2000	91000	80000	13.7	50.0
2-Chloronaphthalene	Ave	1.040	1.111	0.8000	85400	80000	6.8	50.0
2-Nitroaniline	Lin2		0.3482	0.0100	91900	80000	14.9	50.0
Dimethyl phthalate	Ave	1.183	1.244	0.0100	84100	80000	5.1	50.0
1,3-Dinitrobenzene	Lin1		0.2248		103000	80000	28.8	50.0
2,6-Dinitrotoluene	Lin2		0.3081	0.2000	96400	80000	20.5	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351625/17 Calibration Date: 11/16/2016 03:33

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D19037.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acenaphthylene	Ave	1.603	1.711	0.9000	85400	80000	6.7	50.0
3-Nitroaniline	Lin2		0.3730	0.0100	94700	80000	18.3	50.0
Acenaphthene	Ave	1.014	1.057	0.9000	83400	80000	4.3	50.0
2,4-Dinitrophenol	Qua		0.1744	0.0100	213000	160000	33.1	50.0
4-Nitrophenol	Ave	0.1444	0.1674	0.0100	185000	160000	15.9	50.0
2,4-Dinitrotoluene	Lin2		0.4185	0.2000	99600	80000	24.6	50.0
Dibenzofuran	Ave	1.499	1.588	0.8000	84700	80000	5.9	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.2831	0.3310	0.0100	93500	80000	16.9	50.0
Diethyl phthalate	Ave	1.162	1.204	0.0100	82900	80000	3.7	50.0
4-Chlorophenyl phenyl ether	Ave	0.5671	0.5828	0.4000	82200	80000	2.8	50.0
Fluorene	Ave	1.197	1.247	0.9000	83300	80000	4.1	50.0
4-Nitroaniline	Ave	0.3049	0.3838	0.0100	101000	80000	25.9	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1331	0.0100	200000	160000	25.2	50.0
Diphenylamine	Ave	1.075	1.126		71700	68400	4.8	50.0
N-Nitrosodiphenylamine	Ave	0.5134	0.5355	0.0100	83400	80000	4.3	50.0
1,2-Diphenylhydrazine	Ave	1.323	1.320		80700	80900	-0.2	50.0
Azobenzene	Ave	1.338	1.335		79800	80000	-0.2	50.0
4-Bromophenyl phenyl ether	Ave	0.2020	0.2070	0.1000	82000	80000	2.5	50.0
Hexachlorobenzene	Ave	0.2026	0.2076	0.1000	82000	80000	2.5	50.0
Atrazine	Ave	0.1963	0.2020		82300	80000	2.9	50.0
Pentachlorophenol	Ave	0.1156	0.1336	0.0500	185000	160000	15.6	50.0
Phenanthrene	Ave	1.021	1.051	0.7000	82300	80000	2.9	50.0
Anthracene	Ave	1.057	1.103	0.7000	83500	80000	4.3	50.0
Carbazole	Ave	1.027	1.081	0.0100	84200	80000	5.3	50.0
Alachlor	Ave	0.1373	0.1444		84200	80000	5.2	50.0
Di-n-butyl phthalate	Ave	1.195	1.229	0.0100	82300	80000	2.9	50.0
Fluoranthene	Ave	1.213	1.266	0.6000	83500	80000	4.4	50.0
Pyrene	Ave	1.162	1.217	0.6000	83800	80000	4.8	50.0
Famphur	Ave	0.4051	0.4438		87600	80000	9.6	50.0
Butyl benzyl phthalate	Ave	0.5229	0.5534	0.0100	84700	80000	5.8	50.0
3,3'-Dichlorobenzidine	Ave	0.4230	0.4393	0.0100	83100	80000	3.9	50.0
Benzo[a]anthracene	Ave	1.140	1.196	0.8000	83900	80000	4.9	50.0
Chrysene	Ave	1.097	1.154	0.7000	84100	80000	5.2	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.7426	0.7619	0.0100	82100	80000	2.6	50.0
Di-n-octyl phthalate	Ave	1.300	1.350	0.0100	83100	80000	3.8	50.0
Benzo[b]fluoranthene	Ave	1.112	1.176	0.7000	84600	80000	5.7	50.0
Benzo[k]fluoranthene	Ave	1.120	1.204	0.7000	86000	80000	7.5	50.0
Benzo[a]pyrene	Ave	1.099	1.175	0.7000	85500	80000	6.9	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.006	1.051	0.5000	83600	80000	4.5	50.0
Dibenz(a,h)anthracene	Ave	1.008	1.065	0.4000	84600	80000	5.7	50.0
Benzo[g,h,i]perylene	Ave	1.068	1.109	0.5000	83100	80000	3.8	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVC 280-351625/17 Calibration Date: 11/16/2016 03:33

Instrument ID: SMS_D Calib Start Date: 11/09/2016 07:22

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/09/2016 10:40

Lab File ID: D19037.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Fluorophenol (Surr)	Ave	1.332	1.419		85200	80000	6.5	50.0
Phenol-d5 (Surr)	Ave	1.770	1.902		86000	80000	7.5	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3389	0.3862		91200	80000	14.0	50.0
2-Fluorobiphenyl (Surr)	Ave	1.214	1.279		84300	80000	5.4	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.1584	0.1828		92300	80000	15.4	50.0
Terphenyl-d14 (Surr)	Ave	0.7319	0.7669		83800	80000	4.8	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19037.D
Lims ID: CCVC HSL
Client ID:
Sample Type: CCVC
Inject. Date: 16-Nov-2016 03:33:30 ALS Bottle#: 25 Worklist Smp#: 17
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCVC HSL
Operator ID: HOEFLERA Instrument ID: SMS_D
Sublist: chrom-SMSD_8270C*sub30

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:51 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 07:32:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.671	4.671	0.000	96	84289	40.0	40.0	
* 2 Naphthalene-d8	136	5.900	5.900	0.000	100	339651	40.0	40.0	
* 3 Acenaphthene-d10	164	7.663	7.663	0.000	99	207685	40.0	40.0	
* 4 Phenanthrene-d10	188	9.164	9.164	0.000	99	373415	40.0	40.0	
* 5 Chrysene-d12	240	13.331	13.331	0.000	83	406229	40.0	40.0	
* 6 Perylene-d12	264	17.316	17.316	0.000	99	405136	40.0	40.0	
$ 7 2-Fluorophenol	112	3.496	3.496	0.000	98	239134	80.0	85.2	
$ 8 Phenol-d5	99	4.302	4.302	0.000	97	320591	80.0	86.0	
$ 9 Nitrobenzene-d5	82	5.184	5.184	0.000	97	262371	80.0	91.2	
$ 11 2-Fluorobiphenyl	172	6.968	6.968	0.000	98	531314	80.0	84.3	
$ 12 2,4,6-Tribromophenol	330	8.458	8.458	0.000	97	75927	80.0	92.3	
$ 13 Terphenyl-d14	244	11.167	11.167	0.000	100	623037	80.0	83.8	
16 1,4-Dioxane	88	2.160	2.160	0.000	98	102879	80.0	82.8	
17 N-Nitrosodimethylamine	74	2.374	2.374	0.000	91	166526	80.0	83.4	
18 Pyridine	79	2.427	2.427	0.000	95	293425	80.0	83.7	
28 Phenol	94	4.313	4.313	0.000	91	313257	80.0	85.1	
30 Aniline	93	4.356	4.356	0.000	99	391030	80.0	83.3	
31 Alpha Methyl Styrene	118	4.409	4.409	0.000	70	252256	80.0	84.6	
32 Bis(2-chloroethyl)ether	93	4.398	4.398	0.000	94	233423	80.0	83.0	
35 n-Decane	43	4.511	4.511	0.000	97	226187	80.0	78.5	
36 2-Chlorophenol	128	4.479	4.479	0.000	99	250488	80.0	87.5	
37 1,3-Dichlorobenzene	146	4.623	4.623	0.000	100	256406	80.0	85.7	
38 1,4-Dichlorobenzene	146	4.687	4.687	0.000	98	258773	80.0	84.8	
39 Benzyl alcohol	108	4.783	4.783	0.000	97	178056	80.0	86.3	
40 1,2-Dichlorobenzene	146	4.837	4.837	0.000	99	250422	80.0	85.8	
41 2-Methylphenol	108	4.885	4.885	0.000	74	240445	80.0	85.9	
43 2,2'-oxybis[1-chloropropan	45	4.906	4.906	0.000	95	298324	80.0	77.9	
44 Indene	116	4.917	4.917	0.000	99	752430	160.0	177.2	
45 3-Methylphenol	108	5.024	5.024	0.000	96	239632	80.0	83.6	
46 3 & 4 Methylphenol	108	5.024	5.024	0.000	96	239632	80.0	83.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
47 4-Methylphenol	108	5.024	5.024	0.000	96	239632	80.0	83.6	
48 N-Nitrosodi-n-propylamine	70	5.029	5.029	0.000	95	161993	80.0	79.9	
50 Acetophenone	105	5.034	5.034	0.000	79	315004	80.0	83.8	
53 Hexachloroethane	117	5.162	5.162	0.000	95	97150	80.0	85.3	
54 Nitrobenzene	77	5.205	5.205	0.000	96	256492	80.0	89.8	
57 Isophorone	82	5.435	5.435	0.000	98	468484	80.0	79.6	
59 2-Nitrophenol	139	5.515	5.515	0.000	97	134636	80.0	102.3	
60 2,4-Dimethylphenol	107	5.542	5.542	0.000	99	239433	80.0	83.1	
63 Bis(2-chloroethoxy)methane	93	5.627	5.627	0.000	95	288769	80.0	79.8	
64 Benzoic acid	105	5.670	5.670	0.000	94	412393	160.0	190.9	
65 3,5-Dimethylphenol	107	5.675	5.675	0.000	97	243715	80.0	82.9	
68 2,4-Dichlorophenol	162	5.755	5.755	0.000	98	209834	80.0	86.8	
70 1,2,4-Trichlorobenzene	180	5.841	5.841	0.000	99	213716	80.0	84.3	
72 Naphthalene	128	5.921	5.921	0.000	100	698934	80.0	83.5	
73 4-Chloroaniline	127	5.958	5.958	0.000	98	320804	80.0	84.9	
74 2,6-Dichlorophenol	162	5.974	5.974	0.000	98	208334	80.0	87.2	
76 Hexachlorobutadiene	225	6.049	6.049	0.000	100	113639	80.0	82.7	
80 Caprolactam	55	6.295	6.295	0.000	95	128412	80.0	81.3	M
83 4-Chloro-3-methylphenol	107	6.439	6.439	0.000	99	213885	80.0	85.1	
87 2-Methylnaphthalene	142	6.610	6.610	0.000	99	471925	80.0	83.3	
89 1-Methylnaphthalene	142	6.706	6.706	0.000	99	451553	80.0	83.8	
90 Hexachlorocyclopentadiene	237	6.776	6.776	0.000	99	112280	80.0	82.5	
91 1,2,4,5-Tetrachlorobenzene	216	6.781	6.781	0.000	97	203880	80.0	82.7	
94 2,4,6-Trichlorophenol	196	6.888	6.888	0.000	85	141080	80.0	91.1	
95 2,3-Dichlorobenzenamine	161	6.888	6.888	0.000	93	245350	80.0	88.1	
96 2,4,5-Trichlorophenol	196	6.925	6.925	0.000	98	160185	80.0	91.0	
100 1,1'-Biphenyl	154	7.070	7.070	0.000	94	578535	80.0	85.1	
102 2-Chloronaphthalene	162	7.096	7.096	0.000	100	461306	80.0	85.4	
105 2-Nitroaniline	65	7.187	7.187	0.000	98	144620	80.0	91.9	
111 Dimethyl phthalate	163	7.363	7.363	0.000	100	516858	80.0	84.1	
112 1,3-Dinitrobenzene	168	7.390	7.390	0.000	89	93375	80.0	103.0	
113 2,6-Dinitrotoluene	165	7.422	7.422	0.000	98	127963	80.0	96.4	
115 Acenaphthylene	152	7.518	7.518	0.000	100	710708	80.0	85.4	
117 3-Nitroaniline	138	7.604	7.604	0.000	97	154915	80.0	94.7	
119 Acenaphthene	153	7.695	7.695	0.000	98	438972	80.0	83.4	
120 2,4-Dinitrophenol	184	7.705	7.705	0.000	96	144918	160.0	213.0	
121 4-Nitrophenol	109	7.775	7.775	0.000	95	139073	160.0	185.5	
124 2,4-Dinitrotoluene	165	7.833	7.833	0.000	98	173810	80.0	99.6	
125 Dibenzofuran	168	7.866	7.866	0.000	99	659678	80.0	84.7	
129 2,3,4,6-Tetrachlorophenol	232	7.994	7.994	0.000	71	137471	80.0	93.5	
131 Hexadecane	57	8.095	8.095	0.000	96	308656	80.0	76.4	
132 Diethyl phthalate	149	8.074	8.074	0.000	100	500237	80.0	82.9	
134 4-Chlorophenyl phenyl ethe	204	8.202	8.202	0.000	98	242092	80.0	82.2	
135 Fluorene	166	8.213	8.213	0.000	99	517768	80.0	83.3	
138 4-Nitroaniline	138	8.223	8.223	0.000	97	159422	80.0	100.7	
139 4,6-Dinitro-2-methylphenol	198	8.255	8.255	0.000	95	198870	160.0	200.3	
140 Diphenylamine	169	8.320	8.320	0.000	95	399915	68.4	71.7	
141 N-Nitrosodiphenylamine	169	8.320	8.320	0.000	98	399915	80.0	83.4	
142 1,2-Diphenylhydrazine	77	8.362	8.362	0.000	96	554416	80.9	80.7	
143 Azobenzene	77	8.362	8.362	0.000	96	554416	80.0	79.8	
145 2,4,6 - Tribromophenol	330	8.458	8.458	0.000	97	75927	80.0	92.3	
152 4-Bromophenyl phenyl ether	248	8.699	8.699	0.000	98	154564	80.0	82.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
153 Hexachlorobenzene	284	8.784	8.784	0.000	98	155056	80.0	82.0	
155 Atrazine	200	8.848	8.848	0.000	96	150865	80.0	82.3	
156 n-Octadecane	85	9.025	9.025	0.000	97	148001	80.0	77.0	
157 Pentachlorophenol	266	8.977	8.977	0.000	97	199615	160.0	184.9	
163 Phenanthrene	178	9.190	9.190	0.000	100	784746	80.0	82.3	
164 Anthracene	178	9.238	9.238	0.000	100	823600	80.0	83.5	
165 Carbazole	167	9.393	9.393	0.000	100	807502	80.0	84.2	
166 Alachlor	188	9.538	9.538	0.000	95	107842	80.0	84.2	
169 Di-n-butyl phthalate	149	9.746	9.746	0.000	100	918149	80.0	82.3	
176 Fluoranthene	202	10.590	10.590	0.000	100	945705	80.0	83.5	
180 Pyrene	202	10.932	10.932	0.000	99	988969	80.0	83.8	
186 Famphur	218	11.958	11.958	0.000	99	360579	80.0	87.6	
187 Butyl benzyl phthalate	149	12.086	12.086	0.000	92	449590	80.0	84.7	
190 3,3'-Dichlorobenzidine	252	13.261	13.261	0.000	99	356911	80.0	83.1	
192 Benzo[a]anthracene	228	13.304	13.304	0.000	100	971367	80.0	83.9	
193 Bis(2-ethylhexyl) phthalat	149	13.496	13.496	0.000	99	618969	80.0	82.1	
194 Chrysene	228	13.395	13.395	0.000	99	937391	80.0	84.1	
197 Di-n-octyl phthalate	149	15.334	15.334	0.000	100	1096561	80.0	83.1	
198 Benzo[b]fluoranthene	252	16.221	16.221	0.000	99	952560	80.0	84.6	
200 Benzo[k]fluoranthene	252	16.301	16.301	0.000	99	975257	80.0	86.0	
201 Benzo[e]pyrene	252	17.006	17.006	0.000	98	910499	80.0	85.1	
202 Benzo[a]pyrene	252	17.155	17.155	0.000	100	951877	80.0	85.5	
208 Indeno[1,2,3-cd]pyrene	276	20.473	20.473	0.000	74	851939	80.0	83.6	
209 Dibenz(a,h)anthracene	278	20.569	20.569	0.000	72	863300	80.0	84.6	
210 Benzo[g,h,i]perylene	276	21.216	21.216	0.000	99	898415	80.0	83.1	
S 219 Total Cresols	108				0			169.5	
S 220 Methyl Phenols,Total	108				0			169.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLACCV080_00113 Amount Added: 200.00 Units: uL

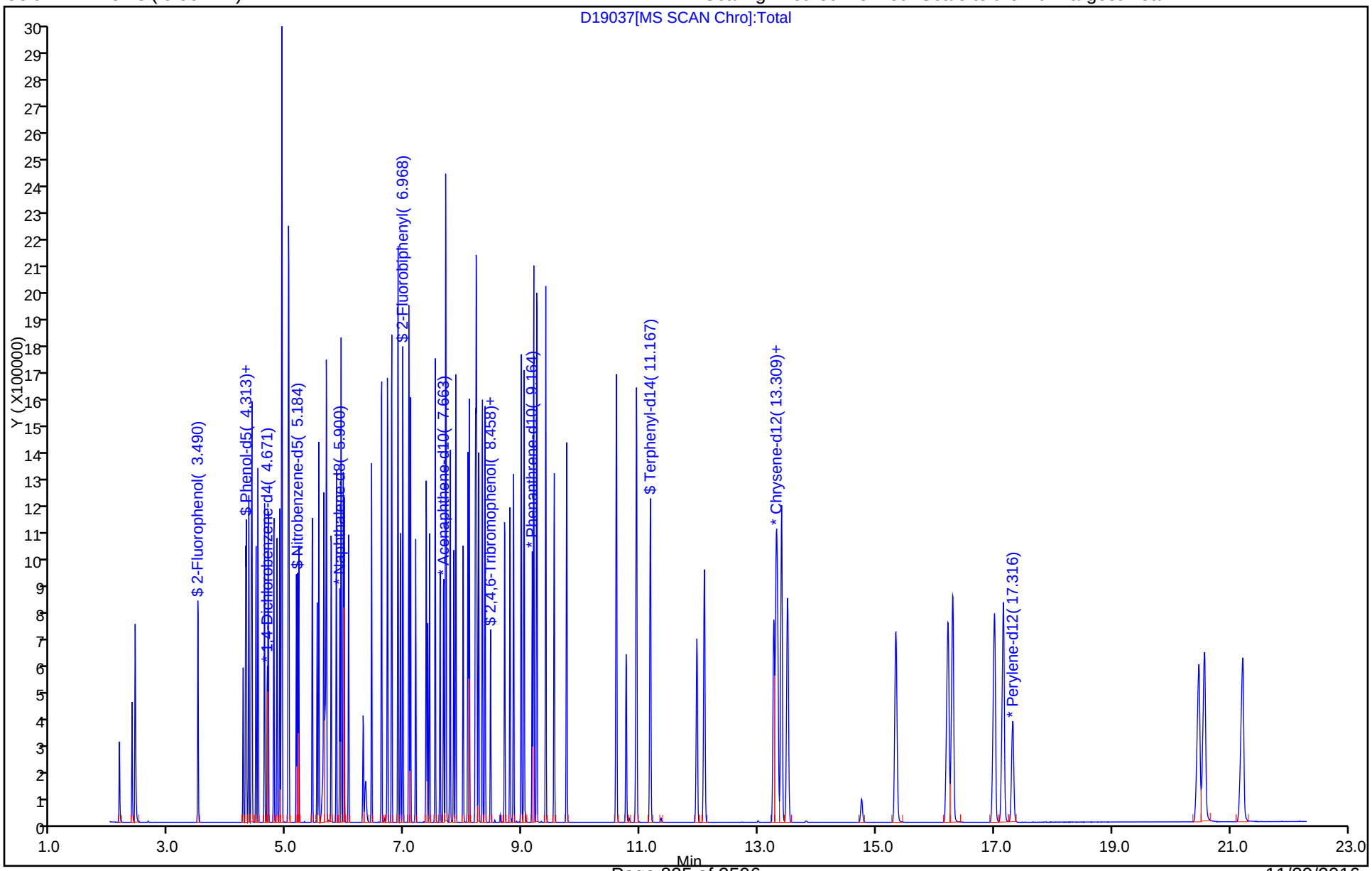
Report Date: 16-Nov-2016 08:42:52 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19037.D

Injection Date:	16-Nov-2016 03:33:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	CCVC HSL			Worklist Smp#:	17
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 09-Nov-2016 07:11:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: KIEKELD Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 10-Nov-2016 11:40:38 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK021

First Level Reviewer: kiekeld Date: 09-Nov-2016 07:20:30

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Pentachlorophenol_T	266	3.838	3.838	0.000	91	55858	NR	NR	
42 Benzidine_T	184	4.967	4.967	0.000	100	465398	NR	NR	
215 DFTPP									
216 4,4'-DDE	246	5.118	5.118	0.000	1	244	NR	NR	
217 4,4'-DDD	235	5.423	5.423	0.000	53	4106	NR	NR	
218 4,4'-DDT	235	5.659	5.659	0.000	95	172456	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

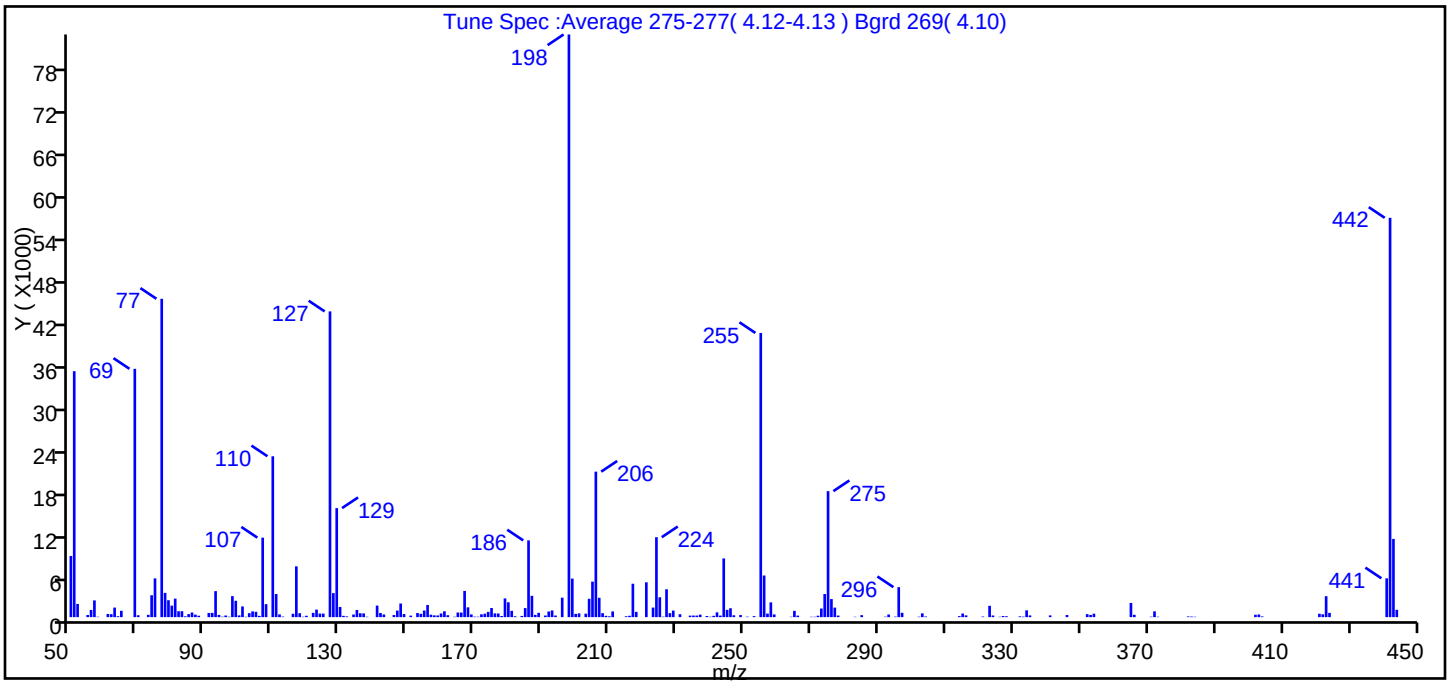
MS-DFTPP_00043 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D
Injection Date: 09-Nov-2016 07:11:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

215 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	42.2
68	<2% of mass 69	0.0 (0.0)
69	Present	42.6
70	<2% of mass 69	0.3 (0.8)
127	40-60% of mass 198	52.5
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.6
275	10-30% of mass 198	21.6
365	>1% of mass 198	2.4
441	Present but less than mass 443	6.7 (49.7)
442	>40% of mass 198	68.5
443	17-23% of mass 442	13.4 (19.6)

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D\SMSD_8270C.rslt\spectra.d
Injection Date: 09-Nov-2016 07:11:30
Spectrum: Tune Spec :Average 275-277(4.12-4.13) Bgrd 269(4.10)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 225

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	8676	123.00	1069	191.00	231	272.00	204
51.00	34880	124.00	508	192.00	804	273.00	1222
52.00	1875	125.00	502	193.00	952	274.00	3278
55.00	303	127.00	43360	194.00	228	275.00	17872
56.00	1024	128.00	3412	196.00	2760	276.00	2563
57.00	2374	129.00	15464	198.00	82632	277.00	1351
58.00	59	130.00	1445	199.00	5467	278.00	226
61.00	450	131.00	186	200.00	461	283.00	52
62.00	416	132.00	107	201.00	533	285.00	280
63.00	1357	134.00	372	203.00	492	292.00	66
64.00	130	135.00	1021	204.00	2598	293.00	373
65.00	899	136.00	553	205.00	5037	295.00	74
69.00	35216	137.00	531	206.00	20632	296.00	4255
70.00	271	138.00	59	207.00	2744	297.00	617
73.00	330	141.00	1640	208.00	565	302.00	64
74.00	3106	142.00	585	209.00	189	303.00	536
75.00	5494	143.00	372	210.00	117	304.00	91
77.00	45152	146.00	299	211.00	813	314.00	147
78.00	3445	147.00	930	215.00	123	315.00	513
79.00	2401	148.00	1933	216.00	195	316.00	254
80.00	1636	149.00	438	217.00	4739	321.00	85
81.00	2626	151.00	214	218.00	753	323.00	1610
82.00	837	153.00	584	221.00	4941	324.00	231
83.00	844	154.00	474	223.00	1355	326.00	52
84.00	115	155.00	938	224.00	11338	327.00	160
85.00	429	156.00	1724	225.00	2816	328.00	128
86.00	657	157.00	345	226.00	65	332.00	113
87.00	357	158.00	253	227.00	3954	333.00	73
88.00	201	159.00	242	228.00	565	334.00	965
91.00	595	160.00	522	229.00	932	335.00	242
92.00	603	161.00	834	231.00	415	341.00	247
93.00	3689	162.00	276	234.00	216	346.00	304
94.00	318	164.00	59	235.00	226	352.00	428

Report Date: 10-Nov-2016 11:40:39 Chrom Revision: 2.2 01-Nov-2016 11:37:52
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D\SMSD_8270C.rslt\spectra.d
Injection Date: 09-Nov-2016 07:11:30
Spectrum: Tune Spec :Average 275-277(4.12-4.13) Bgrd 269(4.10)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 225

m/z	Y	m/z	Y	m/z	Y	m/z	Y
95.00	63	165.00	659	236.00	224	353.00	313
96.00	233	166.00	651	237.00	359	354.00	489
97.00	61	167.00	3720	239.00	161	365.00	2014
98.00	2978	168.00	1391	240.00	54	366.00	329
99.00	2318	169.00	385	241.00	186	371.00	63
100.00	251	170.00	70	242.00	680	372.00	822
101.00	1521	171.00	64	243.00	220	373.00	58
102.00	51	172.00	402	244.00	8324	382.00	100
103.00	564	173.00	488	245.00	1033	383.00	84
104.00	815	174.00	746	246.00	1264	384.00	55
105.00	760	175.00	1300	247.00	265	402.00	339
106.00	183	176.00	533	249.00	297	403.00	381
107.00	11275	177.00	516	251.00	69	404.00	105
108.00	1847	178.00	158	253.00	146	421.00	484
110.00	22816	179.00	2653	255.00	40304	422.00	407
111.00	3279	180.00	2107	256.00	5906	423.00	2970
112.00	388	181.00	895	257.00	504	424.00	603
113.00	77	182.00	126	258.00	2091	441.00	5508
116.00	479	184.00	172	259.00	385	442.00	56632
117.00	7203	185.00	1285	264.00	57	443.00	11089
118.00	557	186.00	10884	265.00	894	444.00	1042
119.00	58	187.00	3024	266.00	217		
120.00	198	188.00	319	270.00	52		
122.00	605	189.00	614	271.00	54		

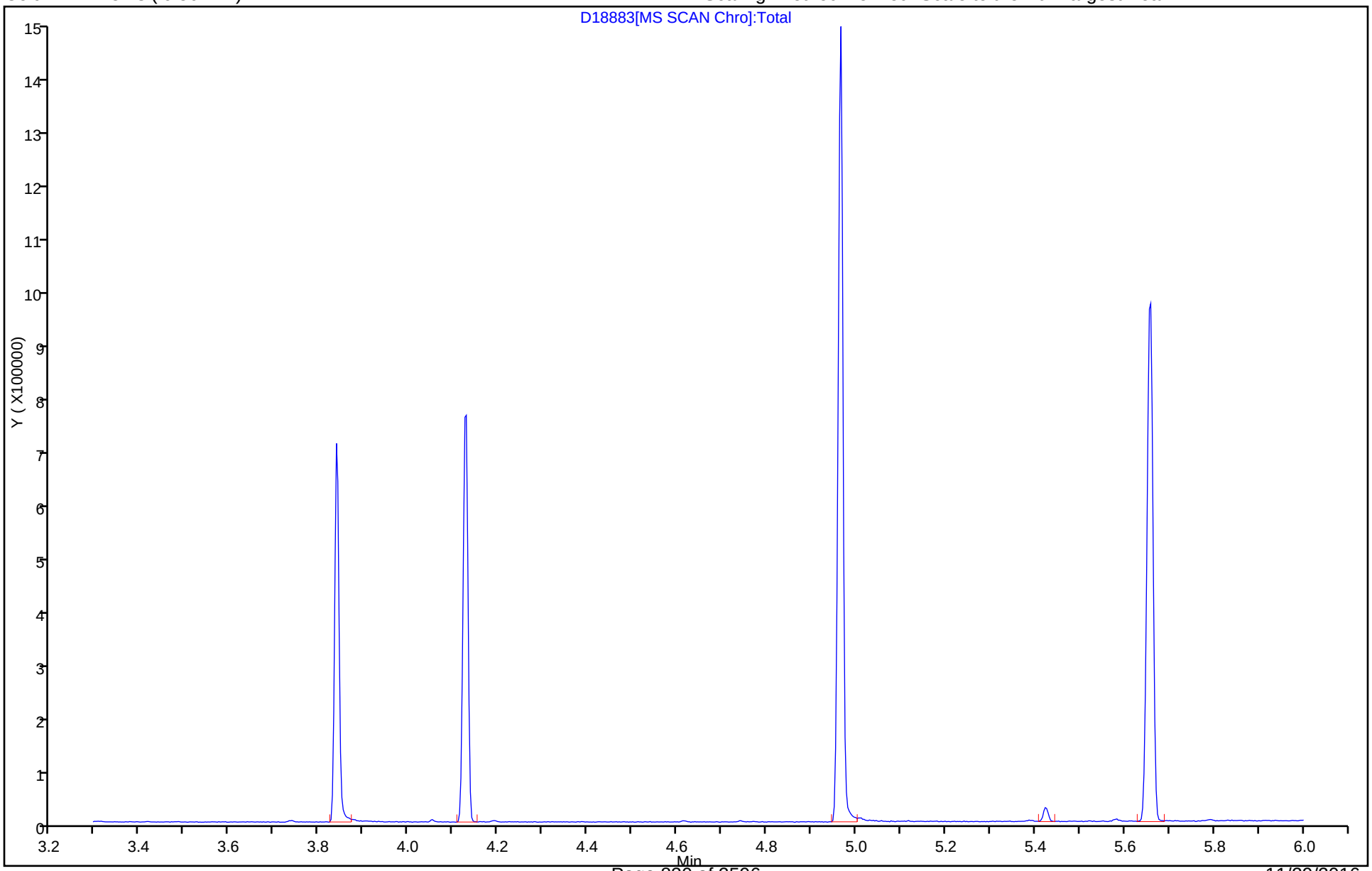
Report Date: 10-Nov-2016 11:40:39 Chrom Revision: 2.2 01-Nov-2016 11:37:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D

Injection Date:	09-Nov-2016 07:11:30	Instrument ID:	SMS_D	Operator ID:	KIEKELD
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

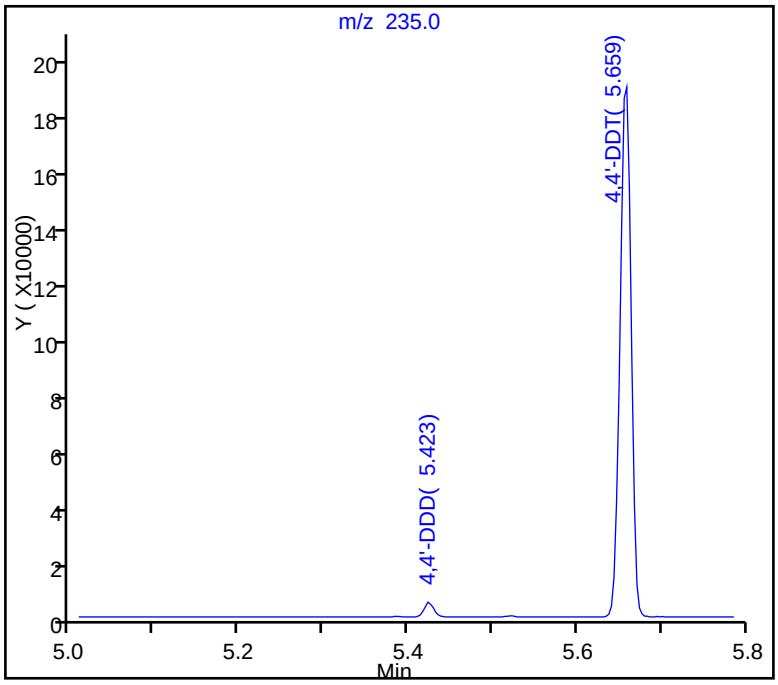


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D
Injection Date: 09-Nov-2016 07:11:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

218 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

218 4,4'-DDT, Area = 172456
217 4,4'-DDD, Area = 4106
216 4,4'-DDE, Area = 244

%Breakdown: 2.46%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

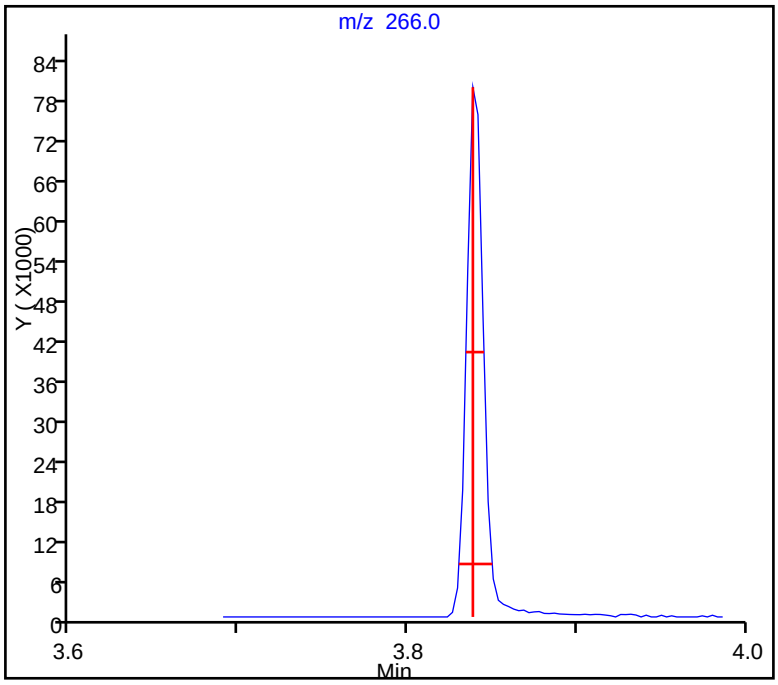
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D
Injection Date: 09-Nov-2016 07:11:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

25 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.4, Max. Tailing < 5.00
Passed



Peak Tailing Report

TestAmerica Denver

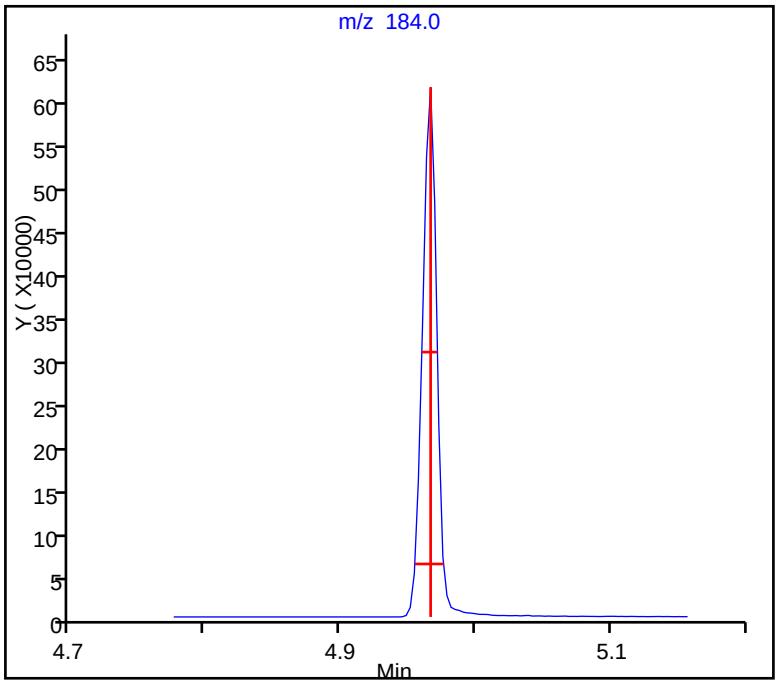
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18883.D
Injection Date: 09-Nov-2016 07:11:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

42 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.012 (min.)

Tailing Factor = 0.8, Max. Tailing < 3.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 11-Nov-2016 20:19:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:40 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: wickhamm Date: 11-Nov-2016 20:44:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Pentachlorophenol_T	266	3.817	3.817	0.000	92	57998	NR	NR	
42 Benzidine_T	184	4.909	4.909	0.000	100	398516	NR	NR	
215 DFTPP									
216 4,4'-DDE	246	5.054	5.054	0.000	1	185	NR	NR	
217 4,4'-DDD	235	5.348	5.348	0.000	38	2921	NR	NR	
218 4,4'-DDT	235	5.575	5.575	0.000	94	136156	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

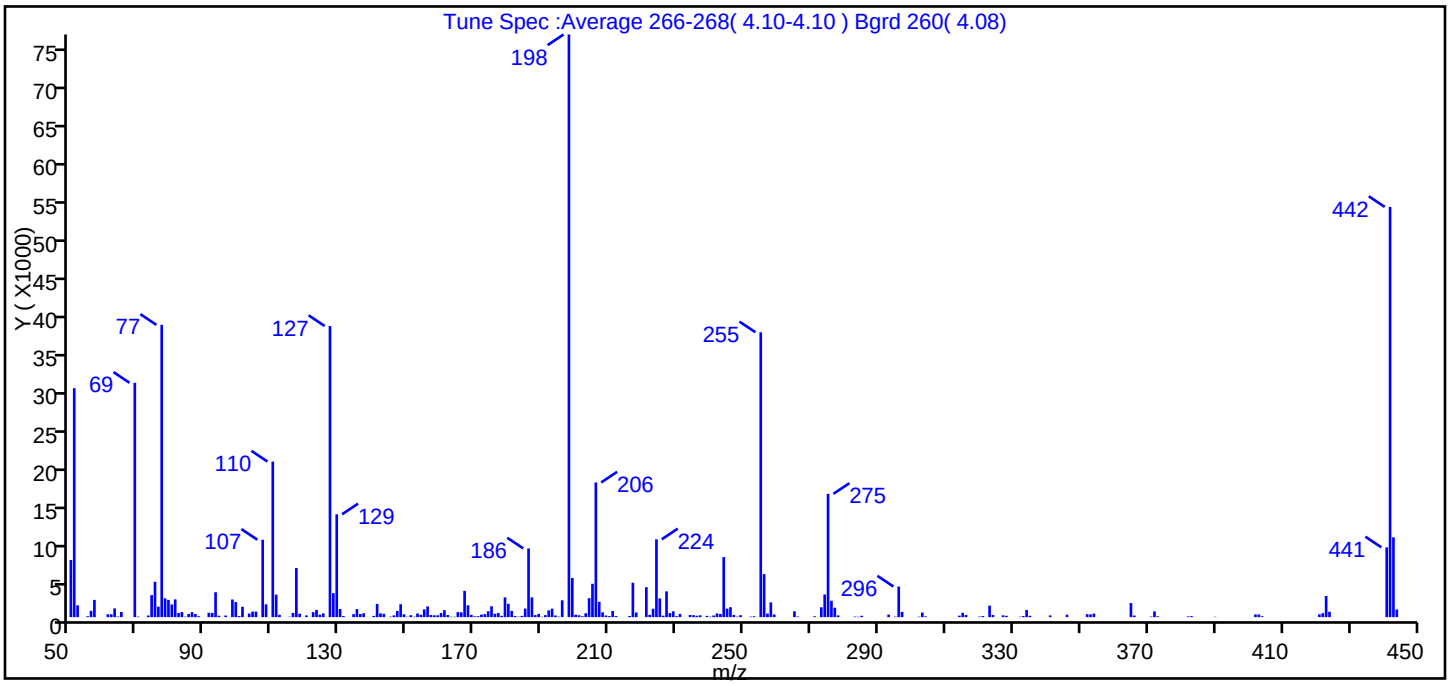
MS-DFTPP_00043 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D
Injection Date: 11-Nov-2016 20:19:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

215 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	39.3
68	<2% of mass 69	0.0 (0.0)
69	Present	40.2
70	<2% of mass 69	0.1 (0.2)
127	40-60% of mass 198	50.0
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.7
275	10-30% of mass 198	21.2
365	>1% of mass 198	2.4
441	Present but less than mass 443	12.0 (87.5)
442	>40% of mass 198	70.4
443	17-23% of mass 442	13.7 (19.4)

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D\SMSD_8270C.rslt\spectra.d
Injection Date: 11-Nov-2016 20:19:30
Spectrum: Tune Spec :Average 266-268(4.10-4.10) Bgrd 260(4.08)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 227

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	7478	129.00	13470	191.00	264	265.00	765
51.00	29984	130.00	1066	192.00	893	266.00	82
52.00	1553	131.00	144	193.00	1120	271.00	116
55.00	116	134.00	400	194.00	218	273.00	1291
56.00	826	135.00	1059	195.00	59	274.00	2971
57.00	2257	136.00	408	196.00	2205	275.00	16150
61.00	375	137.00	509	198.00	76312	276.00	2145
62.00	373	140.00	163	199.00	5130	277.00	1231
63.00	1147	141.00	1738	200.00	314	278.00	231
64.00	80	142.00	495	201.00	251	283.00	74
65.00	671	143.00	435	202.00	113	284.00	50
69.00	30696	145.00	64	203.00	506	285.00	180
70.00	72	146.00	232	204.00	2490	293.00	334
73.00	218	147.00	807	205.00	4369	295.00	66
74.00	2890	148.00	1692	206.00	17640	296.00	4012
75.00	4623	149.00	376	207.00	2004	297.00	685
76.00	1374	150.00	50	208.00	636	302.00	60
77.00	38280	151.00	251	209.00	214	303.00	599
78.00	2465	152.00	55	210.00	137	304.00	97
79.00	2256	153.00	472	211.00	803	314.00	193
80.00	1662	154.00	310	212.00	159	315.00	569
81.00	2323	155.00	1015	216.00	154	316.00	289
82.00	541	156.00	1405	217.00	4511	320.00	73
83.00	668	157.00	280	218.00	611	321.00	143
84.00	56	158.00	244	221.00	3924	323.00	1504
85.00	415	159.00	240	222.00	299	324.00	288
86.00	650	160.00	540	223.00	1103	327.00	238
87.00	409	161.00	913	224.00	10194	328.00	179
88.00	122	162.00	275	225.00	2453	332.00	54
91.00	570	163.00	52	226.00	194	333.00	142
92.00	554	164.00	51	227.00	3378	334.00	937
93.00	3261	165.00	654	228.00	533	335.00	182
94.00	185	166.00	624	229.00	765	341.00	227

Report Date: 12-Nov-2016 14:01:40 Chrom Revision: 2.2 17-Oct-2016 09:27:18
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D\SMSD_8270C.rslt\spectra.d
Injection Date: 11-Nov-2016 20:19:30
Spectrum: Tune Spec :Average 266-268(4.10-4.10) Bgrd 260(4.08)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 227

m/z	Y	m/z	Y	m/z	Y	m/z	Y
96.00	210	167.00	3447	230.00	127	346.00	324
98.00	2318	168.00	1549	231.00	423	352.00	383
99.00	1980	169.00	297	234.00	283	353.00	365
100.00	139	170.00	103	235.00	262	354.00	460
101.00	1355	171.00	125	236.00	185	365.00	1843
103.00	468	172.00	337	237.00	245	366.00	210
104.00	720	173.00	402	239.00	167	371.00	75
105.00	726	174.00	775	240.00	55	372.00	751
107.00	10138	175.00	1424	241.00	218	373.00	109
108.00	1673	176.00	439	242.00	488	382.00	96
110.00	20376	177.00	549	243.00	414	383.00	136
111.00	2950	178.00	173	244.00	7863	390.00	50
112.00	304	179.00	2582	245.00	1117	402.00	353
115.00	52	180.00	1751	246.00	1302	403.00	346
116.00	551	181.00	809	247.00	294	404.00	120
117.00	6429	182.00	148	248.00	65	421.00	366
118.00	448	183.00	55	249.00	260	422.00	526
120.00	228	184.00	167	252.00	67	423.00	2770
122.00	656	185.00	1128	253.00	118	424.00	703
123.00	946	186.00	9004	255.00	37312	441.00	9141
124.00	325	187.00	2589	256.00	5635	442.00	53728
125.00	490	188.00	266	257.00	464	443.00	10449
127.00	38128	189.00	430	258.00	1936	444.00	1002
128.00	3142	190.00	50	259.00	344		

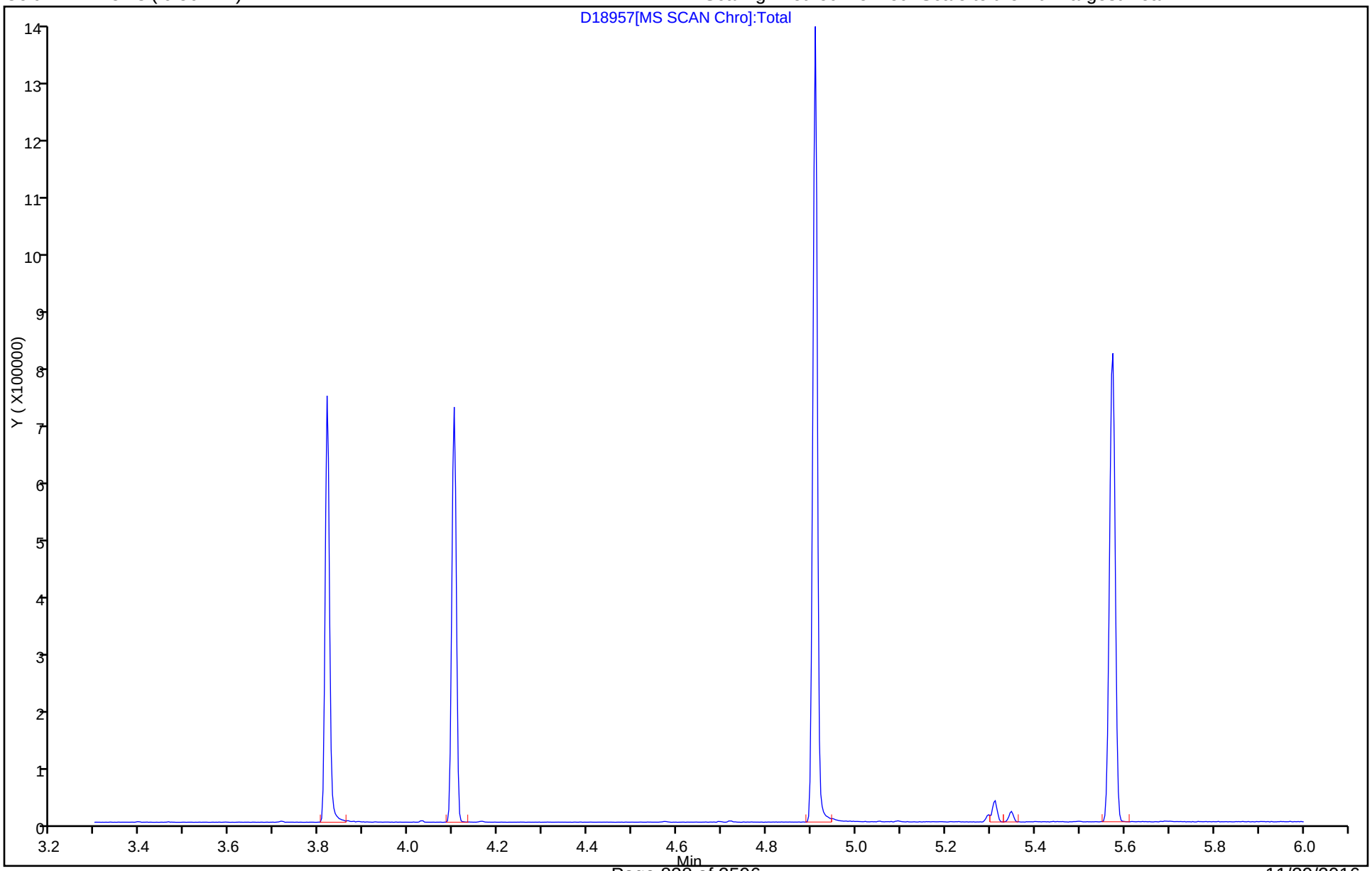
Report Date: 12-Nov-2016 14:01:41 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D

Injection Date:	11-Nov-2016 20:19:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

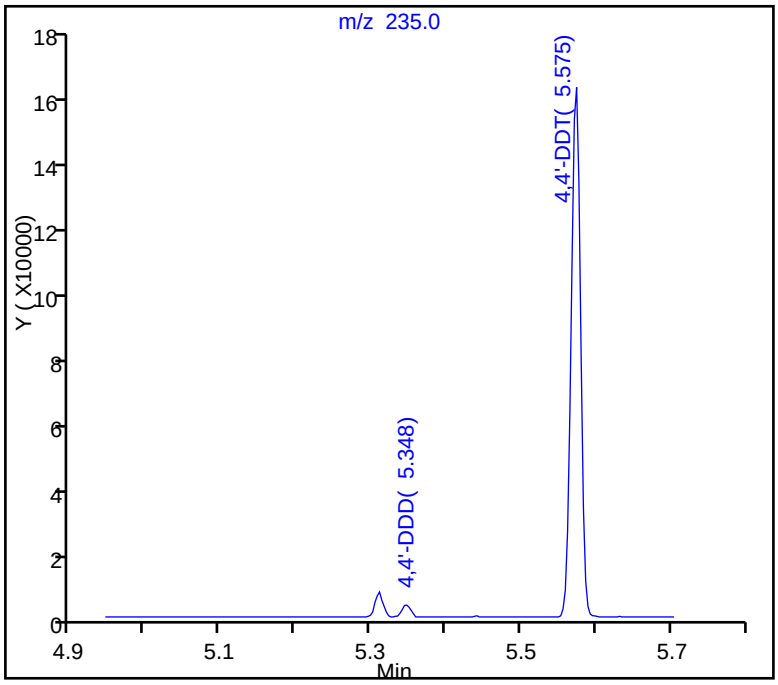


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D
Injection Date: 11-Nov-2016 20:19:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

218 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

218 4,4'-DDT, Area = 136156
217 4,4'-DDD, Area = 2921
216 4,4'-DDE, Area = 185

%Breakdown: 2.23%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

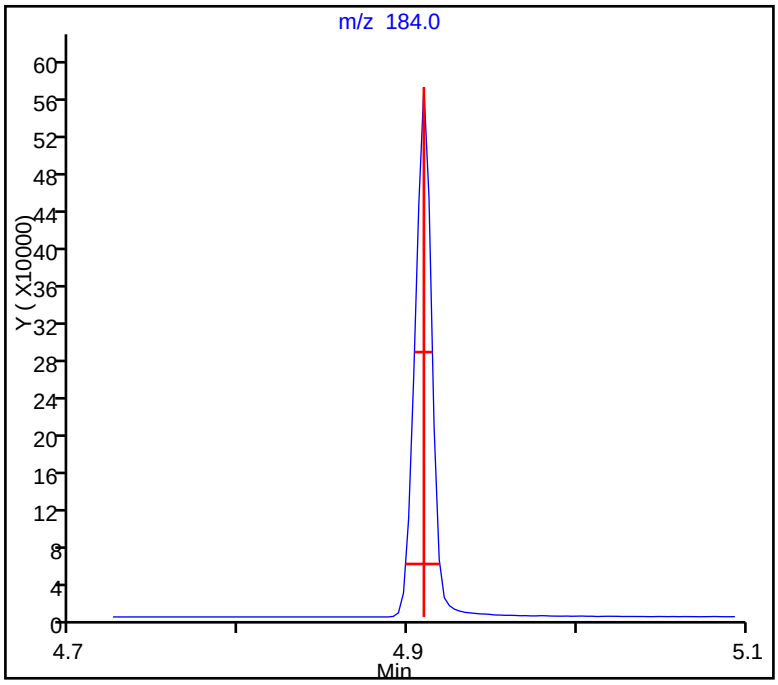
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D
Injection Date: 11-Nov-2016 20:19:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

42 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 0.9, Max. Tailing < 3.00
Passed



Peak Tailing Report

TestAmerica Denver

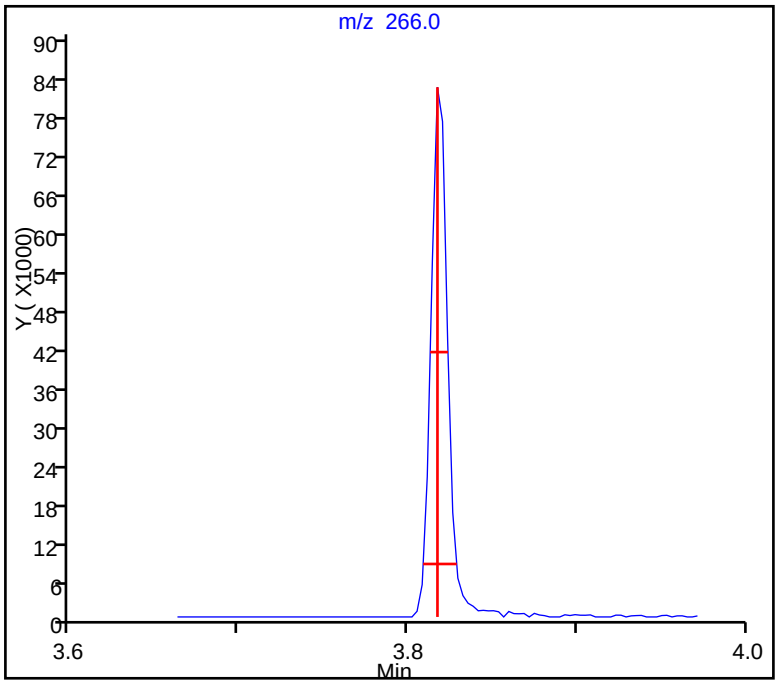
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18957.D
Injection Date: 11-Nov-2016 20:19:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

25 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.3, Max. Tailing < 5.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 15-Nov-2016 17:10:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:30 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: hoeflera Date: 15-Nov-2016 17:21:04

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Pentachlorophenol_T	266	3.816	3.816	0.000	92	49374	NR	NR	
42 Benzidine_T	184	4.914	4.914	0.000	100	374743	NR	NR	
215 DFTPP									
216 4,4'-DDE	246	5.062	5.062	0.000	1	75	NR	NR	
217 4,4'-DDD	235	5.356	5.356	0.000	30	2763	NR	NR	
218 4,4'-DDT	235	5.585	5.585	0.000	98	140267	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

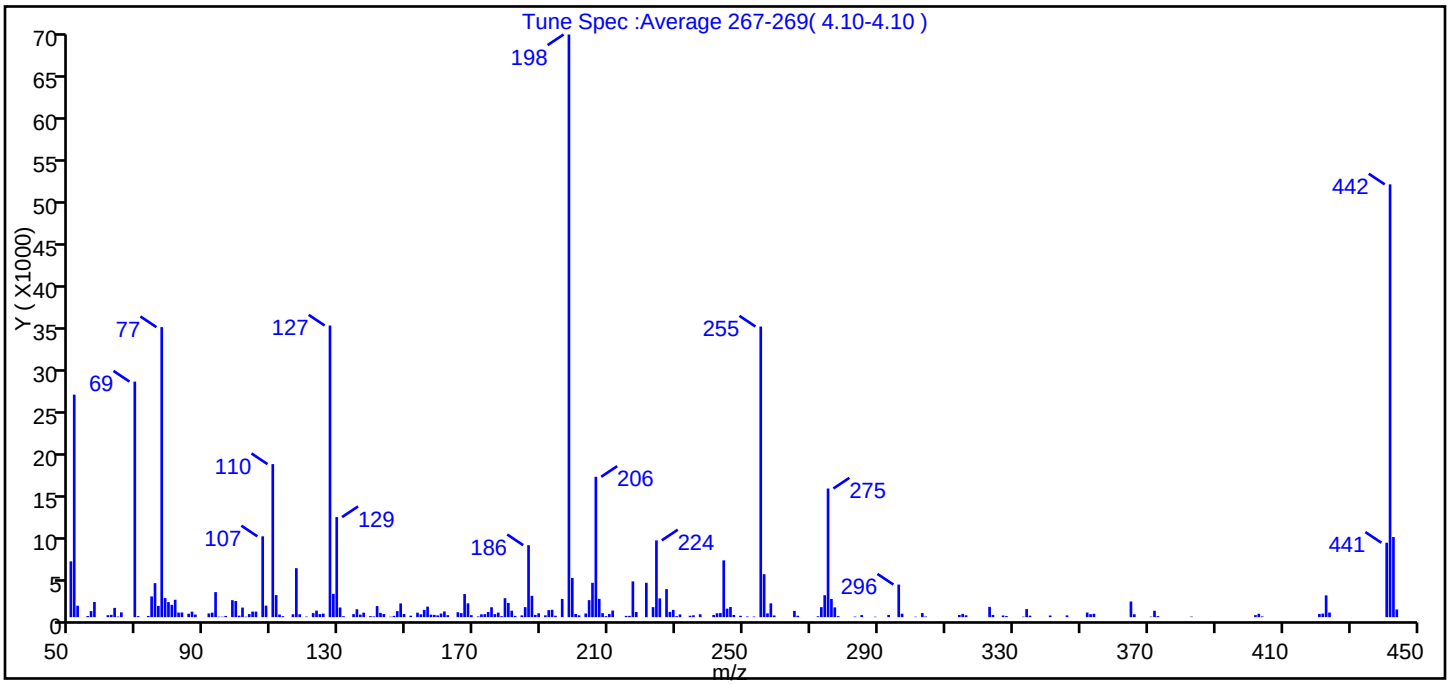
MS-DFTPP_00043 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D
Injection Date: 15-Nov-2016 17:10:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

215 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	38.2
68	<2% of mass 69	0.0 (0.0)
69	Present	40.4
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	50.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.7
275	10-30% of mass 198	22.1
365	>1% of mass 198	2.7
441	Present but less than mass 443	12.8 (92.9)
442	>40% of mass 198	74.3
443	17-23% of mass 442	13.7 (18.5)

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D\SMSD_8270C.rslt\spectra.d
Injection Date: 15-Nov-2016 17:10:30
Spectrum: Tune Spec :Average 267-269(4.10-4.10)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 207

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	6670	123.00	779	186.00	8604	259.00	198
51.00	26600	124.00	371	187.00	2548	265.00	750
52.00	1368	125.00	425	188.00	262	266.00	169
55.00	129	127.00	34864	189.00	460	272.00	102
56.00	722	128.00	2787	191.00	213	273.00	1195
57.00	1811	129.00	11962	192.00	839	274.00	2621
61.00	234	130.00	1154	193.00	879	275.00	15377
62.00	272	131.00	113	194.00	169	276.00	2169
63.00	1105	134.00	359	196.00	2178	277.00	1166
64.00	71	135.00	945	198.00	69656	278.00	121
65.00	574	136.00	302	199.00	4686	283.00	66
69.00	28160	137.00	534	200.00	376	285.00	241
70.00	120	139.00	118	201.00	216	289.00	53
73.00	144	140.00	85	203.00	436	293.00	260
74.00	2479	141.00	1321	204.00	2035	296.00	3893
75.00	4062	142.00	508	205.00	4104	297.00	410
76.00	1338	143.00	375	206.00	16776	301.00	52
77.00	34672	145.00	55	207.00	2187	303.00	485
78.00	2283	146.00	155	208.00	478	304.00	77
79.00	1795	147.00	717	209.00	118	314.00	253
80.00	1471	148.00	1642	210.00	386	315.00	390
81.00	2075	149.00	380	211.00	791	316.00	223
82.00	540	151.00	173	215.00	149	323.00	1230
83.00	561	153.00	530	216.00	154	324.00	249
85.00	406	154.00	340	217.00	4275	327.00	201
86.00	661	155.00	864	218.00	613	328.00	129
87.00	310	156.00	1258	221.00	4107	333.00	59
91.00	442	157.00	294	223.00	1197	334.00	966
92.00	539	158.00	269	224.00	9177	335.00	174
93.00	2994	159.00	205	225.00	2241	341.00	198
94.00	61	160.00	432	227.00	3353	346.00	212
95.00	53	161.00	679	228.00	630	352.00	551
96.00	143	162.00	237	229.00	871	353.00	357

Report Date: 16-Nov-2016 08:42:30 Chrom Revision: 2.2 14-Nov-2016 08:15:18
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D\SMSD_8270C.rslt\spectra.d
Injection Date: 15-Nov-2016 17:10:30
Spectrum: Tune Spec :Average 267-269(4.10-4.10)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 207

m/z	Y	m/z	Y	m/z	Y	m/z	Y
98.00	2028	165.00	586	230.00	118	354.00	403
99.00	1928	166.00	479	231.00	329	365.00	1870
100.00	175	167.00	2761	234.00	168	366.00	345
101.00	1145	168.00	1654	235.00	219	371.00	58
102.00	54	169.00	238	237.00	343	372.00	768
103.00	363	171.00	82	241.00	254	373.00	123
104.00	664	172.00	335	242.00	465	383.00	63
105.00	661	173.00	357	243.00	485	402.00	241
107.00	9660	174.00	618	244.00	6788	403.00	402
108.00	1379	175.00	1187	245.00	1014	404.00	87
110.00	18296	176.00	364	246.00	1216	421.00	384
111.00	2638	177.00	543	247.00	260	422.00	428
112.00	316	178.00	116	249.00	167	423.00	2604
113.00	115	179.00	2260	251.00	78	424.00	550
116.00	341	180.00	1698	253.00	71	441.00	8894
117.00	5856	181.00	768	255.00	34744	442.00	51736
118.00	342	182.00	149	256.00	5139	443.00	9577
120.00	68	184.00	208	257.00	452	444.00	919
122.00	486	185.00	1198	258.00	1649		

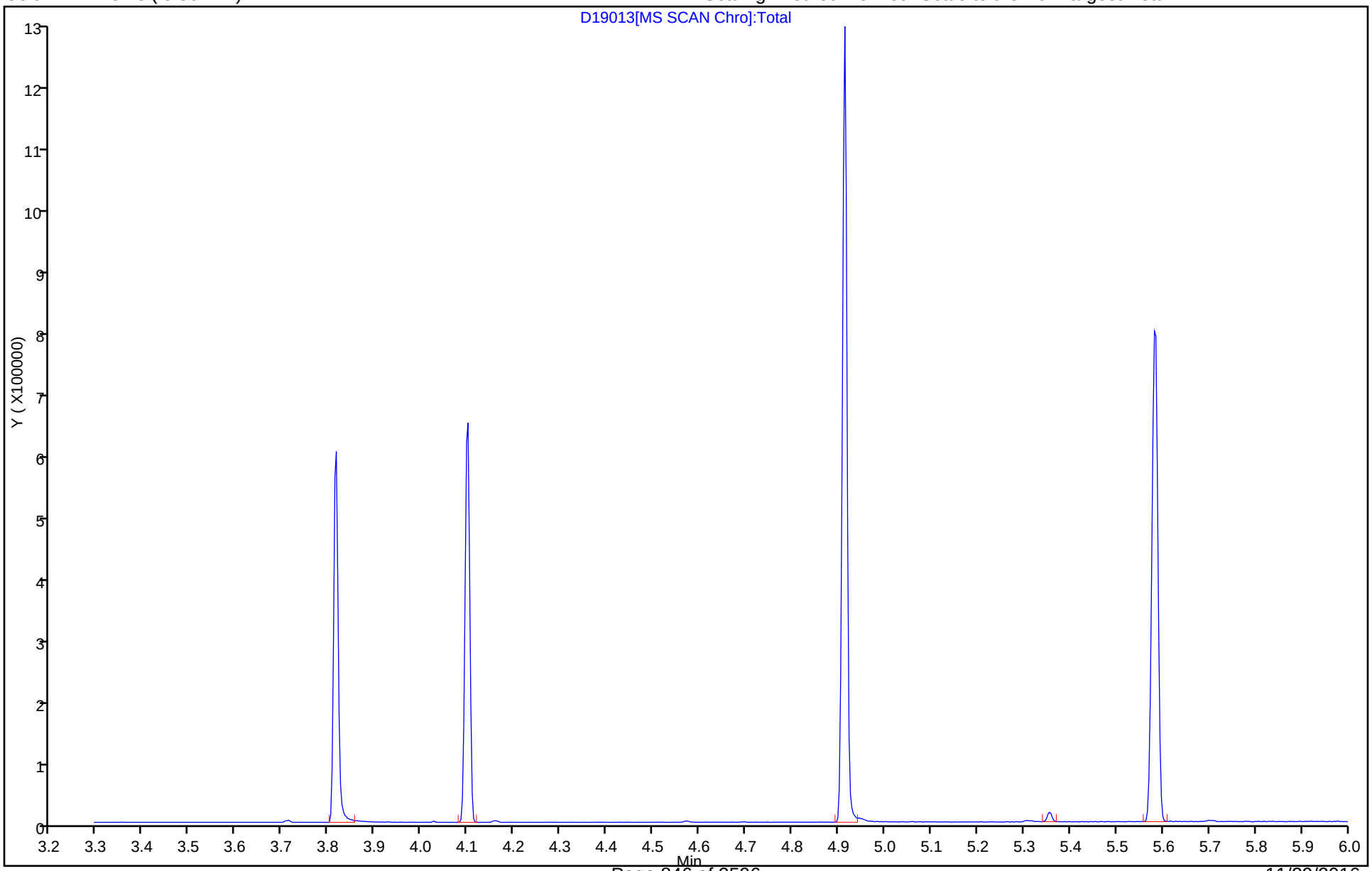
Report Date: 16-Nov-2016 08:42:30 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D

Injection Date:	15-Nov-2016 17:10:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

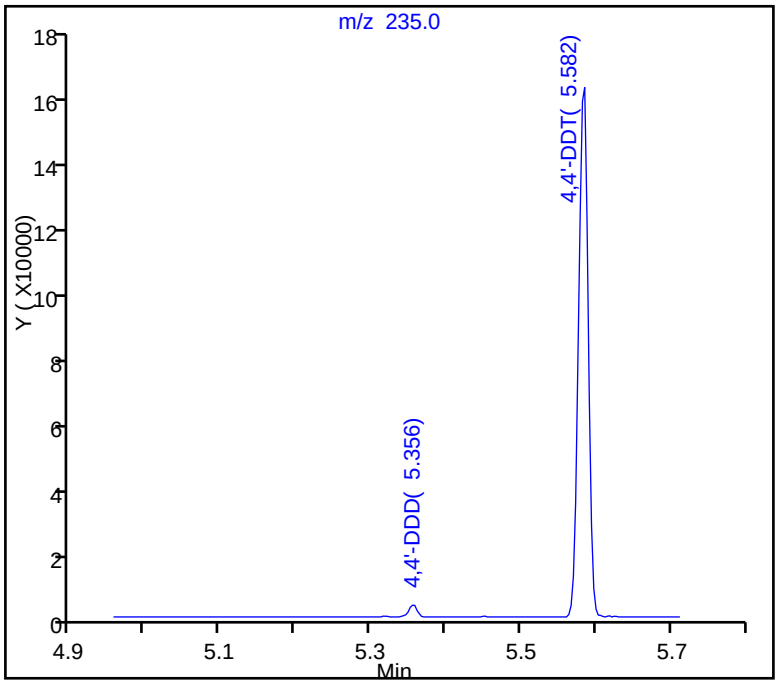


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D
Injection Date: 15-Nov-2016 17:10:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

218 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

218 4,4'-DDT, Area = 140267
217 4,4'-DDD, Area = 2763
216 4,4'-DDE, Area = 75

%Breakdown: 1.98%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

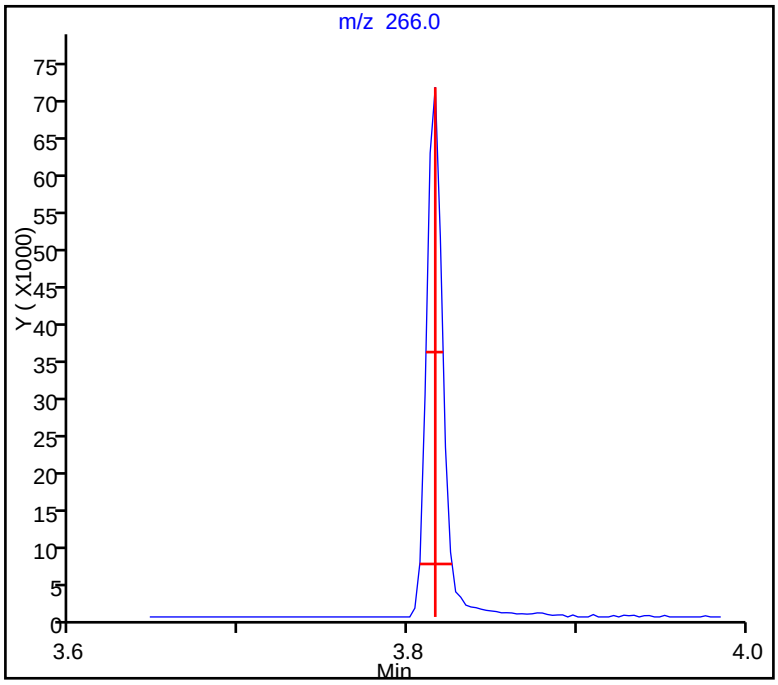
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D
Injection Date: 15-Nov-2016 17:10:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

25 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.009 (min.)

Tailing Factor = 1.1, Max. Tailing < 5.00
Passed



Peak Tailing Report

TestAmerica Denver

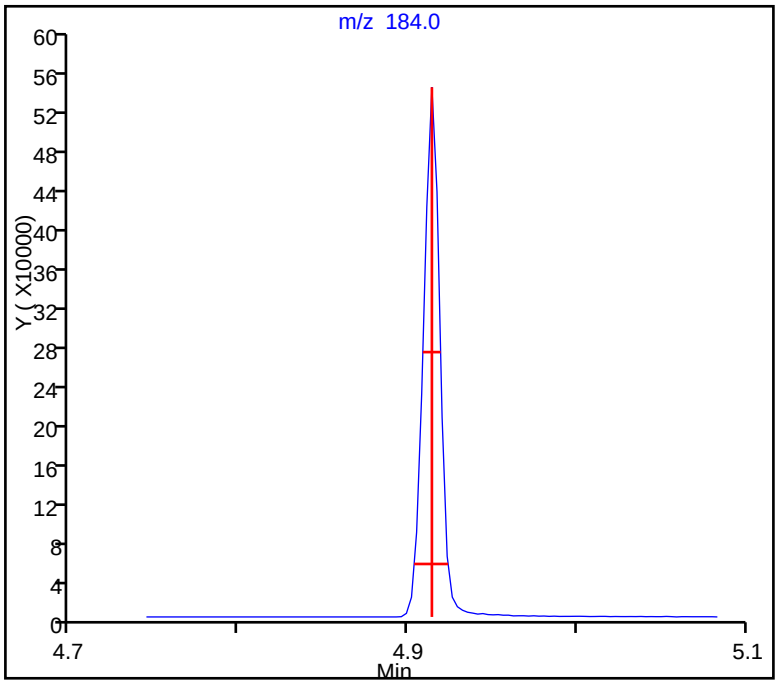
Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19013.D
Injection Date: 15-Nov-2016 17:10:30 Instrument ID: SMS_D
Lims ID: DFTPP
Client ID:
Operator ID: HOEFLERA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSD_8270C Limit Group: MSSV - 8270C_625

42 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 0.9, Max. Tailing < 3.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-350194/1-A

Matrix: Water | Lab File ID: D18959.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 11/07/2016 12:27

Sample wt/vol: 1000(mL) | Date Analyzed: 11/11/2016 21:14

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351071 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	1.0
84-66-2	Diethyl phthalate	1.0	U	20	1.0	0.38
131-11-3	Dimethyl phthalate	0.50	U	20	0.50	0.21
84-74-2	Di-n-butyl phthalate	4.4	U	20	4.4	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	20	1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	92		43-140
321-60-8	2-Fluorobiphenyl (Surr)	84		44-119
367-12-4	2-Fluorophenol (Surr)	83		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	92		44-120
4165-62-2	Phenol-d5 (Surr)	85		10-115
1718-51-0	Terphenyl-d14 (Surr)	88		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18959.D
Lims ID: MB 280-350194/1-A
Client ID:
Sample Type: MB
Inject. Date: 11-Nov-2016 21:14:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-350194_1-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:33:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.675	4.678	-0.003	98	91300	40.0	40.0	
* 2 Naphthalene-d8	136	5.898	5.906	-0.008	100	341056	40.0	40.0	
* 3 Acenaphthene-d10	164	7.655	7.664	-0.009	99	208805	40.0	40.0	
* 4 Phenanthrene-d10	188	9.162	9.165	-0.003	99	375764	40.0	40.0	
* 5 Chrysene-d12	240	13.307	13.337	-0.030	82	436062	40.0	40.0	
* 6 Perylene-d12	264	17.298	17.323	-0.025	99	438193	40.0	40.0	
$ 7 2-Fluorophenol	112	3.505	3.508	-0.003	99	250963	100.0	82.5	
$ 8 Phenol-d5	99	4.301	4.304	-0.003	98	343136	100.0	84.9	
$ 9 Nitrobenzene-d5	82	5.187	5.191	-0.004	97	265017	100.0	91.7	
$ 10 2,4,6-Trichlorophenol-d2	198		6.803					ND	
$ 11 2-Fluorobiphenyl	172	6.966	6.975	-0.009	98	530374	100.0	83.7	
$ 12 2,4,6-Tribromophenol	330	8.451	8.460	-0.009	97	75998	100.0	91.9	
$ 13 Terphenyl-d14	244	11.160	11.174	-0.014	100	700874	100.0	87.8	
14 Triethyl amine	86		1.744					ND	
15 2-Ethoxyethanol	59		1.926					ND	
16 1,4-Dioxane	88		2.199					ND	
17 N-Nitrosodimethylamine	74		2.413					ND	
18 Pyridine	79		2.461					ND	
19 Dimethylformamide	73		2.503					ND	
20 2-Picoline	93		2.881					ND	
21 N-Nitrosomethylethylamine	88	2.773	2.956	-0.183	42	6282			NC
22 Acrylamide	71	3.045	3.202	-0.157	30	2872			NC
23 Methyl methanesulfonate	80		3.218					ND	
24 N-Nitrosodiethylamine	102		3.586					ND	
25 Pentachlorophenol_T	266		3.817					ND	
26 Ethyl methanesulfonate	79		3.843					ND	
27 Benzaldehyde	106		4.175					ND	
28 Phenol	94		4.320					ND	
29 Phenylmercaptan	110		4.204					ND	
30 Aniline	93		4.368					ND	
31 Alpha Methyl Styrene	118		4.421					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
32 Bis(2-chloroethyl)ether	93		4.405					ND	
33 Pentachloroethane	117		4.334					ND	
34 Methyl styrene	118		4.445					ND	
35 n-Decane	43		4.523					ND	
36 2-Chlorophenol	128		4.485					ND	
37 1,3-Dichlorobenzene	146		4.630					ND	
38 1,4-Dichlorobenzene	146		4.694					ND	
39 Benzyl alcohol	108		4.785					ND	
40 1,2-Dichlorobenzene	146		4.843					ND	
41 2-Methylphenol	108		4.881					ND	
42 Benzidine_T	184		4.909					ND	
43 2,2'-oxybis[1-chloropropan	45		4.918					ND	
44 Indene	116		4.929					ND	
45 3-Methylphenol	108		5.030					ND	
46 3 & 4 Methylphenol	108		5.030					ND	
47 4-Methylphenol	108		5.030					ND	
48 N-Nitrosodi-n-propylamine	70		5.036					ND	
49 N-Nitrosopyrrolidine	100		4.932					ND	
50 Acetophenone	105		5.041					ND	
51 N-Nitrosomorpholine	116		4.965					ND	
52 2-Toluidine	106		5.007					ND	
53 Hexachloroethane	117		5.169					ND	
54 Nitrobenzene	77		5.212					ND	
55 Triethyl phosphate	99	5.187	5.227	-0.040	35	2349			NC
56 N-Nitrosopiperidine	114		5.274					ND	
57 Isophorone	82		5.442					ND	
58 4-Methylacetophenone	119		5.330					ND	
59 2-Nitrophenol	139		5.522					ND	
60 2,4-Dimethylphenol	107		5.543					ND	
61 Benzyl dichloride	125		5.478					ND	
62 o,o',o''-Triethylphosphoro	198		5.536					ND	
63 Bis(2-chloroethoxy)methane	93		5.634					ND	
64 Benzoic acid	105		5.666					ND	
65 3,5-Dimethylphenol	107		5.671					ND	
66 alpha,alpha-Dimethyl phene	58		5.686					ND	
67 2,4-Xylidine	121		5.623					ND	
68 2,4-Dichlorophenol	162		5.757					ND	
69 o-Anisidine	80		5.660					ND	
70 1,2,4-Trichlorobenzene	180		5.848					ND	
71 Alpha-Terpineol	59		5.817					ND	
72 Naphthalene	128		5.928					ND	
73 4-Chloroaniline	127		5.960					ND	
74 2,6-Dichlorophenol	162		5.976					ND	
75 Hexachloropropene	213		5.947					ND	
76 Hexachlorobutadiene	225		6.056					ND	
77 4-chlorobenzenethiol	144		5.976					ND	
78 Quinoline	129		6.172					ND	
79 N-Nitrosodi-n-butylamine	84		6.215					ND	
80 Caprolactam	55		6.296					ND	
81 p-Phenylene diamine	108		6.231					ND	
82 5-Methyl-o-Anisidine	122		6.275					ND	
83 4-Chloro-3-methylphenol	107		6.435					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.439					ND	
85 Carbofuran phenol	164		6.451					ND	
86 1,3-phenylenediamine	108		6.392					ND	
87 2-Methylnaphthalene	142		6.612					ND	
88 Phthalic anhydride	76		6.544					ND	
89 1-Methylnaphthalene	142		6.713					ND	
90 Hexachlorocyclopentadiene	237		6.783					ND	
91 1,2,4,5-Tetrachlorobenzene	216		6.788					ND	
92 Isosafrole Peak 1	162		6.727					ND	
93 Methyl 4-chlorophenyl sulf	158		6.685					ND	
94 2,4,6-Trichlorophenol	196		6.889					ND	
95 2,3-Dichlorobenzenamine	161		6.889					ND	
96 2,4,5-Trichlorophenol	196		6.927					ND	
97 1,3-Dimethyl-2,4-Dinitrobe	77		7.620					ND	
98 Isosafrole Peak 2	104		6.952					ND	
99 Toluene diamine (2,4- + 2,	122		6.969					ND	
100 1,1'-Biphenyl	154		7.076					ND	
101 1,3-Dimethyl-2,5-Dinitrobe	179		7.738					ND	
102 2-Chloronaphthalene	162		7.103					ND	
103 1-Chloronaphthalene	162		7.048					ND	
104 1,4-Dimethyl-2,3-Dinitrobe	77		7.860					ND	
105 2-Nitroaniline	65		7.189					ND	
106 1,4-Dimethyl-2,6-Dinitrobe	179		7.925					ND	
107 1,4-Dimethyl-2,5-Dinitrobe	149		7.957					ND	
108 1,4-Naphthoquinone	158		7.181					ND	
109 1,4-Dinitrobenzene	168		7.230					ND	
110 1,2-Dimethyl-3,6-Dinitrobe	179		8.026					ND	
111 Dimethyl phthalate	163		7.370					ND	
112 1,3-Dinitrobenzene	168		7.397					ND	
113 2,6-Dinitrotoluene	165		7.424					ND	
114 1,5-Dimethyl-2,4-Dinitrobe	179		8.186					ND	
115 Acenaphthylene	152		7.525					ND	
116 1,5-Dimethyl-2,3-Dinitrobe	179		8.282					ND	
117 3-Nitroaniline	138		7.600					ND	
118 1,2-Dimethyl-3,5-Dinitrobe	179		8.395					ND	
119 Acenaphthene	153		7.696					ND	
120 2,4-Dinitrophenol	184		7.707					ND	
121 4-Nitrophenol	109		7.766					ND	
122 1,2-Dimethyl-3,4-Dinitrobe	179		8.539					ND	
123 Pentachlorobenzene	250		7.753					ND	
124 2,4-Dinitrotoluene	165		7.840					ND	
125 Dibenzofuran	168		7.872					ND	
126 n-hydroxymethylphthalimide	147		7.439					ND	
127 1-Naphthylamine	143		7.855					ND	
128 1,2-Dimethyl-4,5-Dinitrobe	91		8.785					ND	
129 2,3,4,6-Tetrachlorophenol	232		7.995					ND	
130 2-Naphthylamine	143		7.929					ND	
131 Hexadecane	57		8.102					ND	
132 Diethyl phthalate	149		8.075					ND	
133 Thionazin	97		8.063					ND	
134 4-Chlorophenyl phenyl ethe	204		8.204					ND	
135 Fluorene	166		8.220					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
136 Tributyl phosphate	99		8.181					ND	
137 N-Nitro-o-toluidine	152		8.122					ND	
138 4-Nitroaniline	138		8.225					ND	
139 4,6-Dinitro-2-methylphenol	198		8.257					ND	
140 Diphenylamine	169		8.321					ND	
141 N-Nitrosodiphenylamine	169		8.321					ND	
142 1,2-Diphenylhydrazine	77		8.369					ND	
143 Azobenzene	77		8.369					ND	
144 Sulfotepp	97		8.373					ND	
145 2,4,6 - Tribromophenol	330		8.460				ND	ND	
146 Phenyl sulfide	186		8.390					ND	
147 Diallate Peak 1	86		8.517					ND	
148 1,3,5-Trinitrobenzene	213		8.474					ND	
149 Phorate	121		8.522					ND	
150 Phenacetin	108		8.528					ND	
151 Diallate Peak 2	86		8.608					ND	
152 4-Bromophenyl phenyl ether	248		8.700					ND	
153 Hexachlorobenzene	284		8.791					ND	
154 Dimethoate	87		8.688					ND	
155 Atrazine	200		8.850					ND	
156 n-Octadecane	85		9.032					ND	
157 Pentachlorophenol	266		8.978					ND	
158 4-Aminobiphenyl	169		8.864					ND	
159 Pentachloronitrobenzene	237		8.896					ND	
160 Pronamide	173		8.918					ND	
161 Disulfoton	88		9.046					ND	
162 Dinoseb	211		9.051					ND	
163 Phenanthrene	178		9.192					ND	
164 Anthracene	178		9.245					ND	
165 Carbazole	167		9.395					ND	
166 Alachlor	188		9.539					ND	
167 Methyl parathion	109		9.420					ND	
168 Phenyl disulfide	109		9.661					ND	
169 Di-n-butyl phthalate	149		9.753					ND	
170 Diphenylsulfone	125		9.667					ND	
171 Ethyl Parathion	109		9.842					ND	
172 4-Nitroquinoline-1-oxide	190		9.890					ND	
173 Methapyrilene	97		9.981					ND	
174 Octachlorostyrene	308		10.118					ND	
175 Isodrin	193		10.248					ND	
176 Fluoranthene	202		10.597					ND	
177 4,4-Dichlorobenzil	139		10.439					ND	
178 Benzidine	184		10.599					ND	
180 Pyrene	202		10.939					ND	
181 p-chlorophenyl sulfone	159		10.893					ND	
182 Aramite Peak 1	185		10.948					ND	
183 Aramite Peak 2	185		11.076					ND	
184 p-Dimethylamino azobenzene	120	11.160	11.231	-0.071	42	8660			NC
185 Chlorobenzilate	251		11.311					ND	
186 Famphur	218		11.959					ND	
187 Butyl benzyl phthalate	149		12.087					ND	
188 3,3'-Dimethylbenzidine	212		11.845					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
189 2-Acetylaminofluorene	181		12.369					ND	
190 3,3'-Dichlorobenzidine	252		13.268					ND	
191 4,4'-Methylene bis(2-chlor	231		13.036					ND	
192 Benzo[a]anthracene	228		13.311					ND	
193 Bis(2-ethylhexyl) phthalat	149		13.503					ND	
194 Chrysene	228		13.401					ND	
195 6-Methylchrysene	242		14.319					ND	
196 Hexachlorophene	196		16.538					ND	
197 Di-n-octyl phthalate	149		15.341					ND	
198 Benzo[b]fluoranthene	252		16.222					ND	
199 7,12-Dimethylbenz(a)anthra	256		15.932					ND	
200 Benzo[k]fluoranthene	252		16.302					ND	
201 Benzo[e]pyrene	252		17.013					ND	
202 Benzo[a]pyrene	252		17.162					ND	
203 Perylene	252		17.076					ND	
204 3-Methylcholanthrene	268		17.935					ND	
205 Tris(2,3-dibromopropyl)pho	119		18.551					ND	
206 Dibenz[a,h]acridine	279		19.511					ND	
207 Dibenz[a,j]acridine	279		19.661					ND	
208 Indeno[1,2,3-cd]pyrene	276		20.474					ND	
209 Dibenz(a,h)anthracene	278		20.576					ND	
210 Benzo[g,h,i]perylene	276		21.222					ND	
211 Dibenzo[a,e]pyrene	302		25.112					ND	
S 219 Total Cresols	108		15.341					ND	
S 220 Methyl Phenols,Total	108		15.341					ND	
S 221 Isosafrole	162		15.341					ND	
S 222 Diallate	86		15.341					ND	
S 223 Aramite, Total	185		15.341					ND	
S 224 Phthalic acid	148		19.492					ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.000					ND	
213 2-Butoxyethanol	1		0.000					ND	
214 2-Phenoxyethanol	1		0.000					ND	
216 4,4'-DDE	246		5.054					ND	
217 4,4'-DDD	235		5.348					ND	
218 4,4'-DDT	235		5.575					ND	
S 225 TPAH	1		0.000					ND	
T 226 Tetrachlorodibenzo-p-dioxi	1		0.000					ND	
T 227 Hexachlorodibenzofurans TI	1		0.000					ND	
T 228 Tetrachlorodibenzofurans T	1		0.000					ND	
T 229 Pentachlorodibenzofurans T	1		0.000					ND	
T 230 Octadecane (TIC)	1		0.000					ND	
T 231 2,6-Dimethylphenol	1		0.000					ND	
T 232 Pentachlorodibenzo-p-dioxi	1		0.000					ND	
T 233 Hexachlorodibenzo-p-dioxin	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Reagents:

MS-IS_00009	Amount Added:	20.00	Units: uL	Run Reagent

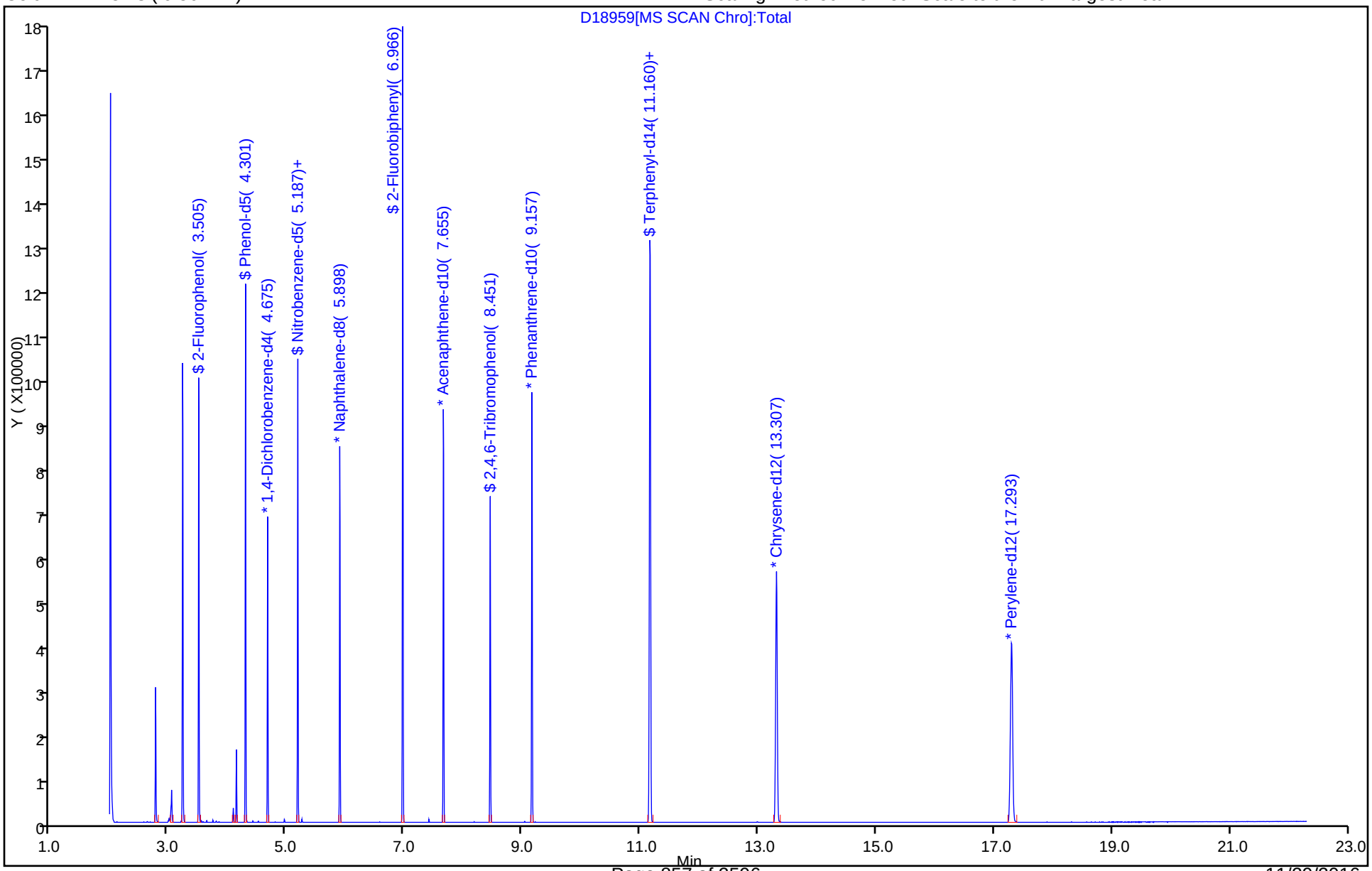
Report Date: 12-Nov-2016 14:01:55 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18959.D

Injection Date:	11-Nov-2016 21:14:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	MB 280-350194/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18959.D
Lims ID: MB 280-350194/1-A
Client ID:
Sample Type: MB
Inject. Date: 11-Nov-2016 21:14:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-350194_1-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:33:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	82.5	82.53
$ 8 Phenol-d5	100.0	84.9	84.95
$ 9 Nitrobenzene-d5	100.0	91.7	91.70
$ 11 2-Fluorobiphenyl	100.0	83.7	83.72
$ 12 2,4,6-Tribromophenol	100.0	91.9	91.94
$ 13 Terphenyl-d14	100.0	87.8	87.85

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-350444/1-A

Matrix: Water | Lab File ID: D19024.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 11/08/2016 15:07

Sample wt/vol: 1000(mL) | Date Analyzed: 11/15/2016 21:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351625 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	1.0
84-66-2	Diethyl phthalate	1.0	U	20	1.0	0.38
131-11-3	Dimethyl phthalate	0.50	U	20	0.50	0.21
84-74-2	Di-n-butyl phthalate	4.4	U	20	4.4	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	20	1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	98		43-140
321-60-8	2-Fluorobiphenyl (Surr)	64		44-119
367-12-4	2-Fluorophenol (Surr)	92		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	97		44-120
4165-62-2	Phenol-d5 (Surr)	94		10-115
1718-51-0	Terphenyl-d14 (Surr)	96		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19024.D
Lims ID: MB 280-350444/1-A
Client ID:
Sample Type: MB
Inject. Date: 15-Nov-2016 21:25:30 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-350444_1-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:36:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.671	4.664	0.006	99	80786	40.0	40.0	
* 2 Naphthalene-d8	136	5.899	5.898	0.001	100	304211	40.0	40.0	
* 3 Acenaphthene-d10	164	7.657	7.656	0.001	99	188189	40.0	40.0	
* 4 Phenanthrene-d10	188	9.163	9.162	0.001	99	343566	40.0	40.0	
* 5 Chrysene-d12	240	13.319	13.329	-0.010	82	383612	40.0	40.0	
* 6 Perylene-d12	264	17.310	17.314	-0.004	99	382814	40.0	40.0	
$ 7 2-Fluorophenol	112	3.495	3.489	0.006	99	246737	100.0	91.7	
$ 8 Phenol-d5	99	4.302	4.301	0.001	98	336268	100.0	94.1	
$ 9 Nitrobenzene-d5	82	5.183	5.182	0.001	98	249897	100.0	96.9	
$ 10 2,4,6-Trichlorophenol-d2	198		6.803					ND	
$ 11 2-Fluorobiphenyl	172	6.968	6.967	0.001	98	363771	100.0	63.7	
$ 12 2,4,6-Tribromophenol	330	8.453	8.457	-0.004	96	73241	100.0	98.3	
$ 13 Terphenyl-d14	244	11.167	11.166	0.001	100	672738	100.0	95.8	
14 Triethyl amine	86		1.744					ND	
15 2-Ethoxyethanol	59		1.926					ND	
16 1,4-Dioxane	88		2.159					ND	
17 N-Nitrosodimethylamine	74		2.372					ND	
18 Pyridine	79		2.426					ND	
19 Dimethylformamide	73		2.503					ND	
20 2-Picoline	93		2.881					ND	
21 N-Nitrosomethylethylamine	88	2.977	2.956	0.021	40	1910			NC
22 Acrylamide	71		3.202					ND	
23 Methyl methanesulfonate	80		3.218					ND	
24 N-Nitrosodiethylamine	102		3.586					ND	
25 Pentachlorophenol_T	266		3.816					ND	
26 Ethyl methanesulfonate	79		3.843					ND	
27 Benzaldehyde	106		4.175					ND	
28 Phenol	94		4.312					ND	
29 Phenylmercaptan	110	4.136	4.204	-0.068	36	3636			NC
30 Aniline	93		4.354					ND	
31 Alpha Methyl Styrene	118		4.408					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
32 Bis(2-chloroethyl)ether	93		4.397					ND	
33 Pentachloroethane	117		4.334					ND	
34 Methyl styrene	118		4.445					ND	
35 n-Decane	43		4.509					ND	
36 2-Chlorophenol	128		4.472					ND	
37 1,3-Dichlorobenzene	146		4.622					ND	
38 1,4-Dichlorobenzene	146		4.680					ND	
39 Benzyl alcohol	108		4.776					ND	
40 1,2-Dichlorobenzene	146		4.830					ND	
41 2-Methylphenol	108		4.878					ND	
42 Benzidine_T	184		4.914					ND	
43 2,2'-oxybis[1-chloropropan	45		4.905					ND	
44 Indene	116		4.915					ND	
45 3-Methylphenol	108		5.022					ND	
46 3 & 4 Methylphenol	108		5.022					ND	
47 4-Methylphenol	108		5.022					ND	
48 N-Nitrosodi-n-propylamine	70		5.028					ND	
49 N-Nitrosopyrrolidine	100		4.932					ND	
50 Acetophenone	105		5.033					ND	
51 N-Nitrosomorpholine	116		4.965					ND	
52 2-Toluidine	106		5.007					ND	
53 Hexachloroethane	117		5.161					ND	
54 Nitrobenzene	77		5.198					ND	
55 Triethyl phosphate	99	5.183	5.227	-0.044	35	2075			NC
56 N-Nitrosopiperidine	114		5.274					ND	
57 Isophorone	82		5.428					ND	
58 4-Methylacetophenone	119		5.330					ND	
59 2-Nitrophenol	139		5.514					ND	
60 2,4-Dimethylphenol	107		5.540					ND	
61 Benzyl dichloride	125		5.478					ND	
62 o,o',o''-Triethylphosphoro	198		5.536					ND	
63 Bis(2-chloroethoxy)methane	93		5.626					ND	
64 Benzoic acid	105	5.595	5.669	-0.074	96	17798			21.2
65 3,5-Dimethylphenol	107		5.669					ND	
66 alpha,alpha-Dimethyl phene	58		5.686					ND	
67 2,4-Xylidine	121		5.623					ND	
68 2,4-Dichlorophenol	162		5.749					ND	
69 o-Anisidine	80		5.660					ND	
70 1,2,4-Trichlorobenzene	180		5.840					ND	
71 Alpha-Terpineol	59		5.817					ND	
72 Naphthalene	128		5.920					ND	
73 4-Chloroaniline	127		5.957					ND	
74 2,6-Dichlorophenol	162		5.973					ND	
75 Hexachloropropene	213		5.947					ND	
76 Hexachlorobutadiene	225		6.048					ND	
77 4-chlorobenzenethiol	144		5.976					ND	
78 Quinoline	129		6.172					ND	
79 N-Nitrosodi-n-butylamine	84		6.215					ND	
80 Caprolactam	55		6.294					ND	
81 p-Phenylene diamine	108		6.231					ND	
82 5-Methyl-o-Anisidine	122		6.275					ND	
83 4-Chloro-3-methylphenol	107		6.438					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
84 Safrole, Total	162		6.439					ND	
85 Carbofuran phenol	164		6.451					ND	
86 1,3-phenylenediamine	108		6.392					ND	
87 2-Methylnaphthalene	142		6.603					ND	
88 Phthalic anhydride	76		6.544					ND	
89 1-Methylnaphthalene	142		6.705					ND	
90 Hexachlorocyclopentadiene	237		6.774					ND	
91 1,2,4,5-Tetrachlorobenzene	216		6.780					ND	
92 Isosafrole Peak 1	162		6.727					ND	
93 Methyl 4-chlorophenyl sulf	158		6.685					ND	
94 2,4,6-Trichlorophenol	196		6.887					ND	
95 2,3-Dichlorobenzenamine	161		6.881					ND	
96 2,4,5-Trichlorophenol	196		6.924					ND	
97 1,3-Dimethyl-2,4-Dinitrobe	77		7.620					ND	
98 Isosafrole Peak 2	104		6.952					ND	
99 Toluene diamine (2,4- + 2,	122		6.969					ND	
100 1,1'-Biphenyl	154		7.068					ND	
101 1,3-Dimethyl-2,5-Dinitrobe	179		7.738					ND	
102 2-Chloronaphthalene	162		7.095					ND	
103 1-Chloronaphthalene	162		7.048					ND	
104 1,4-Dimethyl-2,3-Dinitrobe	77		7.860					ND	
105 2-Nitroaniline	65		7.186					ND	
106 1,4-Dimethyl-2,6-Dinitrobe	179		7.925					ND	
107 1,4-Dimethyl-2,5-Dinitrobe	149		7.957					ND	
108 1,4-Naphthoquinone	158		7.181					ND	
109 1,4-Dinitrobenzene	168		7.230					ND	
110 1,2-Dimethyl-3,6-Dinitrobe	179		8.026					ND	
111 Dimethyl phthalate	163		7.362					ND	
112 1,3-Dinitrobenzene	168		7.389					ND	
113 2,6-Dinitrotoluene	165		7.421					ND	
114 1,5-Dimethyl-2,4-Dinitrobe	179		8.186					ND	
115 Acenaphthylene	152		7.517					ND	
116 1,5-Dimethyl-2,3-Dinitrobe	179		8.282					ND	
117 3-Nitroaniline	138		7.597					ND	
118 1,2-Dimethyl-3,5-Dinitrobe	179		8.395					ND	
119 Acenaphthene	153		7.693					ND	
120 2,4-Dinitrophenol	184		7.699					ND	
121 4-Nitrophenol	109		7.768					ND	
122 1,2-Dimethyl-3,4-Dinitrobe	179		8.539					ND	
123 Pentachlorobenzene	250		7.753					ND	
124 2,4-Dinitrotoluene	165		7.832					ND	
125 Dibenzofuran	168		7.864					ND	
126 n-hydroxymethylphthalimide	147		7.439					ND	
127 1-Naphthylamine	143		7.855					ND	
128 1,2-Dimethyl-4,5-Dinitrobe	91		8.785					ND	
129 2,3,4,6-Tetrachlorophenol	232		7.987					ND	
130 2-Naphthylamine	143		7.929					ND	
131 Hexadecane	57		8.094					ND	
132 Diethyl phthalate	149		8.073					ND	
133 Thionazin	97		8.063					ND	
134 4-Chlorophenyl phenyl ethe	204		8.201					ND	
135 Fluorene	166		8.211					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
136 Tributyl phosphate	99		8.181					ND	
137 N-Nitro-o-toluidine	152		8.122					ND	
138 4-Nitroaniline	138		8.222					ND	
139 4,6-Dinitro-2-methylphenol	198		8.254					ND	
140 Diphenylamine	169		8.313					ND	
141 N-Nitrosodiphenylamine	169		8.313					ND	
142 1,2-Diphenylhydrazine	77		8.361					ND	
143 Azobenzene	77		8.361					ND	
144 Sulfotepp	97		8.373					ND	
145 2,4,6 - Tribromophenol	330		8.457				ND	ND	
146 Phenyl sulfide	186		8.390					ND	
147 Diallate Peak 1	86		8.517					ND	
148 1,3,5-Trinitrobenzene	213		8.474					ND	
149 Phorate	121		8.522					ND	
150 Phenacetin	108		8.528					ND	
151 Diallate Peak 2	86		8.608					ND	
152 4-Bromophenyl phenyl ether	248		8.692					ND	
153 Hexachlorobenzene	284		8.783					ND	
154 Dimethoate	87		8.688					ND	
155 Atrazine	200		8.847					ND	
156 n-Octadecane	85		9.023					ND	
157 Pentachlorophenol	266		8.975					ND	
158 4-Aminobiphenyl	169		8.864					ND	
159 Pentachloronitrobenzene	237		8.896					ND	
160 Pronamide	173		8.918					ND	
161 Disulfoton	88	9.163	9.046	0.117	53	2773			NC
162 Dinoseb	211		9.051					ND	
163 Phenanthrene	178		9.189					ND	
164 Anthracene	178		9.237					ND	
165 Carbazole	167		9.392					ND	
166 Alachlor	188		9.536					ND	
167 Methyl parathion	109		9.420					ND	
168 Phenyl disulfide	109		9.661					ND	
169 Di-n-butyl phthalate	149		9.745					ND	
170 Diphenylsulfone	125		9.667					ND	
171 Ethyl Parathion	109		9.842					ND	
172 4-Nitroquinoline-1-oxide	190		9.890					ND	
173 Methapyrilene	97		9.981					ND	
174 Octachlorostyrene	308		10.118					ND	
175 Isodrin	193		10.248					ND	
176 Fluoranthene	202		10.589					ND	
177 4,4-Dichlorobenzil	139		10.439					ND	
178 Benzidine	184		10.599					ND	
180 Pyrene	202		10.931					ND	
181 p-chlorophenyl sulfone	159		10.893					ND	
182 Aramite Peak 1	185		10.948					ND	
183 Aramite Peak 2	185		11.076					ND	
184 p-Dimethylamino azobenzene	120	11.167	11.231	-0.064	43	8650			NC
185 Chlorobenzilate	251		11.311					ND	
186 Famphur	218		11.956					ND	
187 Butyl benzyl phthalate	149		12.084					ND	
188 3,3'-Dimethylbenzidine	212		11.845					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
189 2-Acetylaminofluorene	181		12.369					ND	
190 3,3'-Dichlorobenzidine	252		13.260					ND	
191 4,4'-Methylene bis(2-chlor	231		13.036					ND	
192 Benzo[a]anthracene	228		13.302					ND	
193 Bis(2-ethylhexyl) phthalat	149		13.495					ND	
194 Chrysene	228		13.393					ND	
195 6-Methylchrysene	242		14.319					ND	
196 Hexachlorophene	196		16.538					ND	
197 Di-n-octyl phthalate	149		15.332					ND	
198 Benzo[b]fluoranthene	252		16.214					ND	
199 7,12-Dimethylbenz(a)anthra	256		15.932					ND	
200 Benzo[k]fluoranthene	252		16.294					ND	
201 Benzo[e]pyrene	252		17.005					ND	
202 Benzo[a]pyrene	252		17.154					ND	
203 Perylene	252		17.076					ND	
204 3-Methylcholanthrene	268		17.935					ND	
205 Tris(2,3-dibromopropyl)pho	119		18.551					ND	
206 Dibenz[a,h]acridine	279		19.511					ND	
207 Dibenz[a,j]acridine	279		19.661					ND	
208 Indeno[1,2,3-cd]pyrene	276		20.472					ND	
209 Dibenz(a,h)anthracene	278		20.568					ND	
210 Benzo[g,h,i]perylene	276		21.214					ND	
211 Dibenzo[a,e]pyrene	302		25.112					ND	
S 219 Total Cresols	108		15.341					ND	
S 220 Methyl Phenols,Total	108		15.341					ND	
S 221 Isosafrole	162		15.341					ND	
S 222 Diallate	86		15.341					ND	
S 223 Aramite, Total	185		15.341					ND	
S 224 Phthalic acid	148		19.492					ND	
212 1,2,3,4-Tetrahydronaphthal	1		0.000					ND	
213 2-Butoxyethanol	1		0.000					ND	
214 2-Phenoxyethanol	1		0.000					ND	
216 4,4'-DDE	246		5.062					ND	
217 4,4'-DDD	235		5.356					ND	
218 4,4'-DDT	235		5.585					ND	
S 225 TPAH	1		0.000					ND	
T 226 Tetrachlorodibenzo-p-dioxi	1		0.000					ND	
T 227 Hexachlorodibenzofurans TI	1		0.000					ND	
T 228 Tetrachlorodibenzofurans T	1		0.000					ND	
T 229 Pentachlorodibenzofurans T	1		0.000					ND	
T 230 Octadecane (TIC)	1		0.000					ND	
T 231 2,6-Dimethylphenol	1		0.000					ND	
T 232 Pentachlorodibenzo-p-dioxi	1		0.000					ND	
T 233 Hexachlorodibenzo-p-dioxin	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Reagents:

MS-IS_00009	Amount Added:	20.00	Units: uL	Run Reagent

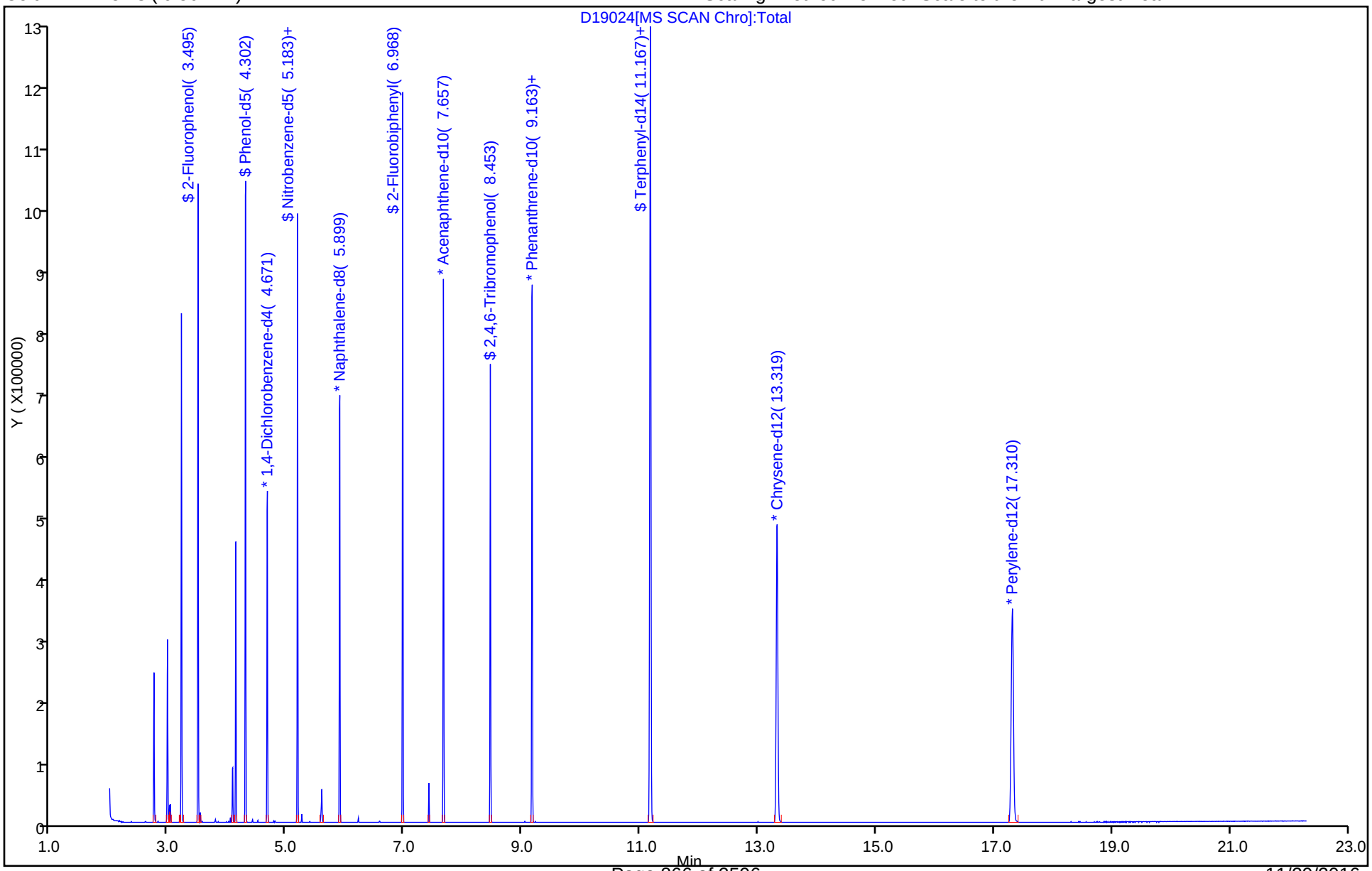
Report Date: 16-Nov-2016 08:42:34 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19024.D

Injection Date:	15-Nov-2016 21:25:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	MB 280-350444/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19024.D
Lims ID: MB 280-350444/1-A
Client ID:
Sample Type: MB
Inject. Date: 15-Nov-2016 21:25:30 ALS Bottle#: 12 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB280-350444_1-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:36:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	91.7	91.70
$ 8 Phenol-d5	100.0	94.1	94.08
$ 9 Nitrobenzene-d5	100.0	96.9	96.95
$ 11 2-Fluorobiphenyl	100.0	63.7	63.71
$ 12 2,4,6-Tribromophenol	100.0	98.3	98.31
$ 13 Terphenyl-d14	100.0	95.8	95.85

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-350194/2-A

Matrix: Water | Lab File ID: D18960.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 11/07/2016 12:27

Sample wt/vol: 1000(mL) | Date Analyzed: 11/11/2016 21:42

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351071 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	79.2		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	79.3		20	2.0	1.0
84-66-2	Diethyl phthalate	83.1		20	1.0	0.38
131-11-3	Dimethyl phthalate	83.1		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	80.2		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	80.5		20	1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	108		43-140
321-60-8	2-Fluorobiphenyl (Surr)	88		44-119
367-12-4	2-Fluorophenol (Surr)	88		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	95		44-120
4165-62-2	Phenol-d5 (Surr)	91		10-115
1718-51-0	Terphenyl-d14 (Surr)	94		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18960.D
Lims ID: LCS 280-350194/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2016 21:42:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-350194_2-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:38:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.675	4.678	-0.003	97	80692	40.0	40.0	
* 2 Naphthalene-d8	136	5.903	5.906	-0.003	100	324203	40.0	40.0	
* 3 Acenaphthene-d10	164	7.661	7.664	-0.003	99	206167	40.0	40.0	
* 4 Phenanthrene-d10	188	9.162	9.165	-0.003	99	370462	40.0	40.0	
* 5 Chrysene-d12	240	13.318	13.337	-0.019	98	409104	40.0	40.0	
* 6 Perylene-d12	264	17.298	17.323	-0.025	99	418232	40.0	40.0	
$ 7 2-Fluorophenol	112	3.505	3.508	-0.003	99	236952	100.0	88.2	
$ 8 Phenol-d5	99	4.301	4.304	-0.003	98	325006	100.0	91.0	
$ 9 Nitrobenzene-d5	82	5.187	5.191	-0.004	97	262285	100.0	95.5	
$ 11 2-Fluorobiphenyl	172	6.966	6.975	-0.009	99	551839	100.0	88.2	
$ 12 2,4,6-Tribromophenol	330	8.457	8.460	-0.003	96	87855	100.0	107.6	
$ 13 Terphenyl-d14	244	11.160	11.174	-0.014	100	704783	100.0	94.2	
16 1,4-Dioxane	88	2.201	2.199	0.002	99	71361	80.0	60.0	
17 N-Nitrosodimethylamine	74	2.410	2.413	-0.003	91	136902	80.0	71.6	
18 Pyridine	79	2.463	2.461	0.002	95	196844	80.0	58.7	
27 Benzaldehyde	106	4.269	4.175	0.094	95	108488	NC	NC	
28 Phenol	94	4.317	4.320	-0.003	91	271201	80.0	77.0	
30 Aniline	93	4.365	4.368	-0.003	99	296741	80.0	66.0	
32 Bis(2-chloroethyl)ether	93	4.402	4.405	-0.003	94	210788	80.0	78.3	
35 n-Decane	43	4.520	4.523	-0.003	97	127473	80.0	46.2	
36 2-Chlorophenol	128	4.482	4.485	-0.003	99	216650	80.0	79.0	
37 1,3-Dichlorobenzene	146	4.632	4.630	0.002	100	164269	80.0	57.4	
38 1,4-Dichlorobenzene	146	4.691	4.694	-0.003	98	168712	80.0	57.7	
39 Benzyl alcohol	108	4.781	4.785	-0.004	98	155640	80.0	78.8	
40 1,2-Dichlorobenzene	146	4.840	4.843	-0.003	99	165563	80.0	59.3	
41 2-Methylphenol	108	4.878	4.881	-0.003	75	209670	80.0	78.2	
43 2,2'-oxybis[1-chloropropan	45	4.915	4.918	-0.003	97	271377	80.0	74.0	
44 Indene	116	4.920	4.929	-0.009	98	293758	80.0	63.0	
45 3-Methylphenol	108	5.022	5.030	-0.008	91	219516	80.0	80.0	
46 3 & 4 Methylphenol	108	5.022	5.030	-0.008	91	219516	80.0	80.0	
47 4-Methylphenol	108	5.022	5.030	-0.008	91	219516	80.0	80.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 N-Nitrosodi-n-propylamine	70	5.033	5.036	-0.004	96	148167	80.0	76.4	
50 Acetophenone	105	5.038	5.041	-0.003	76	283343	80.0	78.7	
53 Hexachloroethane	117	5.166	5.169	-0.003	95	59609	80.0	54.7	
54 Nitrobenzene	77	5.209	5.212	-0.003	96	218079	80.0	80.0	
57 Isophorone	82	5.433	5.442	-0.009	98	407773	80.0	72.6	
59 2-Nitrophenol	139	5.519	5.522	-0.003	98	101187	80.0	80.9	
60 2,4-Dimethylphenol	107	5.540	5.543	-0.003	99	184237	80.0	67.0	
63 Bis(2-chloroethoxy)methane	93	5.631	5.634	-0.003	89	265668	80.0	76.9	
64 Benzoic acid	105	5.620	5.666	-0.046	96	134776	80.0	73.7	
68 2,4-Dichlorophenol	162	5.748	5.757	-0.009	98	183448	80.0	79.5	
70 1,2,4-Trichlorobenzene	180	5.845	5.848	-0.004	99	150358	80.0	62.1	
72 Naphthalene	128	5.919	5.928	-0.009	100	537404	80.0	67.3	
73 4-Chloroaniline	127	5.957	5.960	-0.003	98	224288	80.0	62.2	
74 2,6-Dichlorophenol	162	5.973	5.976	-0.003	98	184121	80.0	80.7	
76 Hexachlorobutadiene	225	6.053	6.056	-0.003	99	75194	80.0	57.3	
80 Caprolactam	55	6.283	6.296	-0.013	96	121103	80.0	80.3	M
83 4-Chloro-3-methylphenol	107	6.432	6.435	-0.003	99	203847	80.0	85.0	
87 2-Methylnaphthalene	142	6.608	6.612	-0.004	100	377661	80.0	69.8	
89 1-Methylnaphthalene	142	6.710	6.713	-0.003	99	362545	80.0	70.5	
90 Hexachlorocyclopentadiene	237	6.779	6.783	-0.004	96	19397	80.0	14.4	
91 1,2,4,5-Tetrachlorobenzene	216	6.779	6.788	-0.009	97	173492	80.0	73.8	
94 2,4,6-Trichlorophenol	196	6.886	6.889	-0.003	81	140883	80.0	91.6	
96 2,4,5-Trichlorophenol	196	6.924	6.927	-0.003	98	148835	80.0	85.2	
100 1,1'-Biphenyl	154	7.068	7.076	-0.008	94	496881	80.0	73.6	
102 2-Chloronaphthalene	162	7.095	7.103	-0.008	100	389055	80.0	72.6	
105 2-Nitroaniline	65	7.185	7.189	-0.004	98	129110	80.0	82.8	
111 Dimethyl phthalate	163	7.362	7.370	-0.008	99	507052	80.0	83.1	
112 1,3-Dinitrobenzene	168	7.388	7.397	-0.009	87	74202	80.0	84.0	
113 2,6-Dinitrotoluene	165	7.420	7.424	-0.004	98	113657	80.0	86.4	
115 Acenaphthylene	152	7.517	7.525	-0.008	100	628076	80.0	76.0	
117 3-Nitroaniline	138	7.597	7.600	-0.003	98	108560	80.0	67.3	
119 Acenaphthene	153	7.693	7.696	-0.003	97	391197	80.0	74.9	
120 2,4-Dinitrophenol	184	7.698	7.707	-0.009	96	99956	160.0	158.3	
121 4-Nitrophenol	109	7.757	7.766	-0.009	97	130738	160.0	175.6	
124 2,4-Dinitrotoluene	165	7.832	7.840	-0.008	98	151490	80.0	87.8	
125 Dibenzofuran	168	7.864	7.872	-0.008	100	596241	80.0	77.1	
129 2,3,4,6-Tetrachlorophenol	232	7.987	7.995	-0.008	71	129927	80.0	89.0	
131 Hexadecane	57	8.094	8.102	-0.008	97	288521	80.0	71.9	
132 Diethyl phthalate	149	8.072	8.075	-0.003	100	497454	80.0	83.1	
134 4-Chlorophenyl phenyl ethe	204	8.200	8.204	-0.004	98	225807	80.0	77.3	
135 Fluorene	166	8.211	8.220	-0.009	99	472813	80.0	76.6	
138 4-Nitroaniline	138	8.216	8.225	-0.009	97	134995	80.0	85.9	
139 4,6-Dinitro-2-methylphenol	198	8.254	8.257	-0.003	95	159284	160.0	163.9	
140 Diphenylamine	169	8.313	8.321	-0.008	95	368127	68.2	66.5	
141 N-Nitrosodiphenylamine	169	8.313	8.321	-0.008	99	368127	80.0	77.4	
142 1,2-Diphenylhydrazine	77	8.361	8.369	-0.008	96	536677	80.9	78.7	
143 Azobenzene	77	8.361	8.369	-0.008	96	536677	80.0	77.8	
145 2,4,6 - Tribromophenol	330		8.460				ND	ND	
152 4-Bromophenyl phenyl ether	248	8.697	8.700	-0.003	98	149914	80.0	80.1	
153 Hexachlorobenzene	284	8.783	8.791	-0.008	98	150409	80.0	80.2	
155 Atrazine	200	8.841	8.850	-0.009	97	149852	80.0	82.4	
156 n-Octadecane	85	9.023	9.032	-0.009	97	146673	80.0	76.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Pentachlorophenol	266	8.970	8.978	-0.008	97	187342	160.0	174.9	
163 Phenanthrene	178	9.189	9.192	-0.003	100	750055	80.0	79.3	
164 Anthracene	178	9.237	9.245	-0.008	100	768868	80.0	78.5	
165 Carbazole	167	9.386	9.395	-0.009	100	760612	80.0	80.0	
169 Di-n-butyl phthalate	149	9.744	9.753	-0.009	100	887587	80.0	80.2	
176 Fluoranthene	202	10.588	10.597	-0.009	100	898034	80.0	79.9	
178 Benzidine	184	10.749	10.599	0.150	83	160729	NC	NC	
180 Pyrene	202	10.925	10.939	-0.014	99	943738	80.0	79.4	
187 Butyl benzyl phthalate	149	12.073	12.087	-0.014	93	423952	80.0	79.3	
190 3,3'-Dichlorobenzidine	252	13.249	13.268	-0.019	99	306017	80.0	70.7	
192 Benzo[a]anthracene	228	13.291	13.311	-0.020	100	942630	80.0	80.8	
193 Bis(2-ethylhexyl) phthalat	149	13.489	13.503	-0.014	99	601434	80.0	79.2	
194 Chrysene	228	13.382	13.401	-0.019	99	911904	80.0	81.3	
197 Di-n-octyl phthalate	149	15.321	15.341	-0.020	100	1070669	80.0	80.5	
198 Benzo[b]fluoranthene	252	16.203	16.222	-0.019	100	944172	80.0	81.2	
200 Benzo[k]fluoranthene	252	16.283	16.302	-0.019	99	978749	80.0	83.6	
202 Benzo[a]pyrene	252	17.138	17.162	-0.024	100	903074	80.0	78.6	
208 Indeno[1,2,3-cd]pyrene	276	20.455	20.474	-0.019	74	843820	80.0	80.2	
209 Dibenz(a,h)anthracene	278	20.551	20.576	-0.025	72	858352	80.0	81.4	
210 Benzo[g,h,i]perylene	276	21.198	21.222	-0.024	99	906937	80.0	81.2	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MS-IS_00009 Amount Added: 20.00 Units: uL Run Reagent

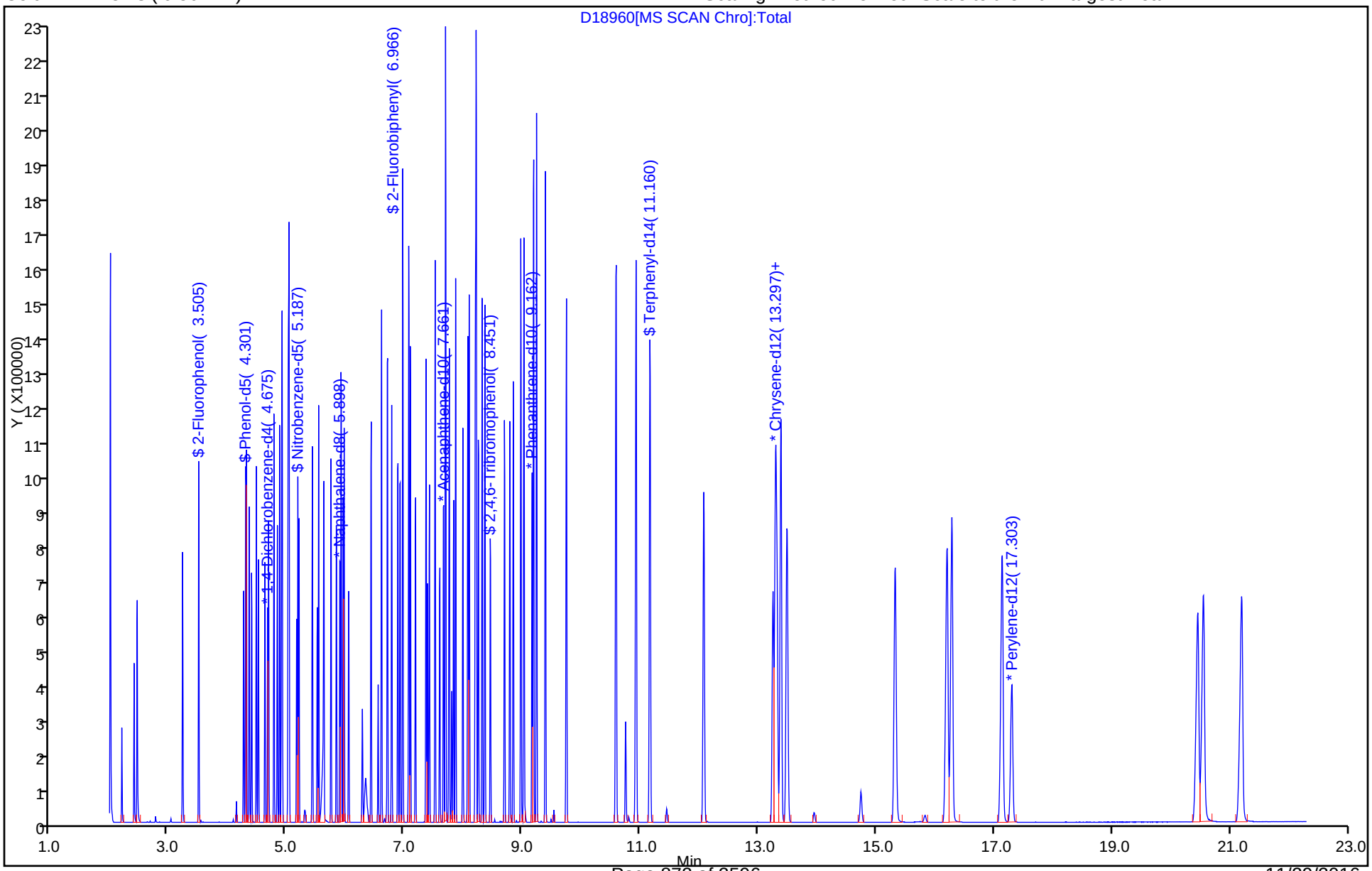
Report Date: 12-Nov-2016 14:02:01 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18960.D

Injection Date:	11-Nov-2016 21:42:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	LCS 280-350194/2-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18960.D
Lims ID: LCS 280-350194/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2016 21:42:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-350194_2-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:38:11

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	88.2	88.17
$ 8 Phenol-d5	100.0	91.0	91.04
$ 9 Nitrobenzene-d5	100.0	95.5	95.48
$ 11 2-Fluorobiphenyl	100.0	88.2	88.22
$ 12 2,4,6-Tribromophenol	100.0	107.6	107.64
$ 13 Terphenyl-d14	100.0	94.2	94.16

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-350444/2-A

Matrix: Water | Lab File ID: D19025.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 11/08/2016 15:07

Sample wt/vol: 1000(mL) | Date Analyzed: 11/15/2016 21:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351625 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	76.1		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	77.4		20	2.0	1.0
84-66-2	Diethyl phthalate	78.1		20	1.0	0.38
131-11-3	Dimethyl phthalate	78.0		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	76.6		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	76.3		20	1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	101		43-140
321-60-8	2-Fluorobiphenyl (Surr)	78		44-119
367-12-4	2-Fluorophenol (Surr)	89		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	97		44-120
4165-62-2	Phenol-d5 (Surr)	94		10-115
1718-51-0	Terphenyl-d14 (Surr)	93		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19025.D
Lims ID: LCS 280-350444/2-A
Client ID:
Sample Type: LCS
Inject. Date: 15-Nov-2016 21:53:30 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-350444_2-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:37:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.670	4.664	0.006	97	80687	40.0	40.0	
* 2 Naphthalene-d8	136	5.899	5.898	0.001	100	323038	40.0	40.0	
* 3 Acenaphthene-d10	164	7.662	7.656	0.006	99	202975	40.0	40.0	
* 4 Phenanthrene-d10	188	9.163	9.162	0.001	99	367421	40.0	40.0	
* 5 Chrysene-d12	240	13.330	13.329	0.001	96	401753	40.0	40.0	
* 6 Perylene-d12	264	17.315	17.314	0.001	99	407788	40.0	40.0	
$ 7 2-Fluorophenol	112	3.495	3.489	0.006	99	239613	100.0	89.2	
$ 8 Phenol-d5	99	4.302	4.301	0.001	97	335636	100.0	94.0	
$ 9 Nitrobenzene-d5	82	5.183	5.182	0.001	97	264705	100.0	96.7	
$ 11 2-Fluorobiphenyl	172	6.967	6.967	0.000	98	479168	100.0	77.8	
$ 12 2,4,6-Tribromophenol	330	8.458	8.457	0.001	96	81046	100.0	100.9	
$ 13 Terphenyl-d14	244	11.166	11.166	0.000	100	687202	100.0	93.5	
16 1,4-Dioxane	88	2.159	2.159	0.000	98	75389	80.0	63.4	
17 N-Nitrosodimethylamine	74	2.373	2.372	0.001	91	138735	80.0	72.6	
18 Pyridine	79	2.426	2.426	0.000	95	198990	80.0	59.3	
27 Benzaldehyde	106	4.259	4.175	0.084	95	126221	NC	NC	
28 Phenol	94	4.312	4.312	0.000	91	266468	80.0	75.7	
30 Aniline	93	4.355	4.354	0.001	99	278158	80.0	61.9	
32 Bis(2-chloroethyl)ether	93	4.398	4.397	0.001	94	196145	80.0	72.8	
35 n-Decane	43	4.510	4.509	0.001	97	77793	80.0	28.2	
36 2-Chlorophenol	128	4.478	4.472	0.006	99	202885	80.0	74.0	
37 1,3-Dichlorobenzene	146	4.622	4.622	0.000	100	106465	80.0	37.2	
38 1,4-Dichlorobenzene	146	4.686	4.680	0.006	98	110109	80.0	37.7	
39 Benzyl alcohol	108	4.777	4.776	0.001	98	153542	80.0	77.7	
40 1,2-Dichlorobenzene	146	4.836	4.830	0.006	99	108822	80.0	39.0	
41 2-Methylphenol	108	4.878	4.878	0.000	74	200561	80.0	74.9	
43 2,2'-oxybis[1-chloropropan	45	4.905	4.905	0.000	96	215384	80.0	58.7	
44 Indene	116	4.916	4.915	0.001	99	196093	80.0	40.3	
45 3-Methylphenol	108	5.023	5.022	0.001	92	209719	80.0	76.4	
46 3 & 4 Methylphenol	108	5.023	5.022	0.001	92	209719	80.0	76.4	
47 4-Methylphenol	108	5.023	5.022	0.001	92	209719	80.0	76.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 N-Nitrosodi-n-propylamine	70	5.028	5.028	0.000	95	138003	80.0	71.1	
50 Acetophenone	105	5.033	5.033	0.000	79	255967	80.0	71.1	
53 Hexachloroethane	117	5.162	5.161	0.001	95	36879	80.0	33.8	
54 Nitrobenzene	77	5.204	5.198	0.006	96	193001	80.0	71.1	
57 Isophorone	82	5.429	5.428	0.001	98	389918	80.0	69.7	
59 2-Nitrophenol	139	5.514	5.514	0.000	98	99638	80.0	80.0	
60 2,4-Dimethylphenol	107	5.541	5.540	0.001	98	165878	80.0	60.6	
63 Bis(2-chloroethoxy)methane	93	5.626	5.626	0.000	95	250481	80.0	72.8	
64 Benzoic acid	105	5.642	5.669	-0.027	97	183786	80.0	96.2	
68 2,4-Dichlorophenol	162	5.749	5.749	0.000	99	175558	80.0	76.3	
70 1,2,4-Trichlorobenzene	180	5.840	5.840	0.000	99	89618	80.0	37.2	
72 Naphthalene	128	5.920	5.920	0.000	99	334888	80.0	42.1	
73 4-Chloroaniline	127	5.958	5.957	0.001	97	203285	80.0	56.6	
74 2,6-Dichlorophenol	162	5.974	5.973	0.001	98	176581	80.0	77.7	
76 Hexachlorobutadiene	225	6.048	6.048	0.000	99	42870	80.0	32.8	
80 Caprolactam	55	6.283	6.294	-0.011	96	113271	80.0	75.4	M
83 4-Chloro-3-methylphenol	107	6.438	6.438	0.000	99	189502	80.0	79.3	
87 2-Methylnaphthalene	142	6.609	6.603	0.006	99	261917	80.0	48.6	
89 1-Methylnaphthalene	142	6.705	6.705	0.000	99	255846	80.0	49.9	
90 Hexachlorocyclopentadiene	237		6.774				ND	ND	
91 1,2,4,5-Tetrachlorobenzene	216	6.780	6.780	0.000	96	130790	80.0	55.8	
94 2,4,6-Trichlorophenol	196	6.887	6.887	0.000	81	128040	80.0	84.6	
96 2,4,5-Trichlorophenol	196	6.930	6.924	0.006	98	138523	80.0	80.5	
100 1,1'-Biphenyl	154	7.069	7.068	0.001	94	385353	80.0	58.0	
102 2-Chloronaphthalene	162	7.095	7.095	0.000	100	297244	80.0	56.3	
105 2-Nitroaniline	65	7.186	7.186	0.000	98	127713	80.0	83.2	
111 Dimethyl phthalate	163	7.363	7.362	0.001	100	468291	80.0	78.0	
112 1,3-Dinitrobenzene	168	7.389	7.389	0.000	88	80162	80.0	91.4	
113 2,6-Dinitrotoluene	165	7.421	7.421	0.000	98	110814	80.0	85.6	
115 Acenaphthylene	152	7.517	7.517	0.000	100	524859	80.0	64.5	
117 3-Nitroaniline	138	7.598	7.597	0.001	98	95121	80.0	60.1	
119 Acenaphthene	153	7.694	7.693	0.001	98	336487	80.0	65.4	
120 2,4-Dinitrophenol	184	7.699	7.699	0.000	96	114899	160.0	179.6	
121 4-Nitrophenol	109	7.769	7.768	0.001	97	125870	160.0	171.7	
124 2,4-Dinitrotoluene	165	7.833	7.832	0.001	98	151890	80.0	89.3	
125 Dibenzofuran	168	7.865	7.864	0.001	99	526415	80.0	69.2	
129 2,3,4,6-Tetrachlorophenol	232	7.993	7.987	0.006	71	119811	80.0	83.4	
131 Hexadecane	57	8.094	8.094	0.000	97	240841	80.0	61.0	
132 Diethyl phthalate	149	8.073	8.073	0.000	100	460586	80.0	78.1	
134 4-Chlorophenyl phenyl ethe	204	8.201	8.201	0.000	98	201223	80.0	69.9	
135 Fluorene	166	8.212	8.211	0.001	99	437328	80.0	72.0	
138 4-Nitroaniline	138	8.223	8.222	0.001	97	133619	80.0	86.4	
139 4,6-Dinitro-2-methylphenol	198	8.255	8.254	0.001	95	169142	160.0	174.7	
140 Diphenylamine	169	8.319	8.313	0.006	95	343063	68.0	62.9	
141 N-Nitrosodiphenylamine	169	8.319	8.313	0.006	99	343063	80.0	72.7	
142 1,2-Diphenylhydrazine	77	8.362	8.361	0.001	96	488010	80.9	72.7	
143 Azobenzene	77	8.362	8.361	0.001	96	488010	80.0	71.9	
145 2,4,6 - Tribromophenol	330	8.458	8.457	0.001	96	81046	100.0	100.9	
152 4-Bromophenyl phenyl ether	248	8.698	8.692	0.006	98	133618	80.0	72.0	
153 Hexachlorobenzene	284	8.784	8.783	0.001	98	135521	80.0	72.8	
155 Atrazine	200	8.848	8.847	0.001	97	138813	80.0	77.0	
156 n-Octadecane	85	9.024	9.023	0.001	97	127227	80.0	67.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Pentachlorophenol	266	8.976	8.975	0.001	97	174543	160.0	164.3	
163 Phenanthrene	178	9.190	9.189	0.001	100	701374	80.0	74.8	
164 Anthracene	178	9.238	9.237	0.001	100	709608	80.0	73.1	
165 Carbazole	167	9.393	9.392	0.001	100	740671	80.0	78.5	
169 Di-n-butyl phthalate	149	9.745	9.745	0.000	100	840609	80.0	76.6	
176 Fluoranthene	202	10.589	10.589	0.000	100	855905	80.0	76.8	
178 Benzidine	184	10.755	10.599	0.156	82	115875	NC	NC	
180 Pyrene	202	10.931	10.931	0.000	99	897437	80.0	76.9	
187 Butyl benzyl phthalate	149	12.085	12.084	0.001	93	406381	80.0	77.4	
190 3,3'-Dichlorobenzidine	252	13.260	13.260	0.000	99	244339	80.0	57.5	
192 Benzo[a]anthracene	228	13.303	13.302	0.001	100	873552	80.0	76.3	
193 Bis(2-ethylhexyl) phthalat	149	13.495	13.495	0.000	99	567259	80.0	76.1	
194 Chrysene	228	13.394	13.393	0.001	99	852890	80.0	77.4	
197 Di-n-octyl phthalate	149	15.333	15.332	0.001	100	996888	80.0	76.3	
198 Benzo[b]fluoranthene	252	16.214	16.214	0.000	99	880492	80.0	77.7	
200 Benzo[k]fluoranthene	252	16.300	16.294	0.006	97	906959	80.0	79.4	
202 Benzo[a]pyrene	252	17.149	17.154	-0.005	100	831321	80.0	74.2	
208 Indeno[1,2,3-cd]pyrene	276	20.467	20.472	-0.005	74	775945	80.0	75.7	
209 Dibenz(a,h)anthracene	278	20.568	20.568	0.000	72	789109	80.0	76.8	
210 Benzo[g,h,i]perylene	276	21.215	21.214	0.001	99	831021	80.0	76.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MS-IS_00009 Amount Added: 20.00 Units: uL Run Reagent

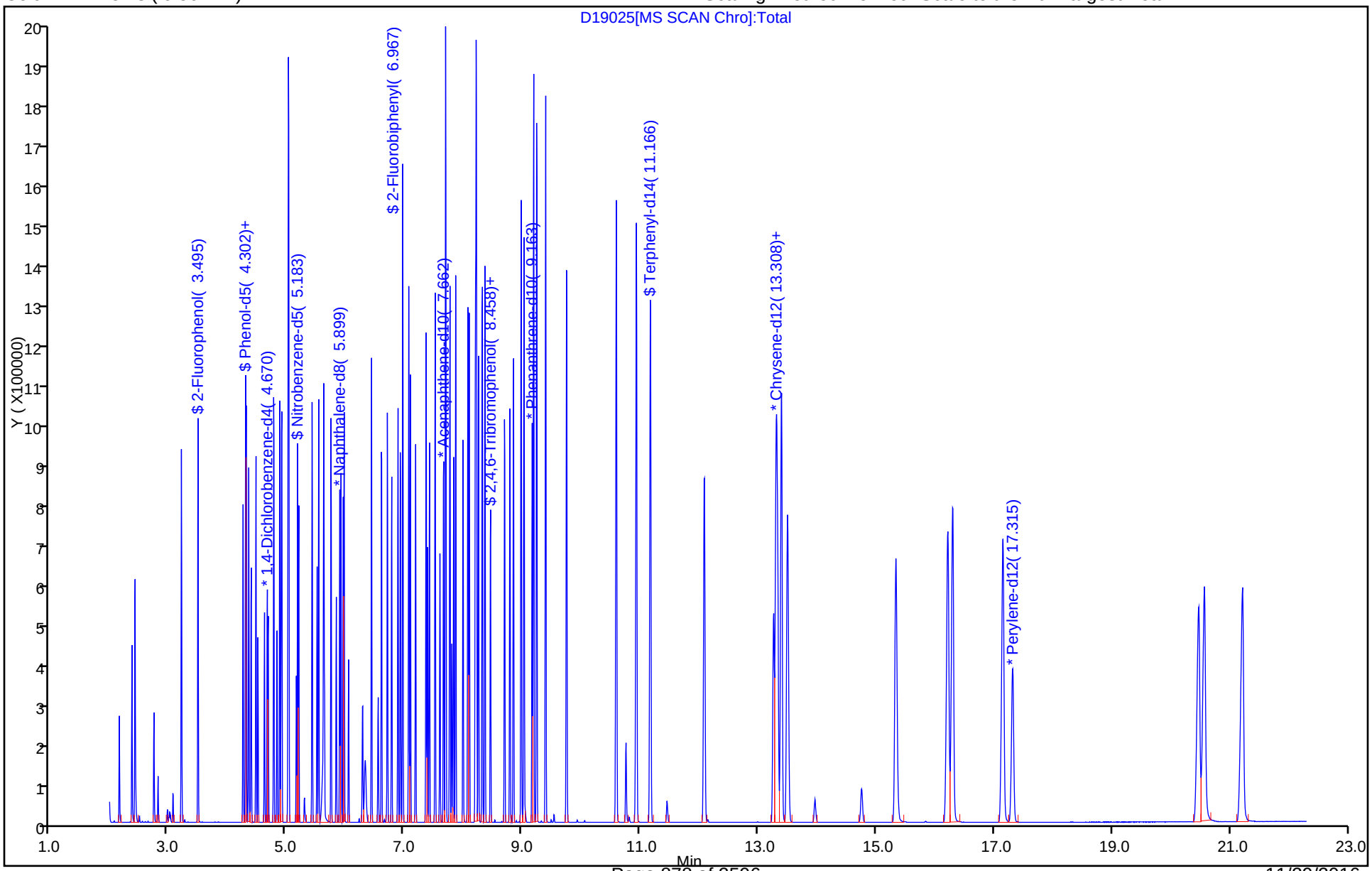
Report Date: 16-Nov-2016 08:42:36 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19025.D

Injection Date:	15-Nov-2016 21:53:30	Instrument ID:	SMS_D	Operator ID:	HOEFLERA
Lims ID:	LCS 280-350444/2-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\D19025.D
Lims ID: LCS 280-350444/2-A
Client ID:
Sample Type: LCS
Inject. Date: 15-Nov-2016 21:53:30 ALS Bottle#: 13 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS280-350444_2-A
Operator ID: HOEFLERA Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161115-53174.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 16-Nov-2016 08:42:31 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: kiekeld Date: 16-Nov-2016 08:37:54

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	89.2	89.16
$ 8 Phenol-d5	100.0	94.0	94.02
$ 9 Nitrobenzene-d5	100.0	96.7	96.71
$ 11 2-Fluorobiphenyl	100.0	77.8	77.81
$ 12 2,4,6-Tribromophenol	100.0	100.9	100.86
$ 13 Terphenyl-d14	100.0	93.5	93.49

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-350194/3-A

Matrix: Water | Lab File ID: D18961.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 11/07/2016 12:27

Sample wt/vol: 1000(mL) | Date Analyzed: 11/11/2016 22:10

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351071 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	79.0		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	79.8		20	2.0	1.0
84-66-2	Diethyl phthalate	80.6		20	1.0	0.38
131-11-3	Dimethyl phthalate	80.9		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	79.5		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	79.7		20	1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	104		43-140
321-60-8	2-Fluorobiphenyl (Surr)	90		44-119
367-12-4	2-Fluorophenol (Surr)	88		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	97		44-120
4165-62-2	Phenol-d5 (Surr)	88		10-115
1718-51-0	Terphenyl-d14 (Surr)	93		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18961.D
Lims ID: LCSD 280-350194/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 11-Nov-2016 22:10:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCSD280-350194_3-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:42:20

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.677	4.678	-0.001	97	87369	40.0	40.0	
* 2 Naphthalene-d8	136	5.901	5.906	-0.005	100	340984	40.0	40.0	
* 3 Acenaphthene-d10	164	7.658	7.664	-0.006	99	210482	40.0	40.0	
* 4 Phenanthrene-d10	188	9.159	9.165	-0.006	99	382514	40.0	40.0	
* 5 Chrysene-d12	240	13.321	13.337	-0.016	82	423862	40.0	40.0	
* 6 Perylene-d12	264	17.301	17.323	-0.022	99	431555	40.0	40.0	
$ 7 2-Fluorophenol	112	3.507	3.508	-0.001	99	255914	100.0	87.9	
$ 8 Phenol-d5	99	4.303	4.304	-0.001	98	342048	100.0	88.5	
$ 9 Nitrobenzene-d5	82	5.190	5.191	-0.001	97	280552	100.0	97.1	
$ 11 2-Fluorobiphenyl	172	6.969	6.975	-0.006	98	577285	100.0	90.4	
$ 12 2,4,6-Tribromophenol	330	8.454	8.460	-0.006	97	86310	100.0	103.6	
$ 13 Terphenyl-d14	244	11.163	11.174	-0.011	100	720466	100.0	92.9	
16 1,4-Dioxane	88	2.204	2.199	0.005	98	83191	80.0	64.6	
17 N-Nitrosodimethylamine	74	2.412	2.413	-0.001	91	152977	80.0	73.9	
18 Pyridine	79	2.460	2.461	-0.001	95	212828	80.0	58.6	
27 Benzaldehyde	106	4.266	4.175	0.091	95	140205	NC	NC	
28 Phenol	94	4.314	4.320	-0.006	91	285072	80.0	74.7	
30 Aniline	93	4.362	4.368	-0.006	98	298369	80.0	61.3	
32 Bis(2-chloroethyl)ether	93	4.405	4.405	0.000	94	225925	80.0	77.5	
35 n-Decane	43	4.517	4.523	-0.006	97	140604	80.0	47.1	
36 2-Chlorophenol	128	4.485	4.485	0.000	99	230980	80.0	77.8	
37 1,3-Dichlorobenzene	146	4.629	4.630	-0.001	100	176972	80.0	57.1	
38 1,4-Dichlorobenzene	146	4.693	4.694	-0.001	98	184650	80.0	58.4	
39 Benzyl alcohol	108	4.784	4.785	-0.001	98	165793	80.0	77.5	
40 1,2-Dichlorobenzene	146	4.843	4.843	0.000	100	180126	80.0	59.5	
41 2-Methylphenol	108	4.880	4.881	-0.001	74	222435	80.0	76.7	
43 2,2'-oxybis[1-chloropropan	45	4.912	4.918	-0.006	96	289766	80.0	73.0	
44 Indene	116	4.923	4.929	-0.006	99	318307	80.0	63.1	
45 3-Methylphenol	108	5.024	5.030	-0.006	91	231648	80.0	78.0	
46 3 & 4 Methylphenol	108	5.024	5.030	-0.006	91	231648	80.0	78.0	
47 4-Methylphenol	108	5.024	5.030	-0.006	91	231648	80.0	78.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
48 N-Nitrosodi-n-propylamine	70	5.035	5.036	-0.001	96	155655	80.0	74.1	
50 Acetophenone	105	5.040	5.041	-0.001	75	296321	80.0	76.0	
53 Hexachloroethane	117	5.169	5.169	0.000	95	64468	80.0	54.6	
54 Nitrobenzene	77	5.206	5.212	-0.006	97	232993	80.0	81.3	
57 Isophorone	82	5.436	5.442	-0.006	98	427959	80.0	72.4	
59 2-Nitrophenol	139	5.516	5.522	-0.006	97	112113	80.0	85.1	
60 2,4-Dimethylphenol	107	5.543	5.543	0.000	98	189618	80.0	65.6	
63 Bis(2-chloroethoxy)methane	93	5.628	5.634	-0.006	95	278431	80.0	76.6	
64 Benzoic acid	105	5.623	5.666	-0.043	98	142890	80.0	74.2	
68 2,4-Dichlorophenol	162	5.751	5.757	-0.006	99	196072	80.0	80.8	
70 1,2,4-Trichlorobenzene	180	5.842	5.848	-0.006	99	164453	80.0	64.6	
72 Naphthalene	128	5.922	5.928	-0.006	100	586602	80.0	69.8	
73 4-Chloroaniline	127	5.959	5.960	-0.001	97	180556	80.0	47.6	
74 2,6-Dichlorophenol	162	5.975	5.976	-0.001	97	193267	80.0	80.6	
76 Hexachlorobutadiene	225	6.050	6.056	-0.006	99	83049	80.0	60.2	
80 Caprolactam	55	6.285	6.296	-0.011	96	116426	80.0	73.4	M
83 4-Chloro-3-methylphenol	107	6.429	6.435	-0.006	99	203761	80.0	80.8	
87 2-Methylnaphthalene	142	6.606	6.612	-0.006	99	414404	80.0	72.9	
89 1-Methylnaphthalene	142	6.707	6.713	-0.006	99	394886	80.0	73.0	
90 Hexachlorocyclopentadiene	237	6.777	6.783	-0.006	96	20660	80.0	15.0	
91 1,2,4,5-Tetrachlorobenzene	216	6.782	6.788	-0.006	96	190082	80.0	76.8	
94 2,4,6-Trichlorophenol	196	6.883	6.889	-0.006	81	142261	80.0	90.6	
96 2,4,5-Trichlorophenol	196	6.921	6.927	-0.006	98	152529	80.0	85.5	
100 1,1'-Biphenyl	154	7.070	7.076	-0.006	94	524664	80.0	76.1	
102 2-Chloronaphthalene	162	7.097	7.103	-0.006	100	409247	80.0	74.8	
105 2-Nitroaniline	65	7.183	7.189	-0.006	98	134158	80.0	84.3	
111 Dimethyl phthalate	163	7.364	7.370	-0.006	100	503951	80.0	80.9	
112 1,3-Dinitrobenzene	168	7.391	7.397	-0.006	90	79992	80.0	88.3	
113 2,6-Dinitrotoluene	165	7.418	7.424	-0.006	98	116711	80.0	86.9	
115 Acenaphthylene	152	7.519	7.525	-0.006	100	648518	80.0	76.9	
117 3-Nitroaniline	138	7.594	7.600	-0.006	98	88722	80.0	54.2	
119 Acenaphthene	153	7.690	7.696	-0.006	98	404825	80.0	75.9	
120 2,4-Dinitrophenol	184	7.701	7.707	-0.006	96	108692	160.0	166.6	
121 4-Nitrophenol	109	7.760	7.766	-0.006	96	132057	160.0	173.8	
124 2,4-Dinitrotoluene	165	7.829	7.840	-0.011	97	155800	80.0	88.4	
125 Dibenzofuran	168	7.866	7.872	-0.006	99	613976	80.0	77.8	
129 2,3,4,6-Tetrachlorophenol	232	7.989	7.995	-0.006	71	131099	80.0	88.0	
131 Hexadecane	57	8.096	8.102	-0.006	97	297438	80.0	72.6	
132 Diethyl phthalate	149	8.069	8.075	-0.006	100	492857	80.0	80.6	
134 4-Chlorophenyl phenyl ethe	204	8.198	8.204	-0.006	98	229964	80.0	77.1	
135 Fluorene	166	8.214	8.220	-0.006	99	478417	80.0	75.9	
138 4-Nitroaniline	138	8.219	8.225	-0.006	97	132732	80.0	82.7	
139 4,6-Dinitro-2-methylphenol	198	8.251	8.257	-0.006	94	164965	160.0	164.4	
140 Diphenylamine	169	8.315	8.321	-0.006	95	374440	68.2	66.2	
141 N-Nitrosodiphenylamine	169	8.315	8.321	-0.006	98	374440	80.0	76.3	
142 1,2-Diphenylhydrazine	77	8.358	8.369	-0.011	96	543467	80.9	78.1	
143 Azobenzene	77	8.358	8.369	-0.011	96	543467	80.0	77.2	
145 2,4,6 - Tribromophenol	330		8.460				ND	ND	
152 4-Bromophenyl phenyl ether	248	8.694	8.700	-0.006	98	149585	80.0	77.4	
153 Hexachlorobenzene	284	8.785	8.791	-0.006	98	151222	80.0	78.1	
155 Atrazine	200	8.844	8.850	-0.006	96	149501	80.0	79.6	
156 n-Octadecane	85	9.026	9.032	-0.006	97	145748	80.0	74.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Pentachlorophenol	266	8.972	8.978	-0.006	98	194902	160.0	176.3	
163 Phenanthrene	178	9.186	9.192	-0.006	100	763414	80.0	78.2	
164 Anthracene	178	9.239	9.245	-0.006	100	778653	80.0	77.0	
165 Carbazole	167	9.389	9.395	-0.006	100	780460	80.0	79.5	
169 Di-n-butyl phthalate	149	9.747	9.753	-0.006	100	909107	80.0	79.5	
176 Fluoranthene	202	10.586	10.597	-0.011	100	924149	80.0	79.7	
178 Benzidine	184	10.751	10.599	0.152	83	156996	NC	NC	
180 Pyrene	202	10.927	10.939	-0.012	99	968784	80.0	78.7	
187 Butyl benzyl phthalate	149	12.076	12.087	-0.011	93	441996	80.0	79.8	
190 3,3'-Dichlorobenzidine	252	13.246	13.268	-0.022	99	266760	80.0	59.5	
192 Benzo[a]anthracene	228	13.294	13.311	-0.017	100	958242	80.0	79.3	
193 Bis(2-ethylhexyl) phthalat	149	13.486	13.503	-0.017	99	621903	80.0	79.0	
194 Chrysene	228	13.385	13.401	-0.016	99	927540	80.0	79.8	
197 Di-n-octyl phthalate	149	15.319	15.341	-0.022	100	1097345	80.0	79.7	
198 Benzo[b]fluoranthene	252	16.206	16.222	-0.016	95	957683	80.0	79.8	
200 Benzo[k]fluoranthene	252	16.286	16.302	-0.016	99	985576	80.0	81.6	
202 Benzo[a]pyrene	252	17.140	17.162	-0.022	100	921276	80.0	77.7	
208 Indeno[1,2,3-cd]pyrene	276	20.458	20.474	-0.016	75	849818	80.0	78.3	
209 Dibenz(a,h)anthracene	278	20.554	20.576	-0.022	72	865555	80.0	79.6	
210 Benzo[g,h,i]perylene	276	21.200	21.222	-0.022	99	918436	80.0	79.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MS-IS_00009 Amount Added: 20.00 Units: uL Run Reagent

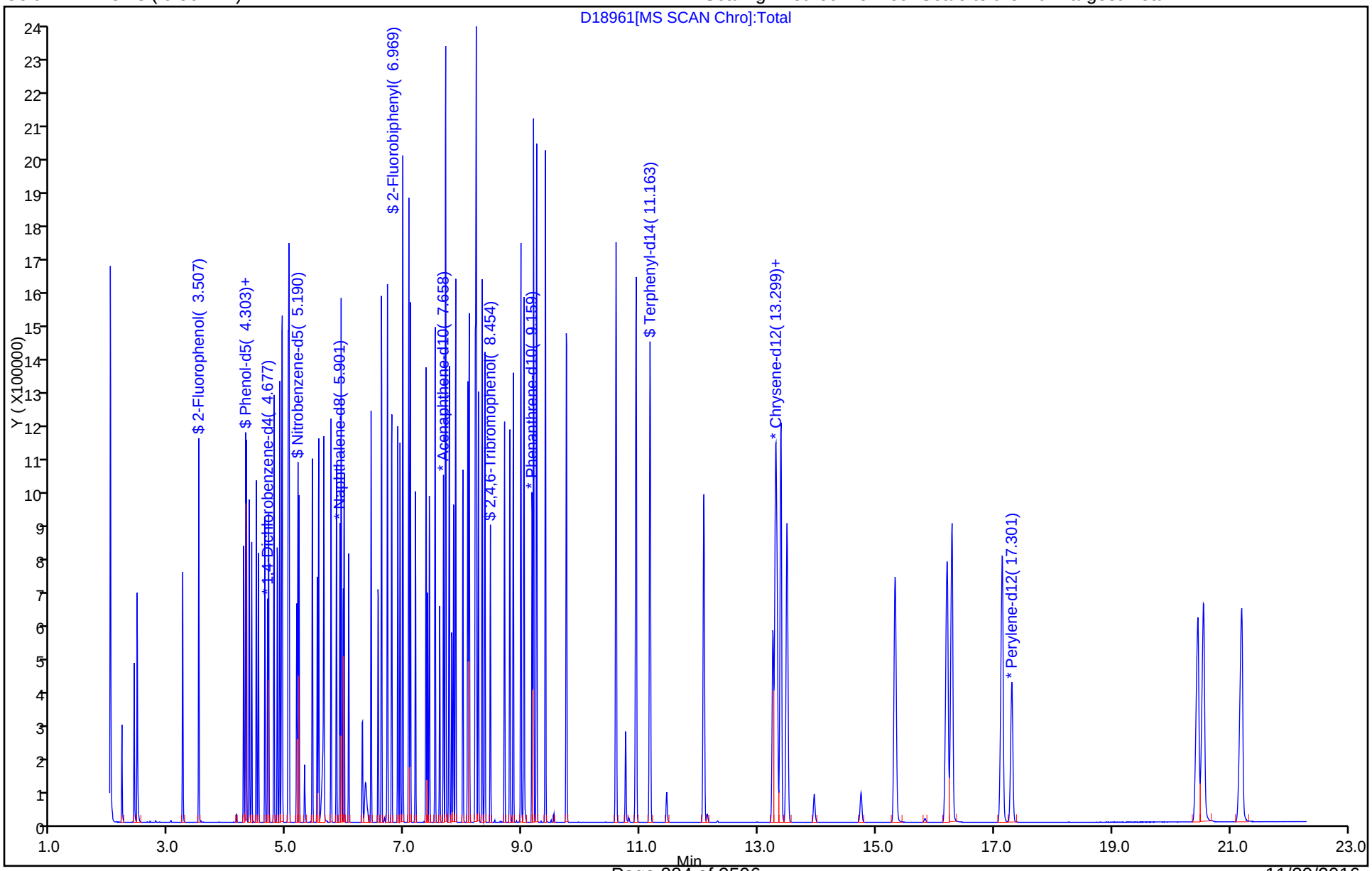
Report Date: 12-Nov-2016 14:02:08 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18961.D

Injection Date:	11-Nov-2016 22:10:30	Instrument ID:	SMS_D	Operator ID:	WICKHAMM
Lims ID:	LCSD 280-350194/3-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSD_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\D18961.D
Lims ID: LCSD 280-350194/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 11-Nov-2016 22:10:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCSD280-350194_3-A
Operator ID: WICKHAMM Instrument ID: SMS_D

Method: \\ChromNA\Denver\ChromData\SMS_D\20161111-53030.b\SMSD_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 12-Nov-2016 14:01:46 Calib Date: 09-Nov-2016 10:40:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_D\20161109-52879.b\D18891.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: XAWRK023

First Level Reviewer: hoeflera Date: 12-Nov-2016 13:42:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	87.9	87.94
$ 8 Phenol-d5	100.0	88.5	88.49
$ 9 Nitrobenzene-d5	100.0	97.1	97.10
$ 11 2-Fluorobiphenyl	100.0	90.4	90.40
$ 12 2,4,6-Tribromophenol	100.0	103.6	103.58
$ 13 Terphenyl-d14	100.0	92.9	92.90

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SMS_D Start Date: 11/09/2016 07:11

Analysis Batch Number: 350537 End Date: 11/09/2016 12:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-350537/2		11/09/2016 07:11	1	D18883.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-350537/3		11/09/2016 07:22	1	D18884.D	Rxi-5Sil MS 0.25(mm)
STD004 280-350537/4 IC		11/09/2016 07:50	1	D18885.D	Rxi-5Sil MS 0.25(mm)
STD010 280-350537/5 IC		11/09/2016 08:19	1	D18886.D	Rxi-5Sil MS 0.25(mm)
STD020 280-350537/6 IC		11/09/2016 08:47	1	D18887.D	Rxi-5Sil MS 0.25(mm)
STD050 280-350537/7 IC		11/09/2016 09:15	1	D18888.D	Rxi-5Sil MS 0.25(mm)
STD120 280-350537/8 IC		11/09/2016 09:43	1	D18889.D	Rxi-5Sil MS 0.25(mm)
STD160 280-350537/9 IC		11/09/2016 10:12	1	D18890.D	Rxi-5Sil MS 0.25(mm)
STD200 280-350537/10 IC		11/09/2016 10:40	1	D18891.D	Rxi-5Sil MS 0.25(mm)
ICV 280-350537/11		11/09/2016 11:09	1	D18892.D	Rxi-5Sil MS 0.25(mm)
ICV 280-350537/12		11/09/2016 11:37	1	D18893.D	Rxi-5Sil MS 0.25(mm)
ICV 280-350537/13		11/09/2016 12:05	1	D18894.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SMS_D Start Date: 11/11/2016 20:19

Analysis Batch Number: 351071 End Date: 11/12/2016 07:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-351071/2		11/11/2016 20:19	1	D18957.D	Rxi-5Sil MS 0.25(mm)
CCV 280-351071/3		11/11/2016 20:45	1	D18958.D	Rxi-5Sil MS 0.25(mm)
MB 280-350194/1-A		11/11/2016 21:14	1	D18959.D	Rxi-5Sil MS 0.25(mm)
LCS 280-350194/2-A		11/11/2016 21:42	1	D18960.D	Rxi-5Sil MS 0.25(mm)
LCSD 280-350194/3-A		11/11/2016 22:10	1	D18961.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/11/2016 22:38	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/11/2016 23:07	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/11/2016 23:35	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 00:03	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 00:32	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 01:00	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 01:28	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 01:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 02:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 02:53	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 03:22	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 03:50	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 04:18	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 04:47	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 05:15	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 05:43	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/12/2016 06:11	1		Rxi-5Sil MS 0.25(mm)
280-90409-2		11/12/2016 06:40	1	D18979.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-351071/25		11/12/2016 07:08	1	D18980.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SMS_D Start Date: 11/15/2016 17:10

Analysis Batch Number: 351625 End Date: 11/16/2016 03:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-351625/2		11/15/2016 17:10	1	D19013.D	Rxi-5Sil MS 0.25(mm)
CCV 280-351625/3		11/15/2016 17:22	1	D19014.D	Rxi-5Sil MS 0.25(mm)
MB 280-350444/1-A		11/15/2016 21:25	1	D19024.D	Rxi-5Sil MS 0.25(mm)
LCS 280-350444/2-A		11/15/2016 21:53	1	D19025.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2016 22:21	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2016 22:50	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2016 23:18	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2016 23:46	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 00:15	1		Rxi-5Sil MS 0.25(mm)
280-90409-1		11/16/2016 00:43	1	D19031.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 01:11	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 01:40	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 02:08	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 02:36	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2016 03:04	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-351625/17		11/16/2016 03:33	1	D19037.D	Rxi-5Sil MS 0.25(mm)

GC/MS Semivolatile Data Review Checklist-CCV and Tune

LIMS Batch Number: 351091	Worklist #: 53030	Instrument ID: D
Analyst/1st Reviewer: MW Date: 11-11-16	Method (circle): 625 8270C (8270D)	Circle: Full Scan SIM BP LL SIM
QC Type (circle): Standard DOD Q4 DoD Q5	QAPP_____	Other_____

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable? (List NCM #)
A. Tune/Calibration Verification					
1. Did DFTPP meet tune criteria? If SIM, did the PFTBA Tune check meet ion ratio criteria?	X			✓	
2. Are the Benzidine and PCP tailing ≤ 2? (8270D/DoD), Benzidine tailing ≤3 and PCP tailing ≤5? (8270C)	X			✓	
3. Is the DDT degradation ≤ 20%	X			✓	
4. Were all standards injected within 12 hr of DFTPP? (or 24 hrs for 625)?	X			✓	
5. Was the correct ICAL used for quantitation? Date & Instrument ID verified? (Check both Chrom and TALS)	X			✓	
6. Do the RFs meet method minimum criteria? (8270D/625) Are the RFs for SPCCs ≥0.050? (8270C)	X			✓	
7. Is the %D (difference or drift) 8270C: ≤20% for all CCCs? all other analytes within 35%, or 55% (poor performers) 8270D: %D ≤ 20% for all analytes, at least 80% of compounds meet criteria?	X			✓	(8270C: %D high, samples ND?) (8270D: <20% of cmpds fail criteria & for failed cmpds RL std verifies sensitivity for NDs?) List Compounds outside criteria:
8. For any compound > 20% D (low), was RL standard analyzed and detected? (8270D)			X	NA	
9. NOTE: For any compounds > 20% D (high or low), detects will be flagged as "EST" & narrated. (8270D)			X	✓	☐ Must be done in consultation with client.
10. Are the internal standard responses within limits? (between -50% and +100% of the mid-level ICAL standard)	X			✓	
11. Are the internal standard retention times within method limits? (±30 sec of ICAL mid pt for 8270C/D)	X			✓	
12. Benzo(b & k)fluoranthene: height of the valley between must be less than 50% of the average of the two peak heights?	X			✓	
13. Elution order checked isomeric pairs and coeluters?					(Chrom: View/Documents/Methods/Isomers)
• aniline / bis(2-chloroethyl)ether	X			✓	
• N-nitrosodiphenylamine/diphenylamine	X			✓	
• 1,3- , 1,4- , 1,2-dichlorobenzene	X			✓	
• benzyl alcohol / 2-methylphenol / 3/4-methylphenol	X			✓	
• 2 & 1 – methylnaphthalene	X			✓	
• 2,4-dimethylphenol / 3,5-dimethylphenol	X			✓	
• 2,4,6- and 2,4,5-trichlorophenol	X			✓	
• phenanthrene / anthracene	X			✓	

Phuriya S
11/14/16

A. Tune/Calibration Verification (cont.)					
Review Items	**Yes**	**No**	**NA**	**2nd Rev**	**If No, why is data reportable? (List NCM #)**
• fluoranthene / pyrene	X			✓	
• benzo(a)anthracene / chrysene	X			✓	
• benzo(e)pyrene/benzo(a)pyrene	X			✓	
• bis(2-ethylhexyl)/di-n-octyl phthalate	X			✓	
• benzo(b)fluoranthene / benzo(k)fluoranthene	X			✓	
• indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene	X			✓	
• safrole/1-chloronaphthalene			X	✓	
• 1-/2-naphthylamine			X		
• 1 and 2-chloronaphthalene			X		
• 2,4,6 and 2,4,5-tribromophenol			X		
14. If any criteria from items above were not met, was a NCM generated?			X	✓	
15. Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2nd review of all MIs required	X			✓	

Comments:

2nd Reviewer: Alex Hartlen **Review Date:** 11/12/16

MW 11-12-16

Phuvinga S. 11/14/2016

Alex Hoefle
11/15/16

Injection Log

Directory: C:\HPCHEM\1\data\111116.B

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	D18952.D	1.	PRIMER		11 Nov 2016 18:16
2	1	D18953.D	1.	DFTPP		11 Nov 2016 18:41
3	2	D18954.D	1.	CCV HSL		11 Nov 2016 18:53
4	3	D18955.D	1.	MB280-350194_1-A		11 Nov 2016 19:22
5	100	D18956.D	1.	PRIMER		11 Nov 2016 19:54
6	1	D18957.D	1.	DFTPP		11 Nov 2016 20:19
7	2	D18958.D	1.	CCV HSL		11 Nov 2016 20:45
8	3	D18959.D	1.	MB280-350194_1-A		11 Nov 2016 21:14
9	4	D18960.D	1.	LCS280-350194_2-A		11 Nov 2016 21:42
10	5	D18961.D	1.	LCSD280-350194_3-A		11 Nov 2016 22:10
11	6	D18962.D	1.	280-90337-A-2-A		11 Nov 2016 22:38
12	7	D18963.D	1.	280-90337-A-3-A		11 Nov 2016 23:07
13	8	D18964.D	1.	280-90337-B-4-A		11 Nov 2016 23:35
14	9	D18965.D	1.	280-90337-A-5-A		12 Nov 2016 00:03
15	10	D18966.D	1.	280-90351-A-1-A		12 Nov 2016 00:32
16	11	D18967.D	1.	280-90351-A-2-A		12 Nov 2016 01:00
17	12	D18968.D	1.	280-90351-B-3-A		12 Nov 2016 01:28
18	13	D18969.D	1.	280-90351-B-4-A		12 Nov 2016 01:57
19	14	D18970.D	1.	280-90395-A-1-A		12 Nov 2016 02:25
20	15	D18971.D	1.	280-90395-A-2-A		12 Nov 2016 02:53
21	16	D18972.D	1.	280-90395-A-3-A		12 Nov 2016 03:22
22	17	D18973.D	1.	280-90395-A-5-A		12 Nov 2016 03:50
23	18	D18974.D	1.	280-90395-A-15-A		12 Nov 2016 04:18
24	19	D18975.D	1.	280-90395-A-16-A		12 Nov 2016 04:47
25	20	D18976.D	1.	280-90395-A-17-A		12 Nov 2016 05:15
26	21	D18977.D	1.	280-90395-A-21-A		12 Nov 2016 05:43
27	22	D18978.D	1.	280-90395-A-22-A		12 Nov 2016 06:11
28	23	D18979.D	1.	280-90409-B-2-A		12 Nov 2016 06:40
29	24	D18980.D	1.	CCVC		12 Nov 2016 07:08
30	98	D18981.D	1.	RINSE		12 Nov 2016 07:36
31	99	D18982.D	1.	RINSE		12 Nov 2016 08:05
32	100	D18983.D	1.	RINSE		12 Nov 2016 08:33
33	98	D18984.D	1.	RINSE		12 Nov 2016 09:01
34	99	D18985.D	1.	RINSE		12 Nov 2016 09:30
35	100	D18986.D	1.	RINSE		12 Nov 2016 09:58

Dilution Solvent Lot #: NA **Pipette ID:** SV-23 / SV-24 **Method(s) Performed:** 8270 D-DDS

Phuriya S. 11/14/2016

Daily Maintenance: Check box if maintenance was performed. No mark indicates the item was not changed.

Changed Septum ☑ Changed Liner ☑ Changed Seal ☑ Changed Ferrule ☑ Clipped Column ☐ 0.6m 70

TestAmerica *Denver*

D-111516

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

GC/MS Semivolatile Data Review Checklist-CCV and Tune

LIMS Batch Number: 351626	**Worklist #:** 53174	**Instrument ID:** D
Analyst/1st Reviewer: DRL **Date:** 111616	**Method (circle):** 625 (8270C) 8270D	**Circle:** (Full Scan) SIM BP LL SIM
QC Type (circle): (Standard) (DOD Q4) (DoD Q5)	**QAPP**_____	**Other**_____

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable? (List NCM #)
A. Tune/Calibration Verification					
1. Did DFTPP meet tune criteria? If SIM, did the PFTBA Tune check meet ion ratio criteria?	✓			✓	
2. Are the Benzidine and PCP tailing ≤ 2? (8270D/DoD), Benzidine tailing ≤3 and PCP tailing ≤5? (8270C)	✓			✓	
3. .Is the DDT degradation ≤ 20%	✓			✓	
4. Were all standards injected within 12 hr of DFTPP? (or 24 hrs for 625)?	✓			✓	
5. Was the correct ICAL used for quantitation? Date & Instrument ID verified? (Check both Chrom and TALS)	✓			✓	
6. Do the RFs meet method minimum criteria? (8270D/625) Are the RFs for SPCCs ≥0.050? (8270C)	✓			✓	
7. Is the %D (difference or drift) **8270C:** ≤20% for all CCCs? all other analytes within 35%, or 55% (poor performers) **8270D:** %D ≤ 20% for all analytes, at least 80% of compounds meet criteria?	✓			✓	(8270C: %D high, samples ND?) (8270D: <20% of cmpds fail criteria & for failed cmpds RL std verifies sensitivity for NDs?) List Compounds outside criteria:
8. For any compound > 20% D (low), was RL standard analyzed and detected? (8270D)			✓	NA	
9. NOTE: For any compounds > 20% D (high or low), detects will be flagged as "EST" & narrated. (8270D)			✓	✓	□ Must be done in consultation with client.
10. Are the internal standard responses within limits? (between -50% and +100% of the mid-level ICAL standard)	✓			✓	
11. Are the internal standard retention times within method limits? (±30 sec of ICAL mid pt for 8270C/D)	✓			✓	
12. Benzo(b & k)fluoranthene: height of the valley between must be less than 50% of the average of the two peak heights?	✓			✓	
13. Elution order checked Isomeric pairs and coeluters?					(Chrom: View/Documents/Methods/Isomers)
• aniline / bis(2-chloroethyl)ether	✓			✓	
• N-nitrosodiphenylamine/diphenylamine	✓			✓	
• 1,3- , 1,4- , 1,2-dichlorobenzene	✓			✓	
• benzyl alcohol / 2-methylphenol / 3/4-methylphenol	✓			✓	
• 2 & 1 – methylnaphthalene	✓			✓	
• 2,4-dimethylphenol / 3,5-dimethylphenol	✓			✓	
• 2,4,6- and 2,4,5-trichlorophenol	✓			✓	
• phenanthrene / anthracene	✓			✓	

Panida R.
11/17/16

A. Tune/Calibration Verification (cont.)					
Review Items	**Yes**	**No**	**NA**	**2nd Rev**	**If No, why is data reportable? (List NCM #)**
• fluoranthene / pyrene	✓			✓	
• benzo(a)anthracene / chrysene	✓			✓	
• benzo(e)pyrene/benzo(a)pyrene	✓			✓	
• bis(2-ethylhexyl)/di-n-octyl phthalate	✓			✓	
• benzo(b)fluoranthene / benzo(k)fluoranthene	✓			✓	
• Indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene	✓			✓	
• safrole/1-chloronaphthalene			NA	NA	
• 1-/2-naphthylamine			↓	↓	
• 1 and 2-chloronaphthalene			↓	↓	
• 2,4,6 and 2,4,5-tribromophenol			↓	↓	
14. If any criteria from items above were not met, was a NCM generated?			↓	↓	
15. Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2nd review of all MIs required	✓			✓	

Comments: dal 11/16

2nd Reviewer: Alex Hoff **Review Date:** 11/16/16

Panida R. 11/17/16

Injection Log

Directory: C:\HPCHEM\1\data\111516.B

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	D19012.D	1.	PRIMER		15 Nov 2016 16:45
2	1	D19013.D	1.	DFTPP		15 Nov 2016 17:10
3	2	D19014.D	1.	CCV HSL		15 Nov 2016 17:22
4	3	D19015.D	1.	DNX STD_080		15 Nov 2016 17:50
5	4	D19016.D	1.	DNX STD_004		15 Nov 2016 18:14
6	5	D19017.D	1.	DNX STD_010		15 Nov 2016 18:38
7	6	D19018.D	1.	DNX STD_020		15 Nov 2016 19:02
8	7	D19019.D	1.	DNX STD_050		15 Nov 2016 19:26
9	8	D19020.D	1.	DNX STD_120	Good	15 Nov 2016 19:50
10	9	D19021.D	1.	DNX STD_160		15 Nov 2016 20:13
11	10	D19022.D	1.	DNX STD_200		15 Nov 2016 20:37
12	11	D19023.D	1.	DNX ICV		15 Nov 2016 21:01
13	12	D19024.D	1.	MB280-350444_1-A		15 Nov 2016 21:25
14	13	D19025.D	1.	LCS280-350444_2-A		15 Nov 2016 21:53
15	14	D19026.D	1.	280-90579-B-1-A		15 Nov 2016 22:21
16	15	D19027.D	1.	280-90579-A-2-A		15 Nov 2016 22:50
17	16	D19028.D	1.	280-90579-A-3-A		15 Nov 2016 23:18
18	17	D19029.D	1.	280-90579-B-5-A		15 Nov 2016 23:46
19	18	D19030.D	1.	280-90579-A-13-A		16 Nov 2016 00:15
20	19	D19031.D	1.	280-90409-B-1-A		16 Nov 2016 00:43
21	20	D19032.D	1.	280-90415-A-1-A		16 Nov 2016 01:11
22	21	D19033.D	1.	280-90420-A-8-A		16 Nov 2016 01:40
23	22	D19034.D	1.	280-90421-A-2-A		16 Nov 2016 02:08
24	23	D19035.D	1.	280-90421-A-3-A		16 Nov 2016 02:36
25	24	D19036.D	1.	280-90421-A-20-A		16 Nov 2016 03:04
26	25	D19037.D	1.	CCVC HSL		16 Nov 2016 03:33
27	98	D19038.D	1.	RINSE		16 Nov 2016 04:01
28	99	D19039.D	1.	RINSE		16 Nov 2016 04:29
29	100	D19040.D	1.	RINSE		16 Nov 2016 04:58
30	98	D19041.D	1.	RINSE		16 Nov 2016 05:26
31	99	D19042.D	1.	RINSE		16 Nov 2016 05:54
32		D19043.D	1.			

11/16/16

Dilution Solvent Lot #: N/A **Pipette ID:** 01-2/04 **Method(s) Performed:** 8270C

Daily Maintenance: Check box if maintenance was performed. No mark indicates the item was not changed.

Changed Septum ☑ Changed Liner ☑ Changed Seal ☑ Changed Ferrule ☑ Clipped Column ☑

Panida R. 11/17/16

TestAmerica-Denver

D-110916-HSL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

GC/MS Semivolatile Initial Calibration Data Review Checklist

LIMS Batch Number: 350537	Worklist: 52879	ICIS/ICIV Line # 3	2nd Day ICV Line # NA	Instrument ID: D
Analyst/1st Reviewer: DOR Date: 111016	Method (circle): 625 (8270C) 8270D		Circle: (Full Scan) SIM BP · LLSIM	
QC Type (circle): (Standard) (DOD Q4) (DOD Q5)	QAPP_____	Other_____		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Tune/Calibration Verification					
1. Did DFTPP meet tune criteria? If SIM, did the PFTBA Tune check meet ion ratio criteria?	✓			✓	
2. Are the Benzidine and PCP tailing ≤ 2? (8270D/DoD) Benzidine tailing ≤3 and PCP tailing ≤5? (8270C)	✓			✓	
3. Is the DDT degradation ≤ 20%	✓			✓	
4. Were all standards injected within 12 hr of DFTPP? (or 24 hrs for 625)?	✓			✓	
5. Were ≥ 5 levels of each compound and surrogate analyzed?	✓			✓	
6. At least 6 consecutive points used for quadratic curves?	✓			✓	
7. Was low level standard at or below RL?	✓			✓	
8. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)	✓			✓	(e.g.; some points <RL removed)
9. Does the low level standard have enough sensitivity to produce at least 5-10 scans across the peak, and all secondary ions are present?	✓			✓	
10. Do the average RFs meet minimum RF requirements? (625 – not method defined) (8270C-SPCCs ≥0.05) (8270D- all cmpds have min RFs defined in method/SOP)	✓			✓	
10. Did the calibration %RSD meet method requirements? (625: ≤35% all cmpds) (8270C: ≤30% for CCCs & ≤15% for all other cmpds/ surrogates) (8270D: ≤20% for all cmpds/surrogates)	✓			✓	
11. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?	✓			✓	
12. If regression fit used, r^2 ≥0.990?	✓			✓	
13. Does the low point of a linear regression fit meet the ±30% read-back criteria? (8270D)			✓	NA	
14. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005; recommended limits ±30% low point & ±20% all other points) (Chrom Report - Details of Calibration per Analyte)	✓			✓	
15. Is the concentration intercept <|RL| for each cmpd? ("X" Intercept in Chrom)	✓			✓	
16. Were manual integrations performed correctly and properly documented (Dated, initialed and reason given) for all calibration points? 2nd review of all MIs required	✓			✓	
17. Was the high point checked for detector saturation?	✓			✓	
18. Do the relative retention times for each analyte in each standard agree within +/-0.06 units (abs RT +/-0.5 min)	✓			✓	
19. Benzo(b & k)fluoranthene: height of the valley between must be less than 50% of the average of the two peak heights?	✓			✓	

Phuriya 2 11/11/16

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
20. Elution order checked isomeric pairs and coeluters?					Chrom: View/Documents/Methods/Isomers)
• aniline / bis(2-chloroethyl)ether	✓			✓	
• N-nitrosodiphenylamine/diphenylamine	✓			✓	
• 1,3- , 1,4- , 1,2-dichlorobenzene	✓			✓	
• benzyl alcohol / 2-methylphenol / 3/4-methylphenol	✓			✓	
• 2,4-dimethylphenol / 3,5-dimethylphenol	✓			✓	
• 2 & 1 - methylnaphthalene	✓			✓	
• 2,4,6- and 2,4,5-trichlorophenol	✓			✓	
• phenanthrene / anthracene	✓			✓	
• fluoranthene / pyrene	✓			✓	
• benzo(a)anthracene / chrysene	✓			✓	
• bis(2-ethylhexyl)/di-n-octyl phthalate	✓			✓	
• benzo(b)fluoranthene / benzo(k)fluoranthene	✓			✓	
• indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene	✓			✓	
• safrole/1-chloronaphthalene			NA	NA	
• 1-/2-naphthylamine			↓	↓	
• 1- and 2-chloronaphthalene					
• 2,4,6- and 2,4,5-tribromophenol				↓	
• Benzo(e)pyrene / benzo(a)pyrene	✓			✓	
21. Was the ICV within required criteria? 625 = QCS method defined/Table6 8270C = ±35% or ±55% of expected for poor performers; 8270D = ±20%, poor performers <50% DoD = ±20% QAPP/Other	✓			✓	
22. If any criteria from items above were not met, was NCM generated?			✓	NA	NCM #:
23. Were manual integrations for ICV performed correctly and properly documented? (dated, initialed and reason given; 2nd review of all MIs required)	✓			✓	
24. Are all files and QC linked and processed correctly?			✓	NA	□ Files linked properly to calibration levels? □ All points are in the most recent active calibration event? [Calibration Events –'Fix ICAL linkage' if needed] □ Runs linked to DFTPP? [QC links] □ Checklist & run log scanned, attached & assigned properly?
25. Is the ICAL locked in TALS and Chrom?	✓			✓	

Comments: _____

11/10/16

2nd Reviewer: Alex Hoefler **Review Date:** 11/10/16

Phuriya S.
11/14/16

Directory: C:\HPCHEM\1\data\110916.B

Injection Log

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	D18882.D	1.	PRIMER		9 Nov 2016 06:41
2	1	D18883.D	1.	DFTPP		9 Nov 2016 07:11
3	2	D18884.D	1.	ICIS HSL		9 Nov 2016 07:22
4	3	D18885.D	1.	STD004 HSL		9 Nov 2016 07:50
5	4	D18886.D	1.	STD010 HSL		9 Nov 2016 08:19
6	5	D18887.D	1.	STD020 HSL		9 Nov 2016 08:47
7	6	D18888.D	1.	STD050 HSL		9 Nov 2016 09:15
8	7	D18889.D	1.	STD120 HSL		9 Nov 2016 09:43
9	8	D18890.D	1.	STD160 HSL		9 Nov 2016 10:12
10	9	D18891.D	1.	STD200 HSL		9 Nov 2016 10:40
11	10	D18892.D	1.	ICV HSL 1		9 Nov 2016 11:09
12	11	D18893.D	1.	ICV HSL 2		9 Nov 2016 11:37
13	12	D18894.D	1.	ICV FAM		9 Nov 2016 12:06
14	1	D18895.D	1.	DFTPP		9 Nov 2016 19:01
15	2	D18896.D	1.	CCV HSL		9 Nov 2016 19:15
16	3	D18897.D	1.	MB280-348317_1-A		9 Nov 2016 19:43
17	4	D18898.D	1.	LCS280-348317_2-A		9 Nov 2016 20:11
18	5	D18899.D	1.	280-89977-A-4-A		9 Nov 2016 20:39
19	6	D18900.D	1.	280-89977-A-6-A		9 Nov 2016 21:08
20	7	D18901.D	1.	280-89977-A-7-A 4X	WC	9 Nov 2016 21:36
21	8	D18902.D	1.	280-89977-A-8-A		9 Nov 2016 22:04
22	9	D18903.D	1.	280-89981-A-13-A		9 Nov 2016 22:33
23	10	D18904.D	1.	280-89981-A-15-A		9 Nov 2016 23:01
24	11	D18905.D	1.	280-89981-A-16-A		9 Nov 2016 23:29
25	12	D18906.D	1.	280-89981-A-22-A		9 Nov 2016 23:58
26	13	D18907.D	1.	280-89981-A-24-A		10 Nov 2016 00:26
27	14	D18908.D	1.	280-89981-A-25-A		10 Nov 2016 00:54
28	15	D18909.D	1.	280-89983-A-1-A		10 Nov 2016 01:23
29	16	D18910.D	1.	280-89983-A-2-A		10 Nov 2016 01:51
30	17	D18911.D	1.	280-89983-A-3-A		10 Nov 2016 02:19
31	18	D18912.D	1.	280-89983-A-4-A		10 Nov 2016 02:48
32	19	D18913.D	1.	280-89983-B-4-AMS		10 Nov 2016 03:16
33	20	D18914.D	1.	280-89983-C-4-AMSD		10 Nov 2016 03:44
34	21	D18915.D	1.	280-89983-A-5-A		10 Nov 2016 04:12
35	22	D18916.D	1.	CCVC HSL		10 Nov 2016 04:41
36	98	D18917.D	1.	RINSE		10 Nov 2016 05:09
37	99	D18918.D	1.	RINSE		10 Nov 2016 05:37
38	100	D18919.D	1.	RINSE		10 Nov 2016 06:06
39		D18920.D	1.			

Good

11/10/16

Dilution Solvent Lot #: 138764 **Pipette ID:** 8/85/81/24 **Method(s) Performed:** 8270C

Phorina 2 11/14/16

Daily Maintenance: Check box if maintenance was performed. No mark indicates the item was not changed.

Changed Septum ☑ **Changed Liner** ☐ **Changed Seal** ☐ **Changed Ferrule** ☑ **Clipped Column** ☐

TestAmerica-*Denver*

D-110916-HSL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

GC/MS Semivolatile Initial Calibration Data Review Checklist

LIMS Batch Number: 350537	Worklist: 52879	ICIS/ICIV Line # 3	2nd Day ICV Line # N/A	Instrument ID: D
Analyst/1st Reviewer: DOR Date: 111016	Method (circle): 625 (8270C) 8270D		Circle: (Full Scan) SIM BP · LLSIM	
QC Type (circle): (Standard) (DOD Q4) (DoD Q5)	QAPP_____	Other_____		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Tune/Calibration Verification					
1. Did DFTPP meet tune criteria? If SIM, did the PFTBA Tune check meet ion ratio criteria?	✓			✓	
2. Are the Benzidine and PCP tailing ≤ 2? (8270D/DoD) Benzidine tailing ≤3 and PCP tailing ≤5? (8270C)	✓			✓	
3. Is the DDT degradation ≤ 20%	✓			✓	
4. Were all standards injected within 12 hr of DFTPP? (or 24 hrs for 625)?	✓			✓	
5. Were ≥ 5 levels of each compound and surrogate analyzed?	✓			✓	
6. At least 6 consecutive points used for quadratic curves?	✓			✓	
7. Was low level standard at or below RL?	✓			✓	
8. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)	✓			✓	(e.g.; some points <RL removed)
9. Does the low level standard have enough sensitivity to produce at least 5-10 scans across the peak, and all secondary ions are present?	✓			✓	
10. Do the average RFs meet minimum RF requirements? (625 – not method defined) (8270C-SPCCs ≥0.05) (8270D- all cmpds have min RFs defined in method/SOP)	✓			✓	
10. Did the calibration %RSD meet method requirements? (625: ≤35% all cmpds) (8270C: ≤30% for CCCs & ≤15% for all other cmpds/ surrogates) (8270D: ≤20% for all cmpds/surrogates)	✓			✓	
11. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?	✓			✓	
12. If regression fit used, r^2 ≥0.990?	✓			✓	
13. Does the low point of a linear regression fit meet the ±30% read-back criteria? (8270D)			✓	NA	
14. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005; recommended limits ±30% low point & ±20% all other points) (Chrom Report - Details of Calibration per Analyte)	✓			✓	
15. Is the concentration intercept <|RL| for each cmpd? ("X" Intercept in Chrom)	✓			✓	
16. Were manual integrations performed correctly and properly documented (Dated, initialed and reason given) for all calibration points? 2nd review of all MIs required	✓			✓	
17. Was the high point checked for detector saturation?	✓			✓	
18. Do the relative retention times for each analyte in each standard agree within +/-0.06 units (abs RT +/-0.5 min)	✓			✓	
19. Benzo(b & k)fluoranthene: height of the valley between must be less than 50% of the average of the two peak heights?	✓			✓	

Panida R.
11/17/16

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
20. Elution order checked isomeric pairs and coeluters?					Chrom: View/Documents/Methods/Isomers)
• aniline / bis(2-chloroethyl)ether	✓			✓	
• N-nitrosodiphenylamine/diphenylamine	✓			✓	
• 1,3- , 1,4- , 1,2-dichlorobenzene	✓			✓	
• benzyl alcohol / 2-methylphenol / 3/4-methylphenol	✓			✓	
• 2,4-dimethylphenol / 3,5-dimethylphenol	✓			✓	
• 2 & 1 - methylnaphthalene	✓			✓	
• 2,4,6- and 2,4,5-trichlorophenol	✓			✓	
• phenanthrene / anthracene	✓			✓	
• fluoranthene / pyrene	✓			✓	
• benzo(a)anthracene / chrysene	✓			✓	
• bis(2-ethylhexyl)/di-n-octyl phthalate	✓			✓	
• benzo(b)fluoranthene / benzo(k)fluoranthene	✓			✓	
• Indeno(1,2,3-cd)pyrene / benzo(g,h,i)perylene	✓			✓	
• safrole/1-chloronaphthalene			N/A	NA	
• 1-/2-naphthylamine			↓	↓	
• 1- and 2-chloronaphthalene					
• 2,4,6- and 2,4,5-tribromophenol	✓			✓	
• Benzo(e)pyrene / benzo(a)pyrene					
21. Was the ICV within required criteria? 625 = QCS method defined/Table6 8270C = ±35% or ±55% of expected for poor performers; 8270D = ±20%, poor performers <50% DoD = ±20% QAPP/Other	✓			✓	
22. If any criteria from items above were not met, was NCM generated?			✓	NA	NCM #:
23. Were manual integrations for ICV performed correctly and properly documented? (dated, initialed and reason given; 2nd review of all MIs required)	✓			✓	
24. Are all files and QC linked and processed correctly?	✓		✓	NA	□ Files linked properly to calibration levels? □ All points are in the most recent active calibration event? [Calibration Events –'Fix ICAL linkage' if needed] □ Runs linked to DFTPP? [QC links] □ Checklist & run log scanned, attached & assigned properly?
25. Is the ICAL locked in TALS and Chrom?	✓			✓	

Comments:

11/10/16

2nd Reviewer: Alex Hoffer **Review Date:** 11/10/16

Pamela R 11/17/16

Injection Log

Directory: C:\HPCHEM\1\data\110916.B

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	D18882.D	1.	PRIMER		9 Nov 2016 06:41
2	1	D18883.D	1.	DFTPP		9 Nov 2016 07:11
3	2	D18884.D	1.	ICIS HSL		9 Nov 2016 07:22
4	3	D18885.D	1.	STD004 HSL		9 Nov 2016 07:50
5	4	D18886.D	1.	STD010 HSL		9 Nov 2016 08:19
6	5	D18887.D	1.	STD020 HSL		9 Nov 2016 08:47
7	6	D18888.D	1.	STD050 HSL		9 Nov 2016 09:15
8	7	D18889.D	1.	STD120 HSL		9 Nov 2016 09:43
9	8	D18890.D	1.	STD160 HSL		9 Nov 2016 10:12
10	9	D18891.D	1.	STD200 HSL		9 Nov 2016 10:40
11	10	D18892.D	1.	ICV HSL 1		9 Nov 2016 11:09
12	11	D18893.D	1.	ICV HSL 2		9 Nov 2016 11:37
13	12	D18894.D	1.	ICV FAM		9 Nov 2016 12:05
14	1	D18895.D	1.	DFTPP		9 Nov 2016 19:01
15	2	D18896.D	1.	CCV HSL		9 Nov 2016 19:15
16	3	D18897.D	1.	MB280-348317_1-A		9 Nov 2016 19:43
17	4	D18898.D	1.	LCS280-348317_2-A		9 Nov 2016 20:11
18	5	D18899.D	1.	280-89977-A-4-A		9 Nov 2016 20:39
19	6	D18900.D	1.	280-89977-A-6-A		9 Nov 2016 21:08
20	7	D18901.D	1.	280-89977-A-7-A 4X		9 Nov 2016 21:36
21	8	D18902.D	1.	280-89977-A-8-A		9 Nov 2016 22:04
22	9	D18903.D	1.	280-89981-A-13-A		9 Nov 2016 22:33
23	10	D18904.D	1.	280-89981-A-15-A		9 Nov 2016 23:01
24	11	D18905.D	1.	280-89981-A-16-A		9 Nov 2016 23:29
25	12	D18906.D	1.	280-89981-A-22-A		9 Nov 2016 23:58
26	13	D18907.D	1.	280-89981-A-24-A		10 Nov 2016 00:26
27	14	D18908.D	1.	280-89981-A-25-A		10 Nov 2016 00:54
28	15	D18909.D	1.	280-89983-A-1-A		10 Nov 2016 01:23
29	16	D18910.D	1.	280-89983-A-2-A		10 Nov 2016 01:51
30	17	D18911.D	1.	280-89983-A-3-A		10 Nov 2016 02:19
31	18	D18912.D	1.	280-89983-A-4-A		10 Nov 2016 02:48
32	19	D18913.D	1.	280-89983-B-4-AMS		10 Nov 2016 03:16
33	20	D18914.D	1.	280-89983-C-4-AMSD		10 Nov 2016 03:44
34	21	D18915.D	1.	280-89983-A-5-A		10 Nov 2016 04:12
35	22	D18916.D	1.	CCVC HSL		10 Nov 2016 04:41
36	98	D18917.D	1.	RINSE		10 Nov 2016 05:09
37	99	D18918.D	1.	RINSE		10 Nov 2016 05:37
38	100	D18919.D	1.	RINSE		10 Nov 2016 06:06
39		D18920.D	1.			

Good

NTC

11/10/16

Dilution Solvent Lot #: 138764 **Pipette ID:** SV23/SV24 **Method(s) Performed:** 8270C

Daily Maintenance: Check box if maintenance was performed. No mark indicates the item was not changed.

Changed Septum ☑ **Changed Liner** ☐ **Changed Seal** ☑ **Changed Ferrule** ☑ **Clipped Column** ☐

Panida R
11/17/16

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350194 Batch Start Date: 11/07/16 12:27 Batch Analyst: Wisniewski, Jared D

Batch Method: 3520C Batch End Date: 11/10/16 22:04

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	GrossWeight	TareWeight	InitialAmount	FinalAmount	FirstAdjustpH
MB 280-350194/1		3520C, 8270D		7			1000 mL	1 mL	1-2
LCS 280-350194/2		3520C, 8270D		7			1000 mL	1 mL	1-2
LCSD 280-350194/3		3520C, 8270D		7			1000 mL	1 mL	1-2
280-90409-B-2	LL2mw-261-103116-GW	3520C, 8270D	T	6	1512.6 g	503.0 g	1009.6 mL	1 mL	1-2

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	8270_LCS_Main 00036	8270_LCS_Supp 00194	8270Surrogate 00100		
MB 280-350194/1		3520C, 8270D		11-12			1 mL		
LCS 280-350194/2		3520C, 8270D		11-12	1 mL	1 mL	1 mL		
LCSD 280-350194/3		3520C, 8270D		11-12	1 mL	1 mL	1 mL		
280-90409-B-2	LL2mw-261-103116-GW	3520C, 8270D	T	11-12			1 mL		

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350194 Batch Start Date: 11/07/16 12:27 Batch Analyst: Wisniewski, Jared D

Batch Method: 3520C Batch End Date: 11/10/16 22:04

Batch Notes	
Acid used for pH adjustment	1:1 H2SO4
Acid Used for pH Adjustment ID	1:1 H2SO4_00055
Balance ID	24350888
Base used for pH adjustment	10N_NaOH
Base Used to Adjust pH ID	10N_NaOH_00090
Batch Comment	DV-OP-0008/0007 H2O: N. Elga
Analyst ID - Concentration	ELV
Extraction 1 End Time	11/8/16 @ 0630
Extraction 1 Start Time	11/7/16 @1230
Na2SO4 ID	0000148788_00003
NaCl ID	161884
Prep Solvent ID	MeCl2_Cycl_00308/309
Prep Solvent Name	MeCl2
Prep Solvent Volume Used	300 mL
Person's name who did the prep	GLK/JDW pip:WOO!
Analyst ID - Reagent Drop Witness	Reviewer: GLK
Time the second extraction ended 24hr	11/9/16 @ 0705
Time the second extraction started 24hr	11/8/16 @ 0815
Sufficient volume for MS/MSD?	NO
Uncorrected Temperature	84 Celsius
Water Bath ID	A
Water Bath Temperature	84 Celsius

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350444 Batch Start Date: 11/08/16 15:07 Batch Analyst: Wisniewski, Jared D

Batch Method: 3520C Batch End Date: 11/12/16 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	GrossWeight	TareWeight	InitialAmount	FinalAmount	FirstAdjustpH
MB 280-350444/1		3520C, 8270D		7			1000 mL	1 mL	1-2
LCS 280-350444/2		3520C, 8270D		7			1000 mL	1 mL	1-2
280-90409-B-1	LL2mw-271-110116-GW	3520C, 8270D	T	7	1530.9 g	496.4 g	1034.5 mL	1 mL	1-2

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	8270_LCS_Main 00039	8270_LCS_Supp 00195	8270Surrogate 00100	AnalysisComment	
MB 280-350444/1		3520C, 8270D		11-12			1 mL	Shared QC, extracted same day w/ 351184	
LCS 280-350444/2		3520C, 8270D		11-12	1 mL	1 mL	1 mL	Shared QC, extracted same day w/ 351184	
280-90409-B-1	LL2mw-271-110116-GW	3520C, 8270D	T	11-12			1 mL		

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.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350444 Batch Start Date: 11/08/16 15:07 Batch Analyst: Wisniewski, Jared D

Batch Method: 3520C Batch End Date: 11/12/16 13:56

Batch Notes	
Acid used for pH adjustment	1:1 H2SO4
Acid Used for pH Adjustment ID	1:1 H2SO4_00055
Balance ID	24350888
Base used for pH adjustment	10N_NaOH
Base Used to Adjust pH ID	10N_NaOH_00091
Batch Comment	DV-OP-0008/0007 H2O: N. Elga
Analyst ID - Concentration	MAVJr
Extraction 1 End Time	11/10/16 @ 0715
Extraction 1 Start Time	11/9/16 @ 1313
Na2SO4 ID	0000148788_00003
NaCl ID	161884
Prep Solvent ID	MeCl2_Cycl_00308/309
Prep Solvent Name	MeCl2
Prep Solvent Volume Used	300 mL
Person's name who did the prep	GLK/JDW pip:WOO!
Analyst ID - Reagent Drop Witness	Reviewer: GLK
Time the second extraction ended 24hr	11/11/16 @ 0700
Time the second extraction started 24hr	11/10/16 @ 0800
Sufficient volume for MS/MSD?	NO
Uncorrected Temperature	84 Celsius
Water Bath ID	A, B
Water Bath Temperature	84 Celsius

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.

8082A_DOD5

Polychlorinated Biphenyls (PCBs) by Gas Chromatography

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): CLP2 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	DCBP1 #
LL2mw-271-110116-GW	280-90409-1	61	98
LL2mw-261-103116-GW	280-90409-2	52	89
	MB 280-350275/1-A	48	94
	MB 280-350443/1-A	53	100
	LCS 280-350275/2-A	48	92
	LCS 280-350443/2-A	53	104
	LCSD 280-350275/3-A	34	109

	QC LIMITS
TCX = Tetrachloro-m-xylene (Surr)	20-143
DCBP = DCB Decachlorobiphenyl (Surr)	36-140

Column to be used to flag recovery values

FORM II 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11151619.D

Lab ID: LCS 280-350275/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	0.200	0.156	78	46-129	
PCB-1260	0.200	0.187	93	45-134	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11171603.D

Lab ID: LCS 280-350443/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	0.200	0.167	84	46-129	
PCB-1260	0.200	0.205	102	45-134	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11151620.D

Lab ID: LCSD 280-350275/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
PCB-1016	0.200	0.160	80	3	30	46-129	
PCB-1260	0.200	0.219	110	16	30	45-134	

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: MB 280-350275/1-A

Matrix: Water Date Extracted: 11/07/2016 22:14

Lab File ID:(1) 11151618.D Lab File ID:(2) 11151618.D

Date Analyzed:(1) 11/15/2016 17:28 Date Analyzed:(2) 11/15/2016 17:28

Instrument ID:(1) SGC_P3 Instrument ID:(2) SGC_P3

GC Column:(1) CLP2 ID: 0.32(mm) GC Column:(2) CLP1 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-350275/2-A	11/15/2016 17:49	11/15/2016 17:49
	LCSD 280-350275/3-A	11/15/2016 18:11	11/15/2016 18:11
LL2mw-261-103116-GW	280-90409-2	11/15/2016 21:27	11/15/2016 21:27

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: MB 280-350443/1-A

Matrix: Water Date Extracted: 11/08/2016 13:24

Lab File ID:(1) 11171602.D Lab File ID:(2) 11171602.D

Date Analyzed:(1) 11/18/2016 00:40 Date Analyzed:(2) 11/18/2016 00:40

Instrument ID:(1) SGC_P3 Instrument ID:(2) SGC_P3

GC Column:(1) CLP2 ID: 0.32(mm) GC Column:(2) CLP1 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-350443/2-A	11/18/2016 01:02	11/18/2016 01:02
LL2mw-271-110116-GW	280-90409-1	11/18/2016 01:23	11/18/2016 01:23

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: STDL51660 280-345281/17 Date Analyzed: 10/08/2016 17:26

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 10081617.D Heated Purge: (Y/N) N

Calibration ID: 27247

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		278602349	1.85				
UPPER LIMIT		557204698	2.35				
LOWER LIMIT		139301175	1.35				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-345281/36		288872461	1.85				
ICV 280-345281/37		285261517	1.85				
ICV 280-345281/38		288901937	1.85				
ICV 280-345281/39		290304262	1.85				
ICV 280-345281/40		287551955	1.85				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: STDL51660 280-345281/17 Date Analyzed: 10/08/2016 17:26

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 10081617.D Heated Purge: (Y/N) N

Calibration ID: 27248

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		263936559	1.67				
UPPER LIMIT		527873118	2.17				
LOWER LIMIT		131968280	1.17				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-345281/36		272622708	1.67				
ICV 280-345281/37		269570061	1.67				
ICV 280-345281/38		271849363	1.67				
ICV 280-345281/39		272928056	1.67				
ICV 280-345281/40		270831241	1.68				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: CCVIS 280-351504/3 Date Analyzed: 11/15/2016 12:02

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11151603.D Heated Purge: (Y/N) N

Calibration ID: 27255

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		283665553	1.86				
UPPER LIMIT		567331106	2.36				
LOWER LIMIT		141832777	1.36				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-351504/17		283962147	1.86				
MB 280-350275/1-A		287569179	1.86				
LCS 280-350275/2-A		290995218	1.86				
LCSD 280-350275/3-A		277295473	1.86				
280-90409-2	LL2mw-261-103116-GW	293936791	1.86				
CCV 280-351504/30		304586052	1.86				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: CCVIS 280-351504/3 Date Analyzed: 11/15/2016 12:02

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11151603.D Heated Purge: (Y/N) N

Calibration ID: 27256

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		234106170	1.68				
UPPER LIMIT		468212340	2.18				
LOWER LIMIT		117053085	1.18				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-351504/17		236788106	1.68				
MB 280-350275/1-A		243313471	1.68				
LCS 280-350275/2-A		244178610	1.68				
LCSD 280-350275/3-A		233070907	1.68				
280-90409-2	LL2mw-261-103116-GW	242367306	1.68				
CCV 280-351504/30		249798948	1.68				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: CCVIS 280-351983/1 Date Analyzed: 11/18/2016 00:18

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11171601.D Heated Purge: (Y/N) N

Calibration ID: 27255

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		317640897	1.86				
UPPER LIMIT		635281794	2.36				
LOWER LIMIT		158820449	1.36				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-350443/1-A		294092643	1.86				
LCS 280-350443/2-A		288845076	1.86				
280-90409-1	LL2mw-271-110116-GW	289214593	1.86				
CCV 280-351983/16		318972380	1.86				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Sample No.: CCVIS 280-351983/1 Date Analyzed: 11/18/2016 00:18

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11171601.D Heated Purge: (Y/N) N

Calibration ID: 27256

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		251071146	1.68				
UPPER LIMIT		502142292	2.18				
LOWER LIMIT		125535573	1.18				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-350443/1-A		235134148	1.68				
LCS 280-350443/2-A		231316872	1.68				
280-90409-1	LL2mw-271-110116-GW	224343867	1.68				
CCV 280-351983/16		247903906	1.68				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-350275/2-A

Instrument ID (1): SGC_P3 Instrument ID (2): SGC_P3

Date Analyzed (1): 11/15/2016 17:49 Date Analyzed (2): 11/15/2016 17:49

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.63	3.37	3.87	0.147	0.156	5.4
		2	4.08	3.83	4.33	0.163		
		3	4.22	3.97	4.47	0.144		
		4	4.45	4.20	4.70	0.163		
		5	4.74	4.49	4.99	0.162		
	2	1	3.21	2.95	3.45	0.159	0.165	
		2	3.56	3.31	3.81	0.157		
		3	4.04	3.79	4.29	0.161		
		4	4.18	3.93	4.43	0.168		
		5	4.64	4.39	4.89	0.179		
PCB-1260	1	1	6.59	6.34	6.84	0.174	0.187	1.5
		2	7.05	6.80	7.30	0.168		
		3	7.58	7.33	7.83	0.199		
		4	7.95	7.69	8.19	0.200		
		5	8.45	8.19	8.69	0.194		
	2	1	6.13	5.88	6.38	0.174	0.184	
		2	6.87	6.61	7.11	0.178		
		3	7.36	7.11	7.61	0.196		
		4	7.80	7.54	8.04	0.192		
		5	8.18	7.93	8.43	0.180		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-350275/3-A

Instrument ID (1): SGC_P3 Instrument ID (2): SGC_P3

Date Analyzed (1): 11/15/2016 18:11 Date Analyzed (2): 11/15/2016 18:11

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.62	3.37	3.87	0.146	0.160	3.3
		2	4.08	3.83	4.33	0.169		
		3	4.22	3.97	4.47	0.159		
		4	4.45	4.20	4.70	0.161		
		5	4.74	4.49	4.99	0.167		
	2	1	3.20	2.95	3.45	0.151	0.166	
		2	3.56	3.31	3.81	0.160		
		3	4.04	3.79	4.29	0.168		
		4	4.18	3.93	4.43	0.172		
		5	4.64	4.39	4.89	0.180		
PCB-1260	1	1	6.59	6.34	6.84	0.201	0.219	3.0
		2	7.05	6.80	7.30	0.195		
		3	7.58	7.33	7.83	0.232		
		4	7.94	7.69	8.19	0.235		
		5	8.44	8.19	8.69	0.232		
	2	1	6.13	5.88	6.38	0.194	0.213	
		2	6.86	6.61	7.11	0.191		
		3	7.36	7.11	7.61	0.232		
		4	7.79	7.54	8.04	0.226		
		5	8.18	7.93	8.43	0.221		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-350443/2-A

Instrument ID (1): SGC_P3 Instrument ID (2): SGC_P3

Date Analyzed (1): 11/18/2016 01:02 Date Analyzed (2): 11/18/2016 01:02

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.62	3.37	3.87	0.149	0.167	12.1
		2	4.08	3.83	4.33	0.187		
		3	4.22	3.97	4.47	0.140		
		4	4.45	4.20	4.70	0.183		
		5	4.74	4.49	4.99	0.177		
	2	1	3.20	2.96	3.46	0.202	0.189	
		2	3.56	3.31	3.81	0.173		
		3	4.04	3.79	4.29	0.175		
		4	4.18	3.93	4.43	0.193		
		5	4.64	4.39	4.89	0.202		
PCB-1260	1	1	6.58	6.34	6.84	0.182	0.205	2.0
		2	7.05	6.80	7.30	0.179		
		3	7.58	7.33	7.83	0.219		
		4	7.94	7.69	8.19	0.222		
		5	8.44	8.20	8.70	0.221		
	2	1	6.13	5.88	6.38	0.181	0.201	
		2	6.86	6.61	7.11	0.192		
		3	7.36	7.11	7.61	0.210		
		4	7.79	7.54	8.04	0.210		
		5	8.18	7.93	8.43	0.210		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-271-110116-GW | Lab Sample ID: 280-90409-1

Matrix: Water | Lab File ID: 11171604.D

Analysis Method: 8082A | Date Collected: 11/01/2016 10:13

Extraction Method: 3510C | Date Extracted: 11/08/2016 13:24

Sample wt/vol: 974.5(mL) | Date Analyzed: 11/18/2016 01:23

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351983 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.10	U	0.15	0.10	0.043
11104-28-2	PCB-1221	0.10	U	0.15	0.10	0.043
11141-16-5	PCB-1232	0.10	U	0.15	0.10	0.043
53469-21-9	PCB-1242	0.10	U	0.15	0.10	0.043
12672-29-6	PCB-1248	0.10	U	0.15	0.10	0.043
11097-69-1	PCB-1254	0.10	U	0.15	0.10	0.043
11096-82-5	PCB-1260	0.10	U	0.15	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	61		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	98		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171604.D
Lims ID: 280-90409-A-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 18-Nov-2016 01:23:44 ALS Bottle#: 32 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-A-1-A
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:56:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.856	1.859	-0.003	289214593	1000.0	
2	1.680	1.682	-0.002	224343867	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	2.806	2.805	0.001	55528032	14.5	
2	2.740	2.739	0.001	39500281	12.2	
					RPD = 16.88	
3 PCB-1221						
1		3.023			ND	
1		3.166				
1		3.206				
2		3.056				
2		3.186				
2		3.240				
7 PCB-1232						
1		3.193			ND	
1		3.547				
1		4.020				
1		4.163				
1		4.620				
2		3.234				
2		3.620				
2		4.070				
2		4.214				
2		4.870				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
1 PCB-1016						
1		3.205			ND	
1		3.559				
1		4.035				
1		4.179				
1		4.635				
2		3.622				
2		4.075				
2		4.219				
2		4.449				
2		4.735				
10 PCB-1242						
1		3.562			ND	
1		4.035				
1		4.178				
1		5.135				
1		5.158				
2		3.625				
2		4.078				
2		4.218				
2		5.188				
2		5.235				
4 PCB-1248						
1		4.032			ND	
1		4.395				
1		4.635				
1		5.132				
1		5.159				
2		4.075				
2		4.739				
2		4.875				
2		5.189				
2		5.235				
9 PCB-1254						
1		5.403			ND	
1		5.736				
1		5.890				
1		6.250				
1		6.866				
2		5.476				
2		5.893				
2		6.043				
2		6.343				
2		7.056				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
12 PCB-1260						
1		6.128			ND	
1		6.862				
1		7.355				
1		7.792				
1		8.178				
2		6.585				
2		7.049				
2		7.575				
2		7.942				
2		8.445				
5 PCB-1262						
1		6.480			ND	
1		7.010				
1		7.340				
1		7.777				
1		8.163				
2		6.580				
2		7.177				
2		7.570				
2		7.937				
2		8.437				
13 PCB-1268						
1		8.245			ND	
1		8.298				
1		8.572				
1		9.085				
1		9.498				
2		8.445				
2		8.505				
2		8.855				
2		9.288				
2		9.752				
$ 15 DCB Decachlorobiphenyl						
1	9.766	9.765	0.001	68692397	18.6	
2	10.106	10.105	0.001	49385278	19.7	
					RPD = 5.51	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

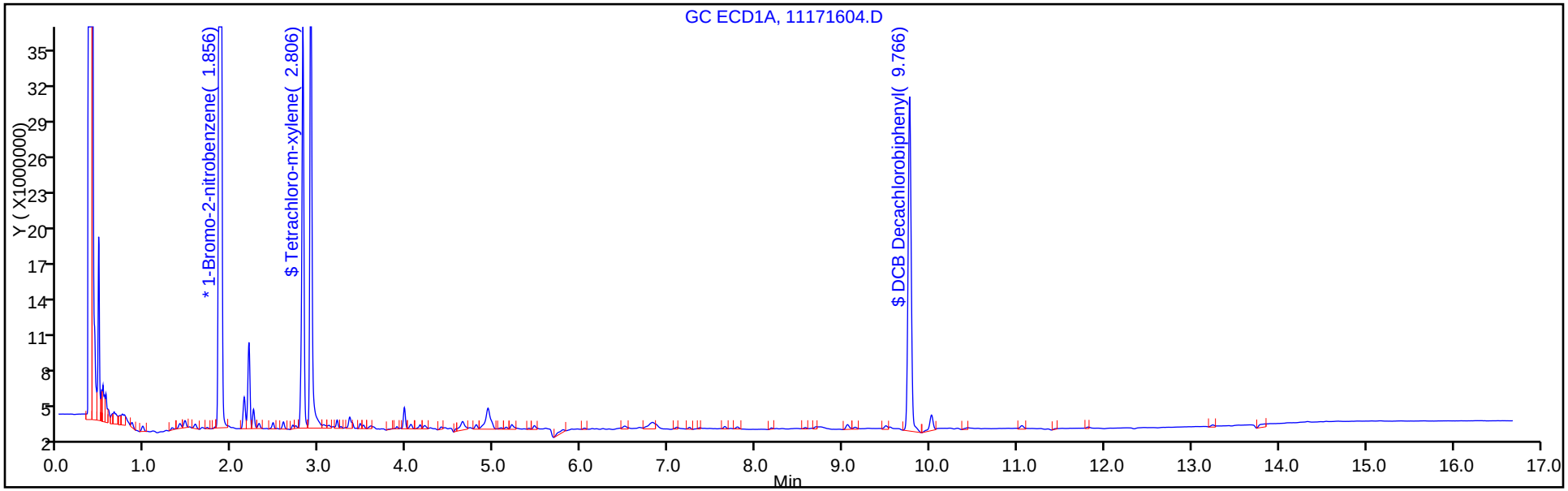
Report Date: 20-Nov-2016 07:51:56 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

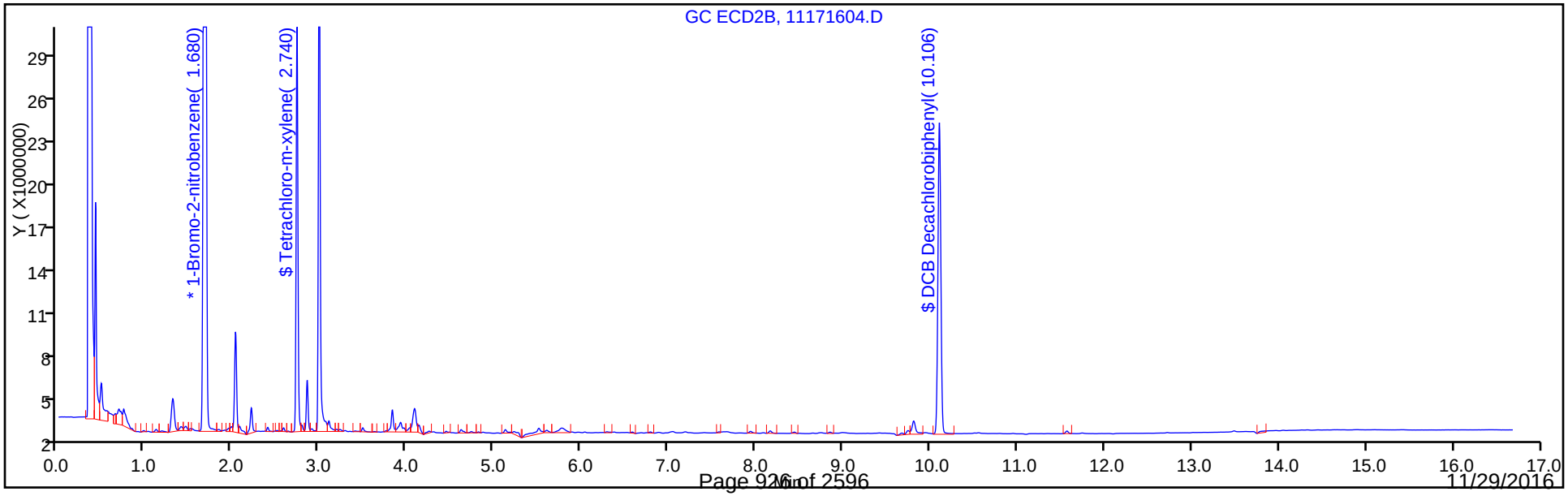
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171604.D

Injection Date:	18-Nov-2016 01:23:44	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	280-90409-A-1-A	Lab Sample ID:	280-90409-1	Worklist Smp#:	4
Client ID:	LL2mw-271-110116-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171604.D				
Lims ID:	280-90409-A-1-A				
Client ID:	LL2mw-271-110116-GW				
Sample Type:	Client				
Inject. Date:	18-Nov-2016 01:23:44	ALS Bottle#:	32	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-90409-A-1-A				
Operator ID:	jax	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	20-Nov-2016 07:51:45	Calib Date:	08-Oct-2016 23:55:59		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK023				
First Level Reviewer: jacksonto		Date:	18-Nov-2016 06:56:16		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.5	72.33
$ 15 DCB Decachlorobiphenyl	20.0	18.6	93.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	12.2	61.07
$ 15 DCB Decachlorobiphenyl	20.0	19.7	98.36

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-261-103116-GW | Lab Sample ID: 280-90409-2

Matrix: Water | Lab File ID: 11151629.D

Analysis Method: 8082A | Date Collected: 10/31/2016 14:40

Extraction Method: 3510C | Date Extracted: 11/07/2016 22:14

Sample wt/vol: 988.4(mL) | Date Analyzed: 11/15/2016 21:27

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351504 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.10	U	0.15	0.10	0.042
11104-28-2	PCB-1221	0.10	U	0.15	0.10	0.042
11141-16-5	PCB-1232	0.10	U	0.15	0.10	0.042
53469-21-9	PCB-1242	0.10	U	0.15	0.10	0.042
12672-29-6	PCB-1248	0.10	U	0.15	0.10	0.042
11097-69-1	PCB-1254	0.10	U	0.15	0.10	0.042
11096-82-5	PCB-1260	0.10	U	0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	52		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	89		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151629.D
Lims ID: 280-90409-A-2-A
Client ID: LL2mw-261-103116-GW
Sample Type: Client
Inject. Date: 15-Nov-2016 21:27:08 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-A-2-A
Misc. Info.: 280-0053145-029
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:40:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.857	1.857	0.000	293936791	1000.0	
2	1.680	1.680	0.000	242367306	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	2.807	2.807	0.000	54814265	14.0	
2	2.737	2.737	0.000	36803165	10.5	
					RPD = 28.98	
3 PCB-1221						
1		3.023			ND	
1		3.166				
1		3.206				
2		3.056				
2		3.186				
2		3.240				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
7 PCB-1232						
1		3.193			ND	
1		3.547				
1		4.020				
1		4.163				
1		4.620				
2		3.234				
2		3.620				
2		4.070				
2		4.214				
2		4.870				
1 PCB-1016						
1		3.204			ND	
1		3.560				
1		4.037				
1		4.177				
1		4.637				
2		3.624				
2		4.077				
2		4.220				
2		4.450				
2		4.737				
10 PCB-1242						
1		3.562			ND	
1		4.035				
1		4.178				
1		5.135				
1		5.158				
2		3.625				
2		4.078				
2		4.218				
2		5.188				
2		5.235				
4 PCB-1248						
1		4.032			ND	
1		4.395				
1		4.635				
1		5.132				
1		5.159				
2		4.075				
2		4.739				
2		4.875				
2		5.189				
2		5.235				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						
1		5.403			ND	
1		5.736				
1		5.890				
1		6.250				
1		6.866				
2		5.476				
2		5.893				
2		6.043				
2		6.343				
2		7.056				
12 PCB-1260						
1		6.127			ND	
1		6.864				
1		7.357				
1		7.794				
1		8.180				
2		6.587				
2		7.050				
2		7.577				
2		7.944				
2		8.444				
5 PCB-1262						
1		6.480			ND	
1		7.010				
1		7.340				
1		7.777				
1		8.163				
2		6.580				
2		7.177				
2		7.570				
2		7.937				
2		8.437				
13 PCB-1268						
1		8.245			ND	
1		8.298				
1		8.572				
1		9.085				
1		9.498				
2		8.445				
2		8.505				
2		8.855				
2		9.288				
2		9.752				
$ 15 DCB Decachlorobiphenyl						
1	9.767	9.767	0.000	62385709	16.6	
2	10.107	10.110	-0.003	48389579	17.8	
					RPD = 7.11	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

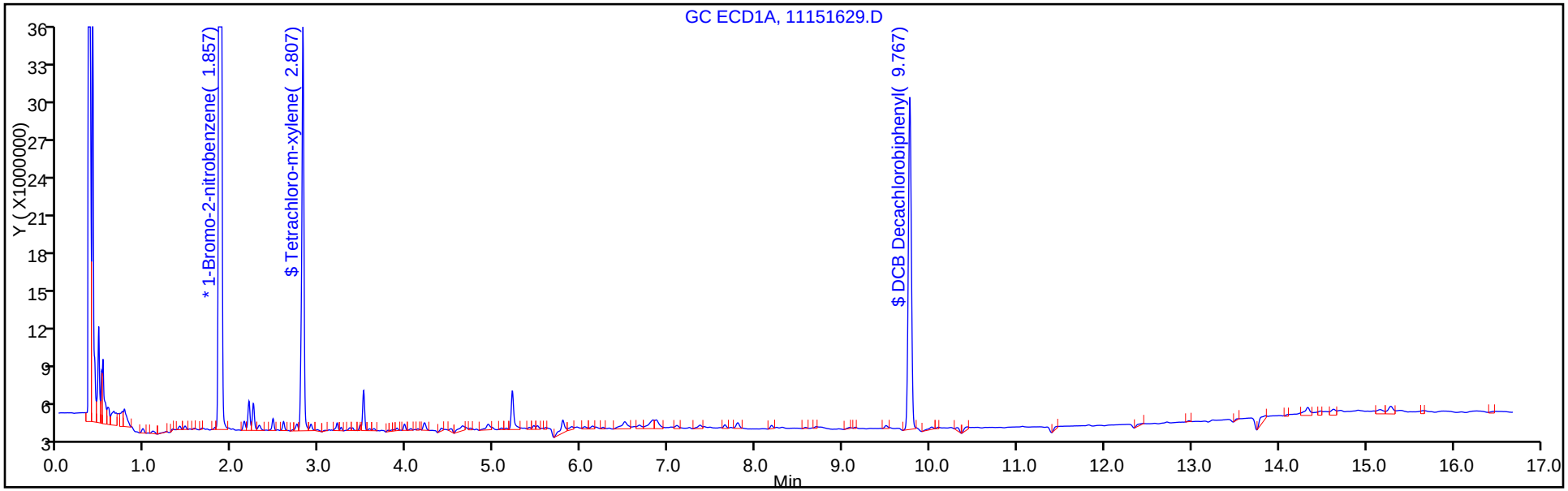
Report Date: 16-Nov-2016 06:58:07 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

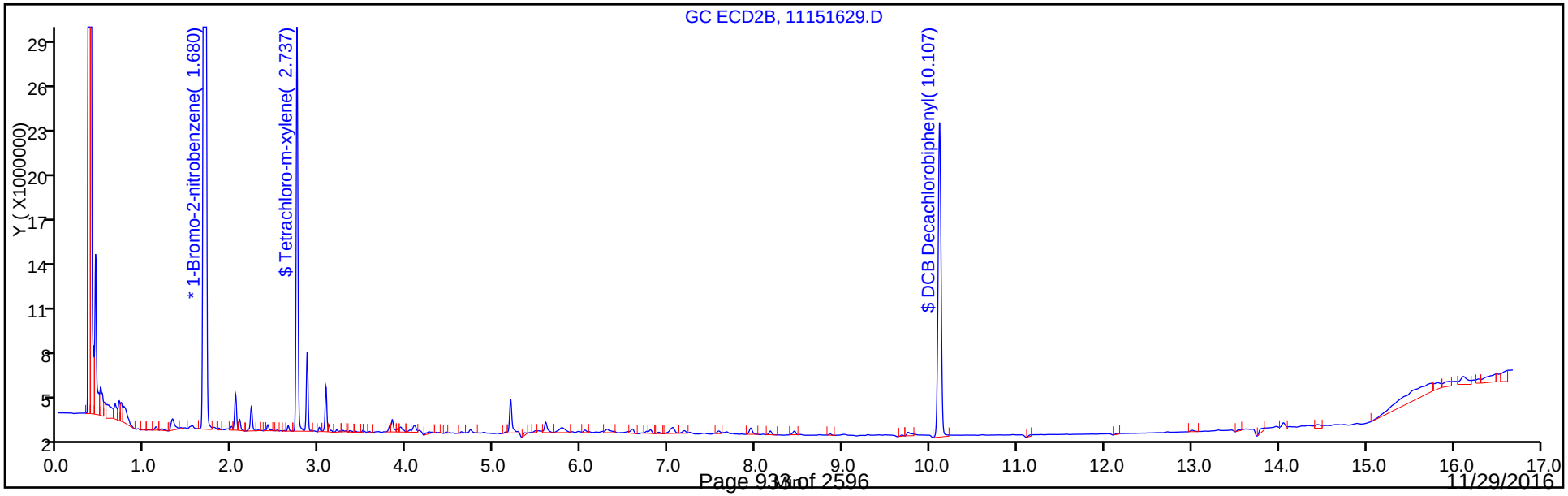
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151629.D

Injection Date:	15-Nov-2016 21:27:08	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	280-90409-A-2-A	Lab Sample ID:	280-90409-2	Worklist Smp#:	29
Client ID:	LL2mw-261-103116-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151629.D				
Lims ID:	280-90409-A-2-A				
Client ID:	LL2mw-261-103116-GW				
Sample Type:	Client				
Inject. Date:	15-Nov-2016 21:27:08	ALS Bottle#:	29	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-90409-A-2-A				
Misc. Info.:	280-0053145-029				
Operator ID:	jax	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	16-Nov-2016 06:57:39	Calib Date:	08-Oct-2016 23:55:59		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK032				
First Level Reviewer: jacksonto		Date:	16-Nov-2016 06:40:56		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.0	70.17
$ 15 DCB Decachlorobiphenyl	20.0	16.6	82.87

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	10.5	52.41
$ 15 DCB Decachlorobiphenyl	20.0	17.8	88.98

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 11:39 Calibration End Date: 10/08/2016 13:49 Calibration ID: 27239

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-345281/7	10081607.D
Level 2	STDL21248 280-345281/6	10081606.D
Level 3	STDL31248 280-345281/5	10081605.D
Level 4	STDL41248 280-345281/4	10081604.D
Level 5	STDL51248 280-345281/3	10081603.D
Level 6	STDL61248 280-345281/2	10081602.D
Level 7	STDL71248 280-345281/1	10081601.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 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.6775 0.5040	0.6169 0.5047	0.5612	0.5330	0.5098	Lin1	5.1560	0.5005							1.0000		0.9900
PCB-1248 Peak 2	0.7575 0.5310	0.6782 0.5380	0.6219	0.5835	0.5358	Lin1	6.8653	0.5297							0.9990		0.9900
PCB-1248 Peak 3	0.7478 0.5198	0.6634 0.5107	0.5937	0.5546	0.5239	Lin1	6.9619	0.5098							1.0000		0.9900
PCB-1248 Peak 4	0.6242 0.4996	0.5669 0.4756	0.4964	0.4990	0.4913	Lin1	3.5600	0.4820							0.9990		0.9900
PCB-1248 Peak 5	0.4970 0.3669	0.4628 0.3826	0.4141	0.4092	0.3609	Lin1	3.8500	0.3703							0.9980		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 11:39 Calibration End Date: 10/08/2016 13:49 Calibration ID: 27239

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-345281/7	10081607.D
Level 2	STDL21248 280-345281/6	10081606.D
Level 3	STDL31248 280-345281/5	10081605.D
Level 4	STDL41248 280-345281/4	10081604.D
Level 5	STDL51248 280-345281/3	10081603.D
Level 6	STDL61248 280-345281/2	10081602.D
Level 7	STDL71248 280-345281/1	10081601.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	4632964 100376478	8376509 130736864	15814330	36870209	69479983	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	5180031 105742134	9209721 139357490	17524761	40361030	73026380	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	5113750 103510748	9008367 132288935	16729350	38362532	71406024	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	4268535 99490860	7697525 123191463	13988290	34516669	66959345	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	3399014 73059614	6284549 99089367	11670371	28308910	49183526	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081601.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 11:39:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0051591-001
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:23 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	259013268	1000.0	1000.0	
2	1.672	1.675	-0.003	251842746	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.019	4.016	0.003	130736864	1000.0	998.3	
1	4.382	4.379	0.003	139357490	1000.0	1002.7	
1	4.622	4.619	0.003	132288935	1000.0	988.2	
1	5.115	5.116	-0.001	123191463	1000.0	979.3	
1	5.139	5.139	0.000	99089367	1000.0	1022.8	
		Average of Peak Amounts =				998.3	
2	4.069	4.069	0.000	128328309	1000.0	995.6	
2	4.732	4.733	-0.001	99286717	1000.0	983.4	
2	4.866	4.869	-0.003	111469869	1000.0	998.3	
2	5.179	5.183	-0.004	109263414	1000.0	995.1	
2	5.229	5.229	0.000	127108281	1000.0	999.2	
		Average of Peak Amounts =				994.3	
						RPD = 0.40	
S 8 Polychlorinated biphenyls, Total							
1						998.3	
2						994.3	
						RPD = 0.40	

Reagents:

AR_1248_L7_00012 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

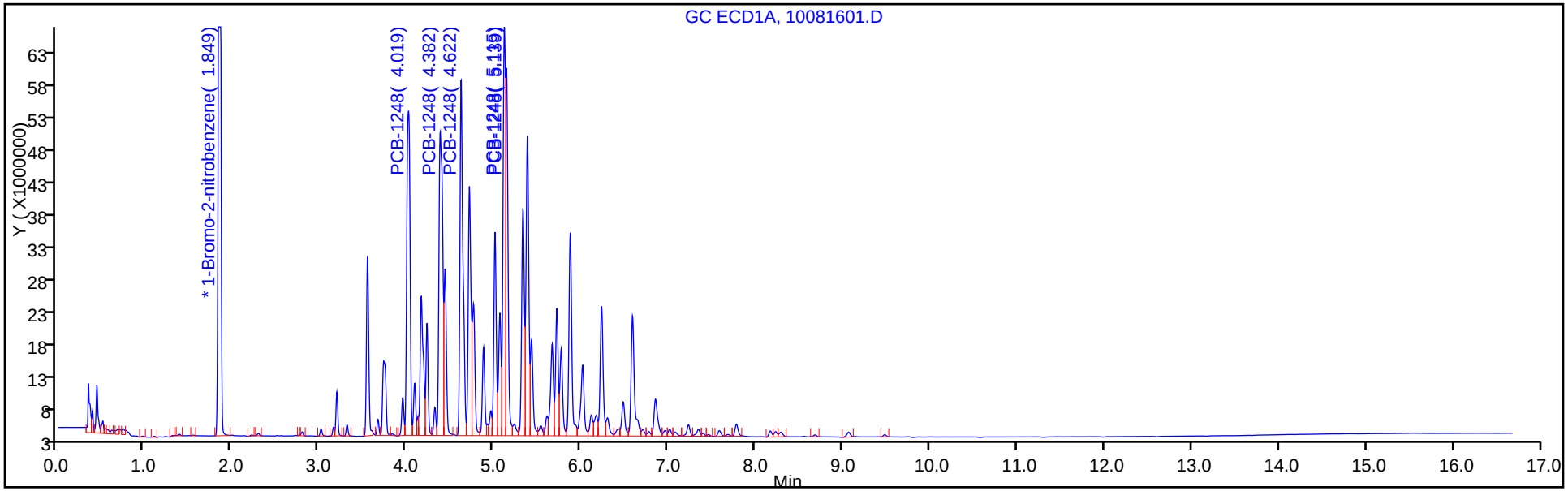
Report Date: 09-Oct-2016 09:27:23 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

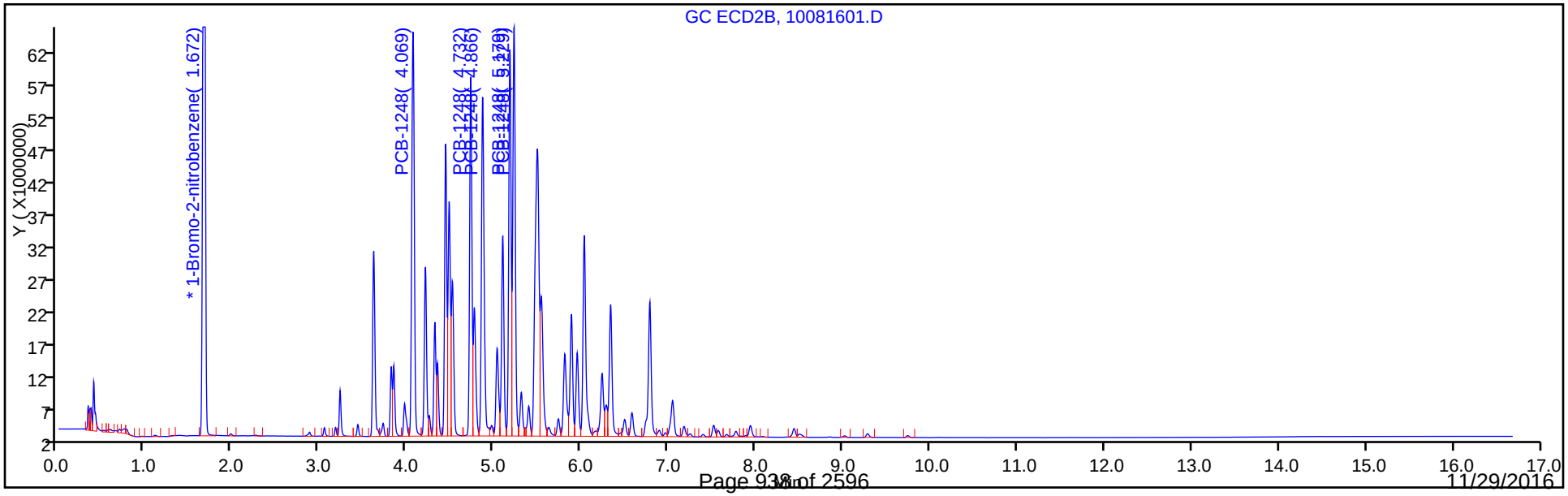
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081601.D

Injection Date:	08-Oct-2016 11:39:41	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL71248			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081602.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 12:01:20 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0051591-002
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 08-Oct-2016 12:28:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	265521550	1000.0	1000.0	
2	1.673	1.675	-0.002	256304452	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	100376478	750.0	745.1	
1	4.379	4.379	0.000	105742134	750.0	738.8	
1	4.619	4.619	0.000	103510748	750.0	751.0	
1	5.116	5.116	0.000	99490860	750.0	770.0	
1	5.139	5.139	0.000	73059614	750.0	732.7	
		Average of Peak Amounts =				747.5	
2	4.069	4.069	0.000	98122046	750.0	745.9	
2	4.733	4.733	0.000	77815226	750.0	755.0	
2	4.869	4.869	0.000	85620605	750.0	751.6	
2	5.183	5.183	0.000	83017687	750.0	741.2	
2	5.229	5.229	0.000	98604410	750.0	759.6	
		Average of Peak Amounts =				750.7	
						RPD = 0.42	
S 8 Polychlorinated biphenyls, Total							
1						747.5	
2						750.7	
						RPD = 0.42	

Reagents:

AR_1248_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

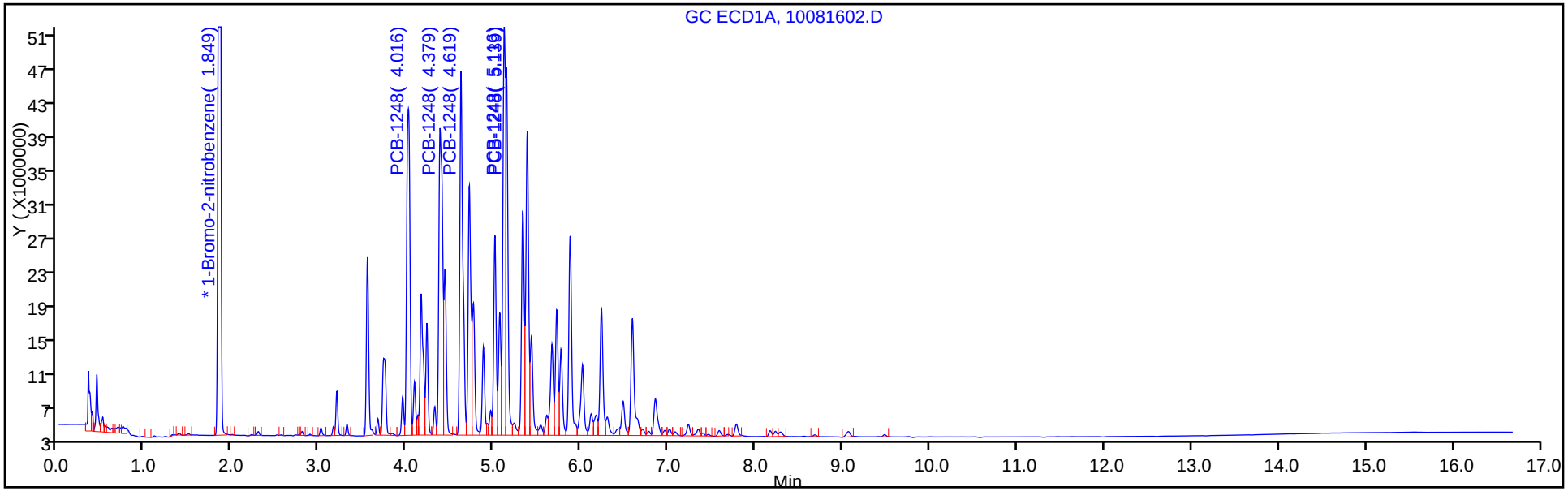
Report Date: 09-Oct-2016 09:27:25 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

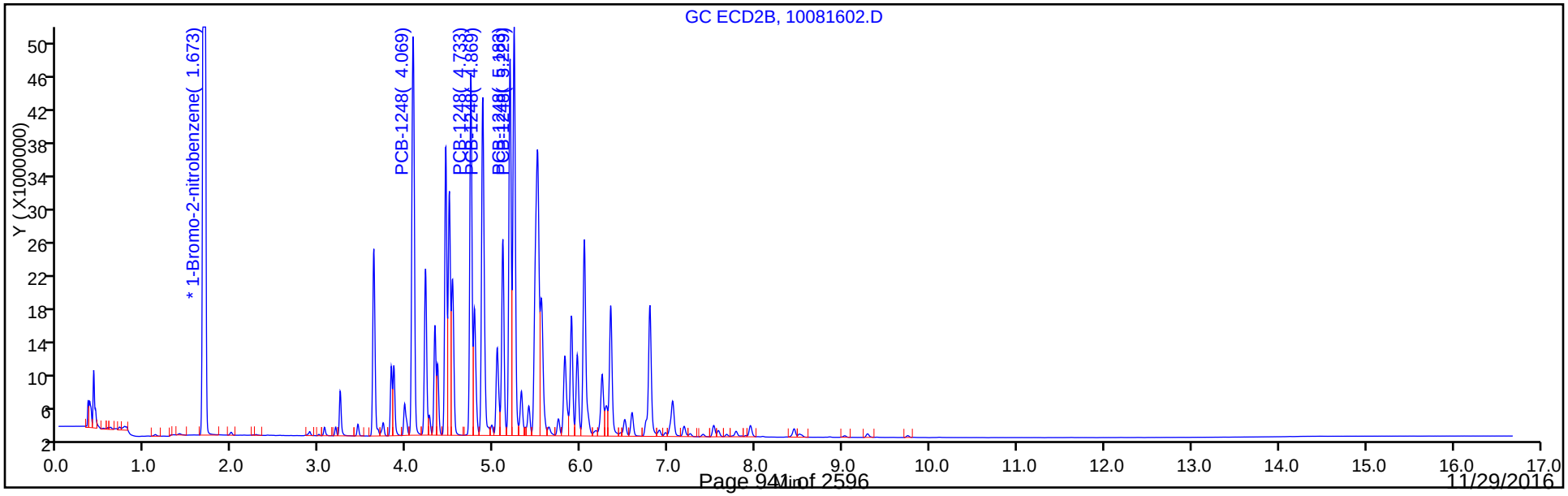
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081602.D

Injection Date:	08-Oct-2016 12:01:20	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL61248			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081603.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 12:22:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0051591-003
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:26 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	272570532	1000.0	1000.0	
2	1.676	1.676	0.000	262361109	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	69479983	500.0	499.0	
1	4.379	4.379	0.000	73026380	500.0	492.8	
1	4.619	4.619	0.000	71406024	500.0	500.2	
1	5.116	5.116	0.000	66959345	500.0	502.3	
1	5.139	5.139	0.000	49183526	500.0	476.9	
		Average of Peak Amounts =				494.2	
2	4.069	4.069	0.000	67844758	500.0	501.1	
2	4.733	4.733	0.000	53322748	500.0	502.1	
2	4.869	4.869	0.000	57569150	500.0	491.0	
2	5.183	5.183	0.000	57989591	500.0	503.7	
2	5.229	5.229	0.000	64868315	500.0	485.1	
		Average of Peak Amounts =				496.6	
						RPD = 0.48	

Reagents:

AR_1248_L5_00016 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

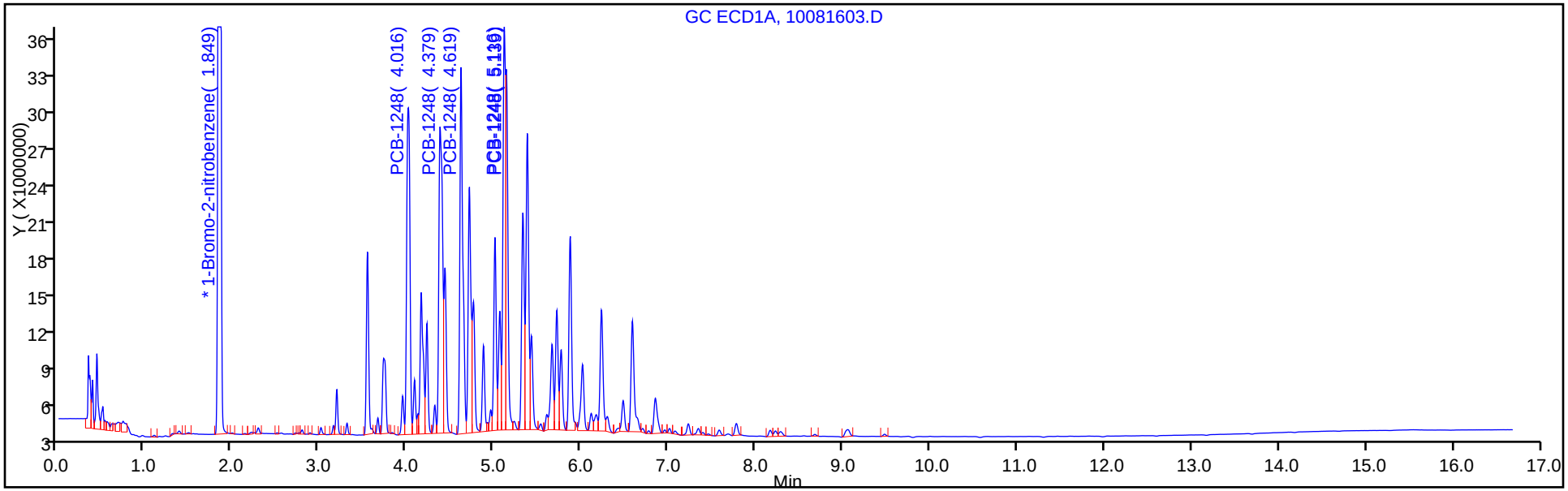
Report Date: 09-Oct-2016 09:27:27 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

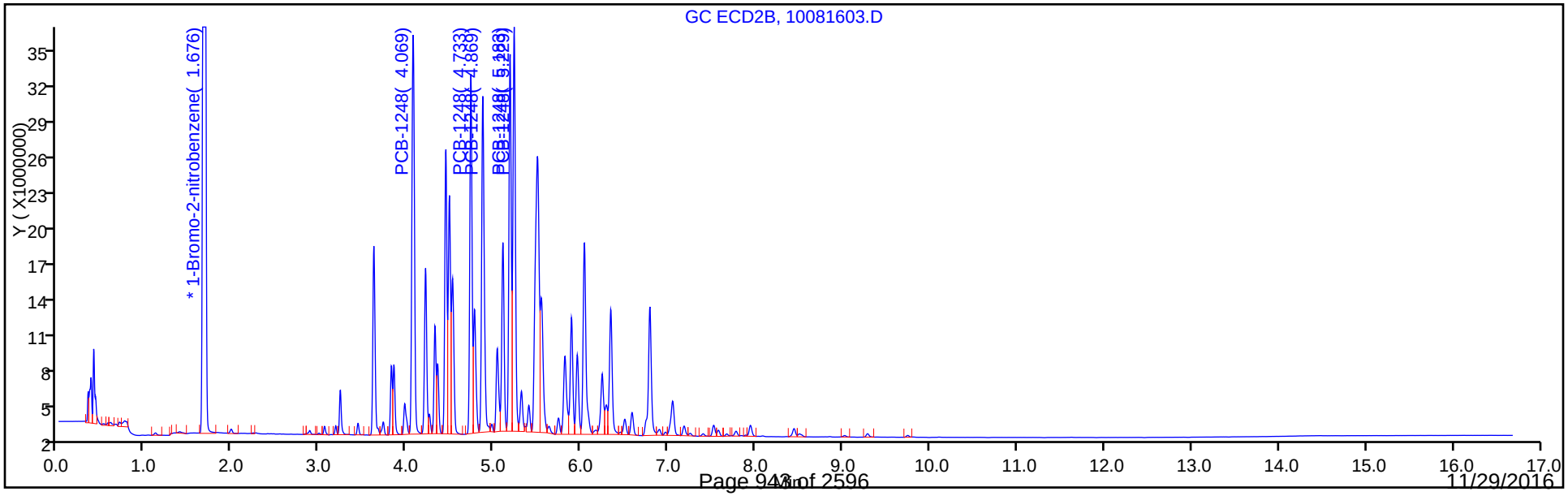
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081603.D

Injection Date:	08-Oct-2016 12:22:59	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL51248			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081604.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 12:44:36 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0051591-004
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:28 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	276693898	1000.0	1000.0	
2	1.675	1.676	-0.001	264568913	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.015	4.016	-0.001	36870209	250.0	256.0	
1	4.378	4.379	-0.001	40361030	250.0	262.4	
1	4.618	4.619	-0.001	38362532	250.0	258.3	
1	5.115	5.116	-0.001	34516669	250.0	251.4	
1	5.138	5.139	-0.001	28308910	250.0	265.9	
		Average of Peak Amounts =				258.8	
2	4.069	4.069	0.000	35542379	250.0	256.3	
2	4.732	4.733	-0.001	28154374	250.0	258.1	
2	4.869	4.869	0.000	30927195	250.0	258.0	
2	5.182	5.183	-0.001	30535038	250.0	259.9	
2	5.229	5.229	0.000	34940042	250.0	255.2	
		Average of Peak Amounts =				257.5	
						RPD = 0.50	
S 8 Polychlorinated biphenyls, Total							
1						258.8	
2						257.5	
						RPD = 0.50	

Reagents:

AR_1248_L4_00017 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

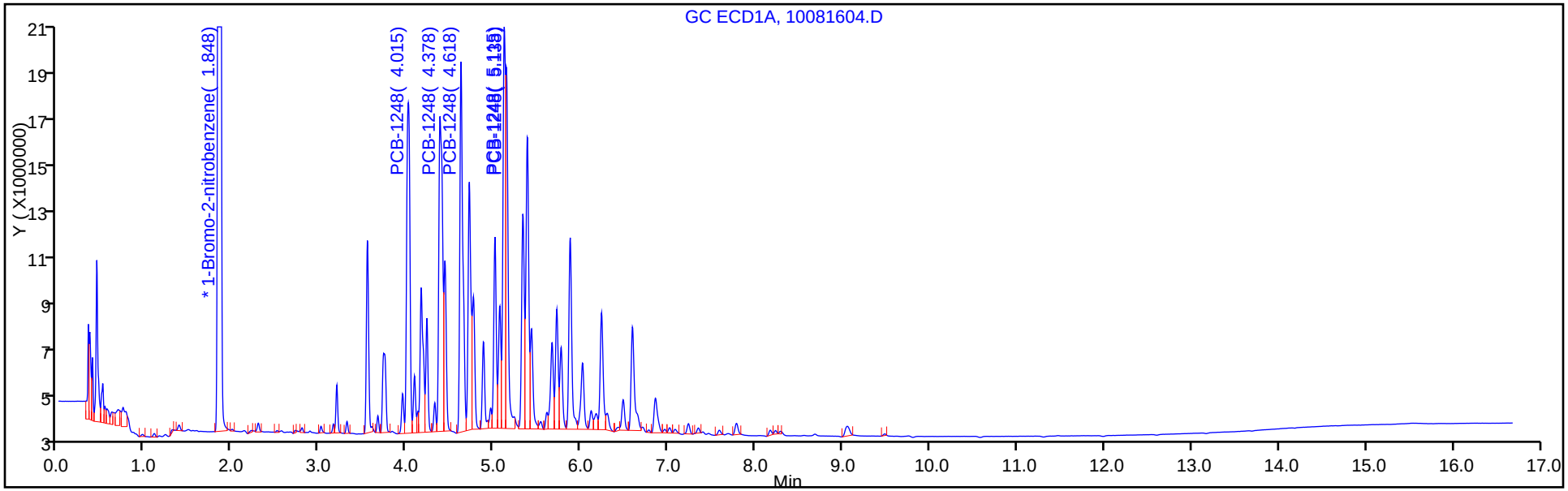
Report Date: 09-Oct-2016 09:27:28 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

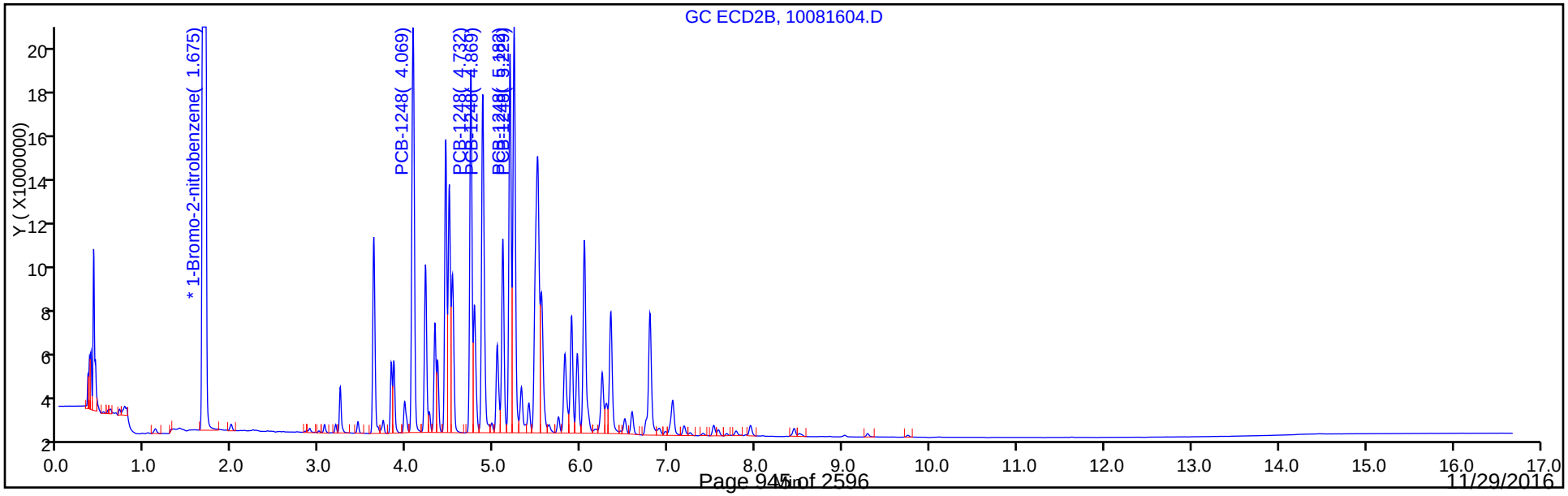
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081604.D

Injection Date:	08-Oct-2016 12:44:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL41248			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081605.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 13:06:17 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0051591-005
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:30 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:15:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	281803151	1000.0	1000.0	
2	1.676	1.676	0.000	268538234	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	15814330	100.0	101.8	
1	4.379	4.379	0.000	17524761	100.0	104.4	
1	4.619	4.619	0.000	16729350	100.0	102.8	
1	5.116	5.116	0.000	13988290	100.0	95.6	
1	5.139	5.139	0.000	11670371	100.0	101.4	
		Average of Peak Amounts =				101.2	
2	4.069	4.069	0.000	14943231	100.0	101.2	
2	4.733	4.733	0.000	11888418	100.0	101.5	
2	4.869	4.869	0.000	12826258	100.0	100.9	
2	5.183	5.183	0.000	12535083	100.0	101.2	
2	5.229	5.229	0.000	14558797	100.0	99.7	
		Average of Peak Amounts =				100.9	
						RPD = 0.30	
S 8 Polychlorinated biphenyls, Total							
1						101.2	
2						100.9	
						RPD = 0.30	

Reagents:

AR_1248_L3_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

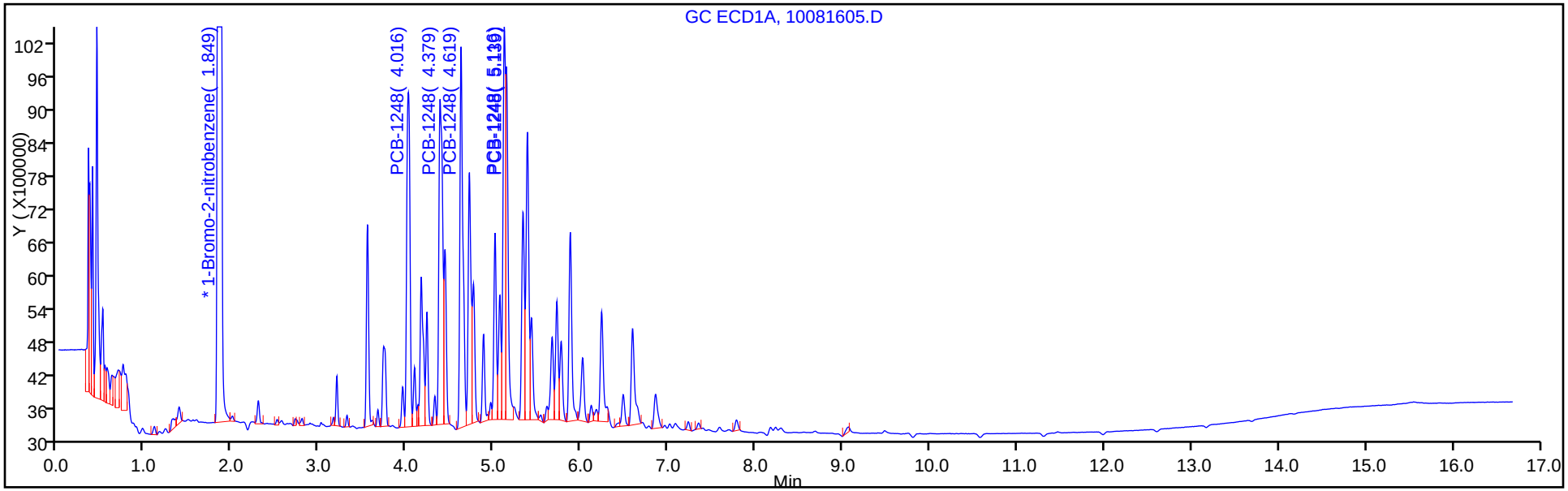
Report Date: 09-Oct-2016 09:27:30 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

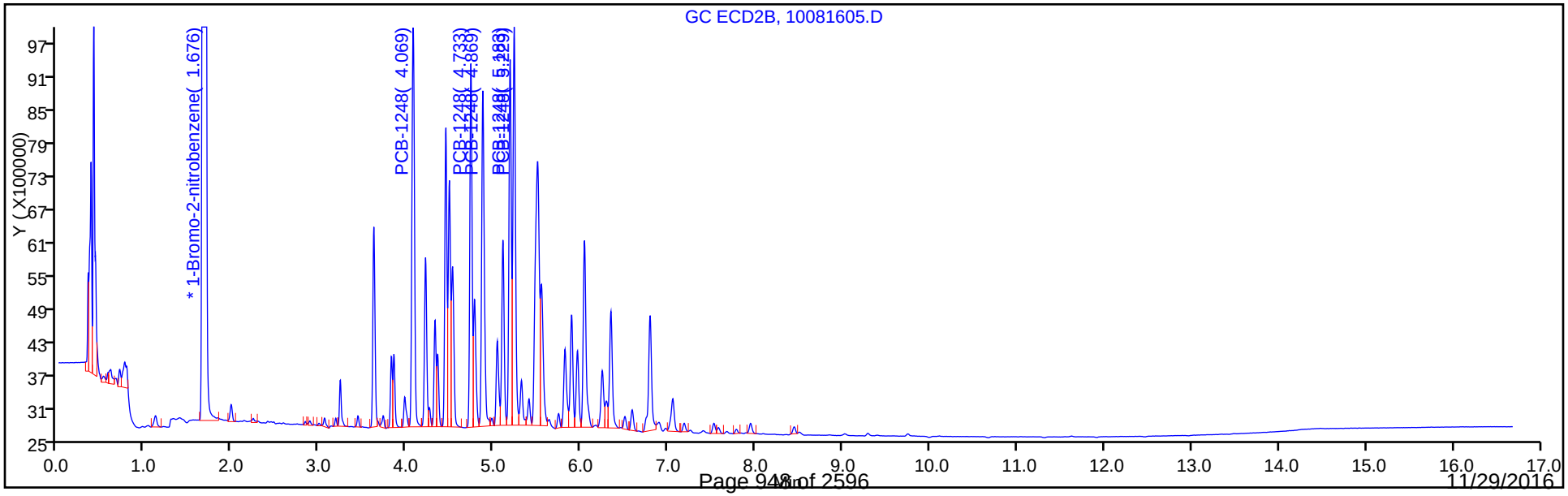
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081605.D

Injection Date:	08-Oct-2016 13:06:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL31248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081606.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 13:27:56 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0051591-006
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:31 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:16:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	271581344	1000.0	1000.0	
2	1.673	1.676	-0.003	259611401	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	4.016	4.016	0.000	8376509	50.0	51.3	
1	4.379	4.379	0.000	9209721	50.0	51.1	
1	4.619	4.619	0.000	9008367	50.0	51.4	
1	5.116	5.116	0.000	7697525	50.0	51.4	M
1	5.139	5.139	0.000	6284549	50.0	52.1	M
		Average of Peak Amounts =				51.5	
2	4.069	4.069	0.000	7849705	50.0	51.1	
2	4.733	4.733	0.000	6363516	50.0	51.8	
2	4.869	4.869	0.000	6761473	50.0	51.5	
2	5.183	5.183	0.000	6346622	50.0	49.9	
2	5.229	5.229	0.000	7916930	50.0	52.4	
		Average of Peak Amounts =				51.3	
						RPD = 0.25	
S 8 Polychlorinated biphenyls, Total							
1						51.5	
2						51.3	
						RPD = 0.25	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L2_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

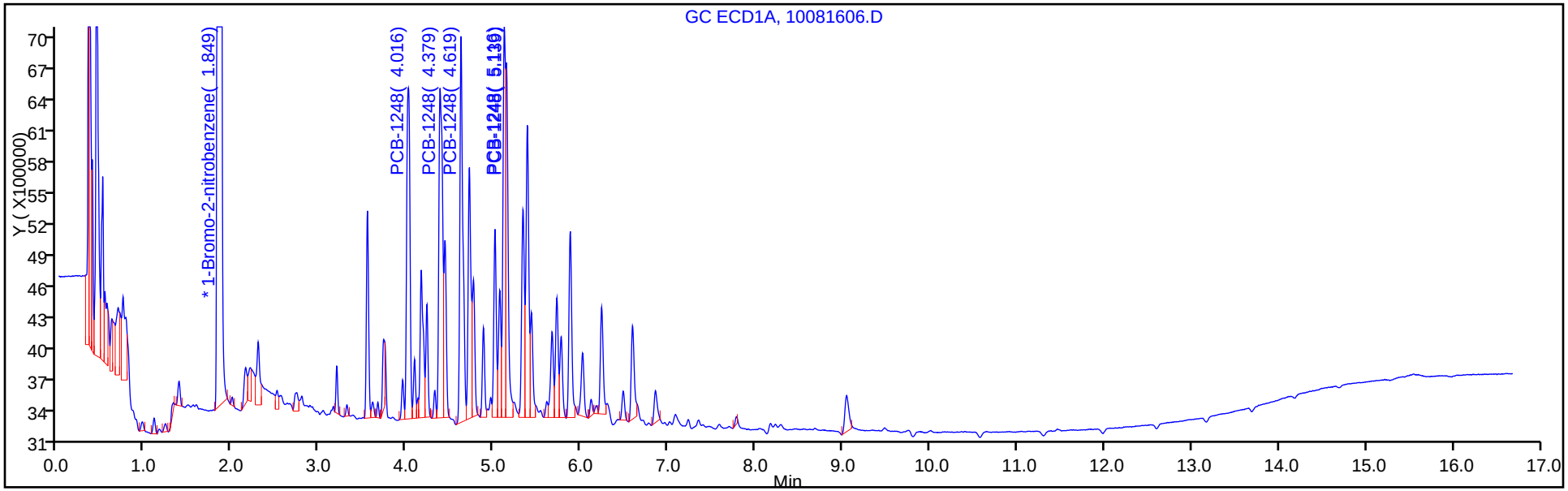
Report Date: 09-Oct-2016 09:27:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

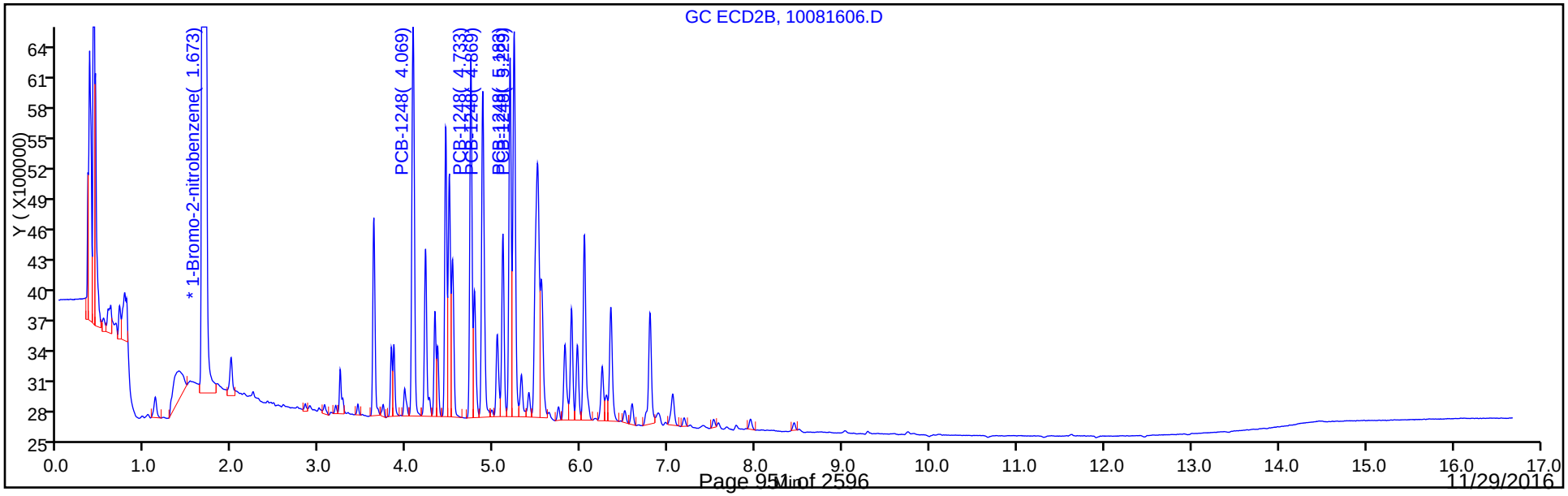
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081606.D

Injection Date:	08-Oct-2016 13:27:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL21248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:27:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081606.D

Injection Date: 08-Oct-2016 13:27:56 Instrument ID: SGC_P3

Lims ID: STDL21248

Client ID:

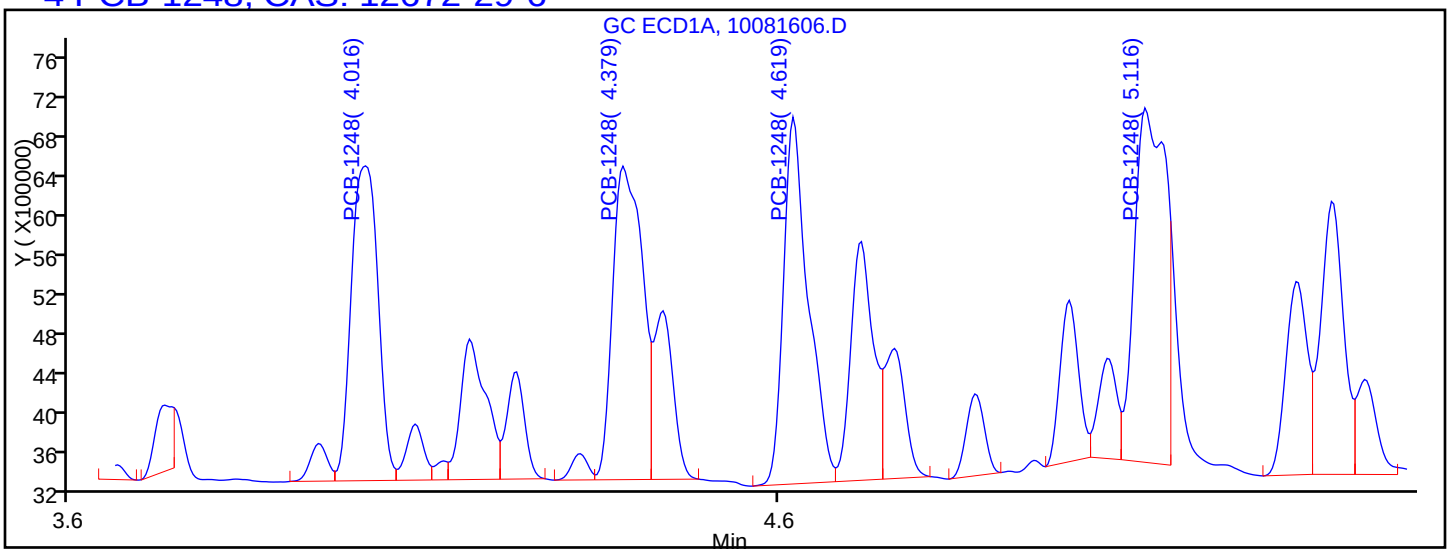
Operator ID: jax ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

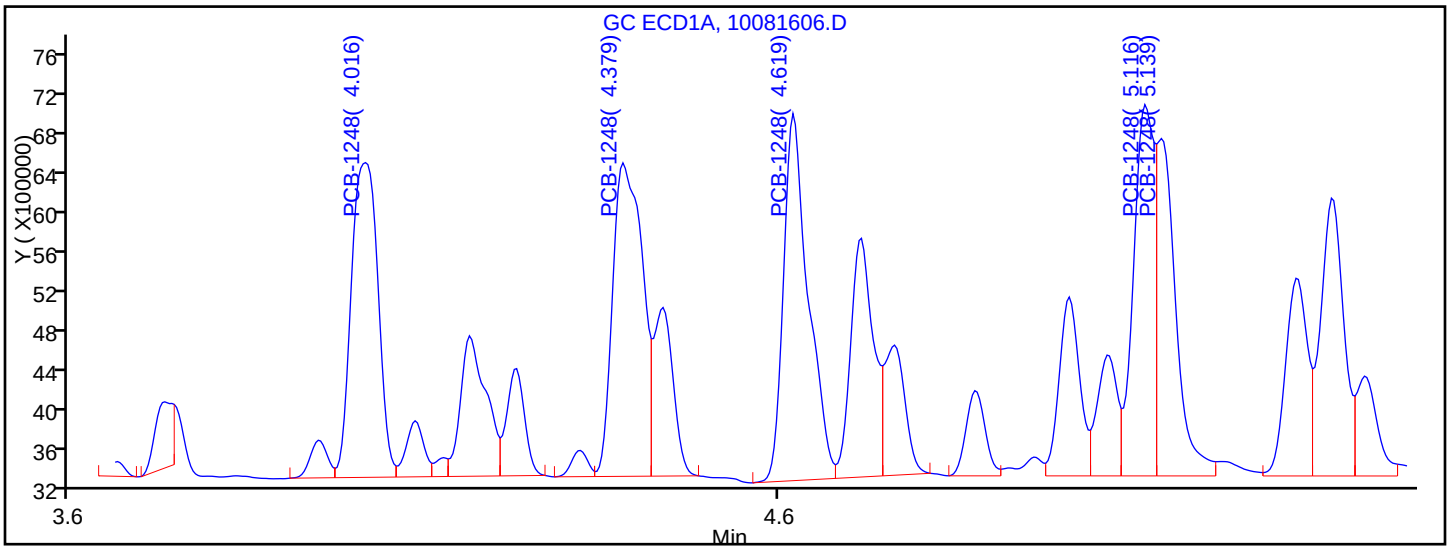
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

4 PCB-1248, CAS: 12672-29-6



Processing Integration Results

4.016	Response = 8376509
4.379	Response = 9209721
4.619	Response = 9008367
5.116	Response = 10855455
5.139	Response = 0



Manual Integration Results

4.016	Response = 8376509	
4.379	Response = 9209721	
4.619	Response = 9008367	
5.116	Response = 7697525	M
5.139	Response = 6284549	M

Reviewer: jacksonto, 09-Oct-2016 09:16:33

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081607.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 13:49:37 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0051591-007
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:33 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:17:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	273538542	1000.0	1000.0	
2	1.674	1.676	-0.002	258183302	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	4.014	4.016	-0.002	4632964	25.0	23.5	
1	4.381	4.379	0.002	5180031	25.0	22.8	
1	4.621	4.619	0.002	5113750	25.0	23.0	
1	5.118	5.116	0.002	4268535	25.0	25.0	M
1	5.138	5.139	-0.001	3399014	25.0	23.2	M
		Average of Peak Amounts =				23.5	
2	4.071	4.069	0.002	4210238	25.0	23.7	
2	4.734	4.733	0.001	3389824	25.0	23.1	
2	4.868	4.869	-0.001	3556460	25.0	23.6	
2	5.181	5.183	-0.002	3417810	25.0	24.0	
2	5.228	5.229	-0.001	4178481	25.0	23.8	
		Average of Peak Amounts =				23.6	
						RPD = 0.61	
S 8 Polychlorinated biphenyls, Total							
1						23.5	
2						23.6	
						RPD = 0.61	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L1_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

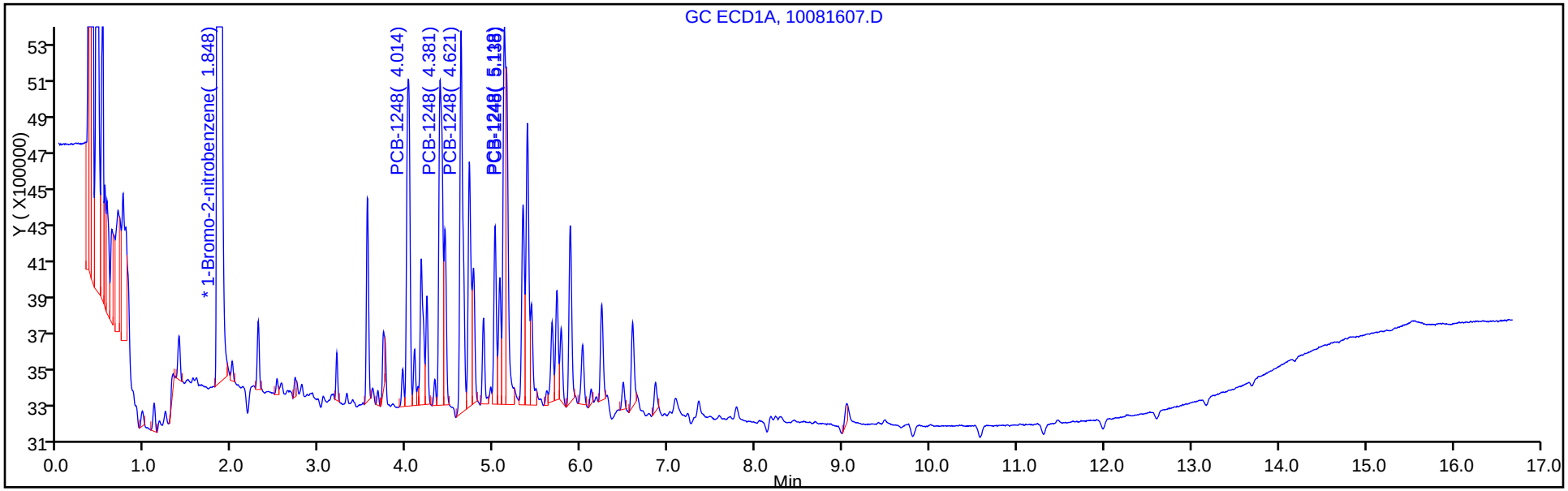
Report Date: 09-Oct-2016 09:27:34 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

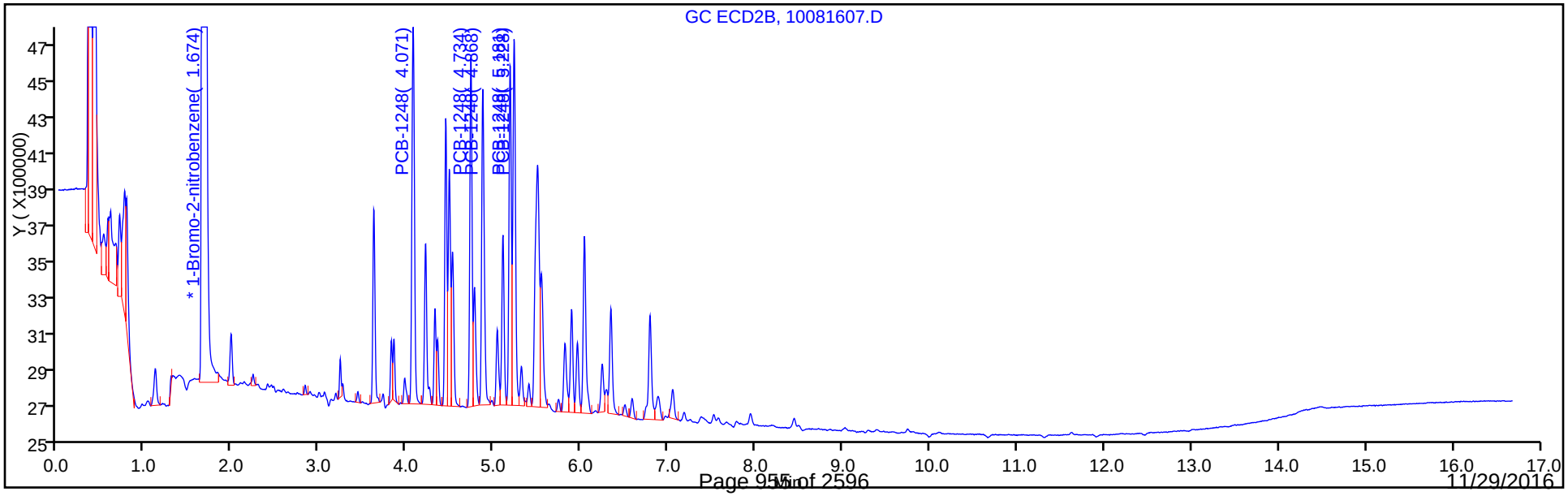
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081607.D

Injection Date:	08-Oct-2016 13:49:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL11248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:27:34 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081607.D

Injection Date: 08-Oct-2016 13:49:37 Instrument ID: SGC_P3

Lims ID: STDL11248

Client ID:

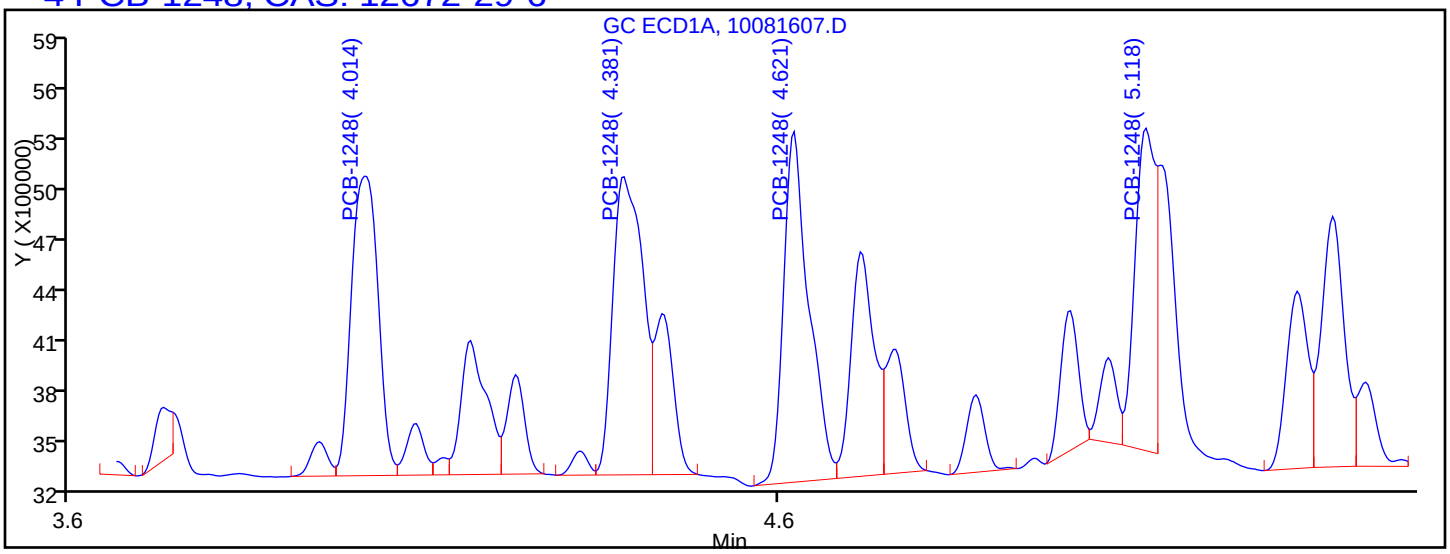
Operator ID: jax ALS Bottle#: 7 Worklist Smp#: 7

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

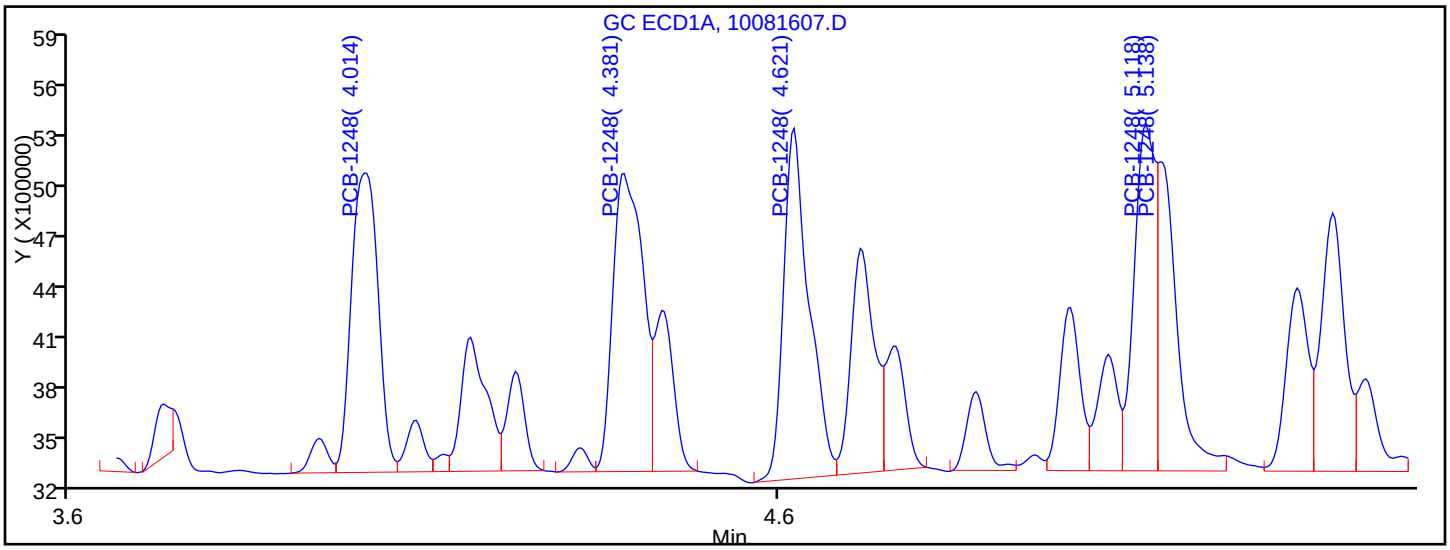
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

4 PCB-1248, CAS: 12672-29-6



Processing Integration Results

4.014	Response = 4632964
4.381	Response = 5180031
4.621	Response = 5113750
5.118	Response = 3830185
5.139	Response = 0



Manual Integration Results

4.014	Response = 4632964	
4.381	Response = 5180031	
4.621	Response = 5113750	
5.118	Response = 4268535	M
5.138	Response = 3399014	M

Reviewer: jacksonto, 09-Oct-2016 09:17:13

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 11:39 Calibration End Date: 10/08/2016 13:49 Calibration ID: 27240

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-345281/7	10081607.D
Level 2	STDL21248 280-345281/6	10081606.D
Level 3	STDL31248 280-345281/5	10081605.D
Level 4	STDL41248 280-345281/4	10081604.D
Level 5	STDL51248 280-345281/3	10081603.D
Level 6	STDL61248 280-345281/2	10081602.D
Level 7	STDL71248 280-345281/1	10081601.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 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.6523 0.5104	0.6047 0.5096	0.5565	0.5374	0.5172	Lin1	4.2847	0.5075							1.0000		0.9900
PCB-1248 Peak 2	0.5252 0.4048	0.4902 0.3942	0.4427	0.4257	0.4065	Lin1	3.9742	0.3969							1.0000		0.9900
PCB-1248 Peak 3	0.5510 0.4454	0.5209 0.4426	0.4776	0.4676	0.4389	Lin1	3.3705	0.4400							1.0000		0.9900
PCB-1248 Peak 4	0.5295 0.4319	0.4889 0.4339	0.4668	0.4617	0.4421	Lin1	2.8423	0.4331							1.0000		0.9900
PCB-1248 Peak 5	0.6474 0.5130	0.6099 0.5047	0.5421	0.5283	0.4945	Lin1	4.2614	0.5009							1.0000		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 11:39 Calibration End Date: 10/08/2016 13:49 Calibration ID: 27240

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-345281/7	10081607.D
Level 2	STDL21248 280-345281/6	10081606.D
Level 3	STDL31248 280-345281/5	10081605.D
Level 4	STDL41248 280-345281/4	10081604.D
Level 5	STDL51248 280-345281/3	10081603.D
Level 6	STDL61248 280-345281/2	10081602.D
Level 7	STDL71248 280-345281/1	10081601.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	4210238 98122046	7849705 128328309	14943231	35542379	67844758	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	3389824 77815226	6363516 99286717	11888418	28154374	53322748	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	3556460 85620605	6761473 111469869	12826258	30927195	57569150	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	3417810 83017687	6346622 109263414	12535083	30535038	57989591	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	4178481 98604410	7916930 127108281	14558797	34940042	64868315	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081601.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 11:39:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0051591-001
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:23 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	259013268	1000.0	1000.0	
2	1.672	1.675	-0.003	251842746	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.019	4.016	0.003	130736864	1000.0	998.3	
1	4.382	4.379	0.003	139357490	1000.0	1002.7	
1	4.622	4.619	0.003	132288935	1000.0	988.2	
1	5.115	5.116	-0.001	123191463	1000.0	979.3	
1	5.139	5.139	0.000	99089367	1000.0	1022.8	
		Average of Peak Amounts =				998.3	
2	4.069	4.069	0.000	128328309	1000.0	995.6	
2	4.732	4.733	-0.001	99286717	1000.0	983.4	
2	4.866	4.869	-0.003	111469869	1000.0	998.3	
2	5.179	5.183	-0.004	109263414	1000.0	995.1	
2	5.229	5.229	0.000	127108281	1000.0	999.2	
		Average of Peak Amounts =				994.3	
						RPD = 0.40	
S 8 Polychlorinated biphenyls, Total							
1						998.3	
2						994.3	
						RPD = 0.40	

Reagents:

AR_1248_L7_00012 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

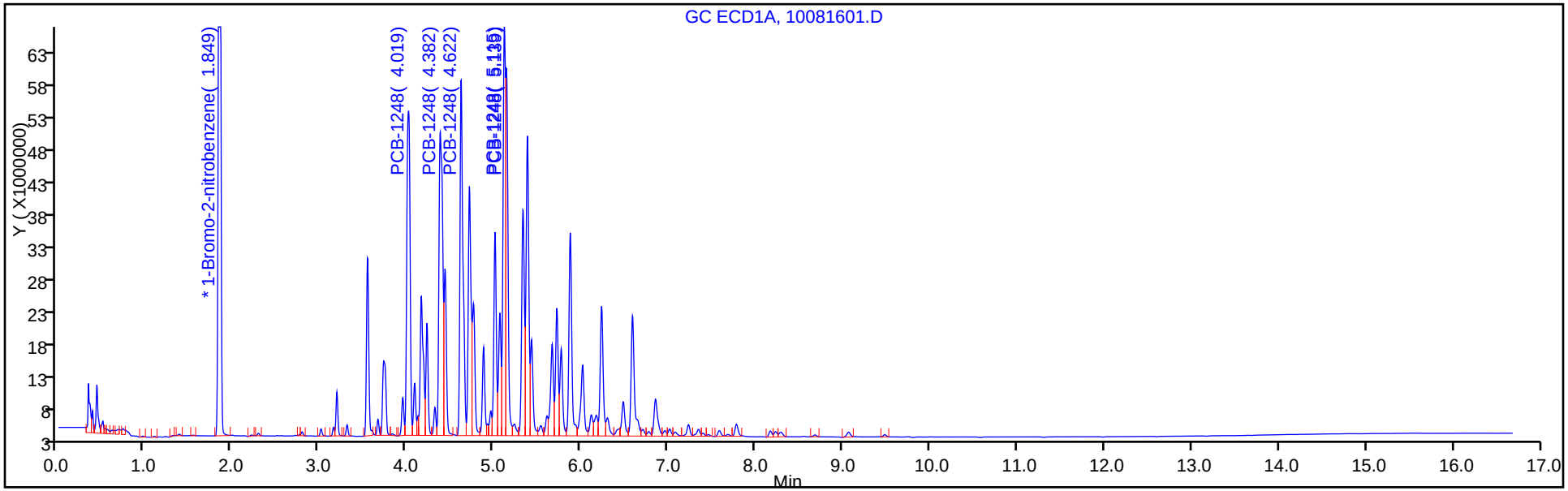
Report Date: 09-Oct-2016 09:27:23 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

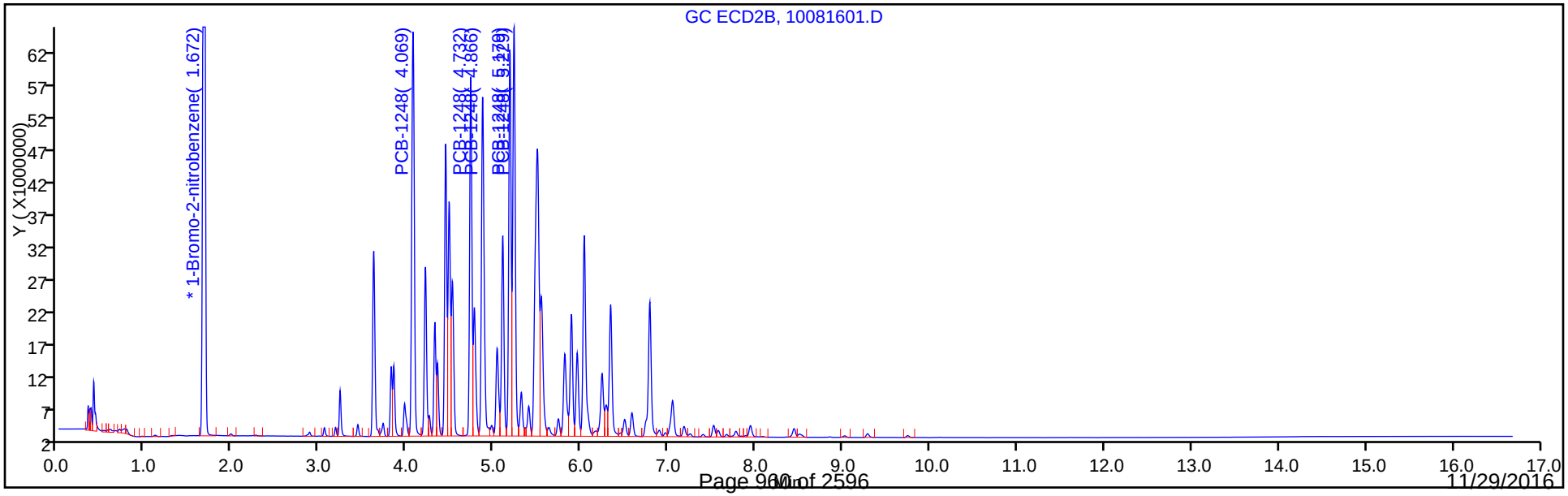
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081601.D

Injection Date:	08-Oct-2016 11:39:41	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL71248			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081602.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 12:01:20 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0051591-002
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 08-Oct-2016 12:28:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	265521550	1000.0	1000.0	
2	1.673	1.675	-0.002	256304452	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	100376478	750.0	745.1	
1	4.379	4.379	0.000	105742134	750.0	738.8	
1	4.619	4.619	0.000	103510748	750.0	751.0	
1	5.116	5.116	0.000	99490860	750.0	770.0	
1	5.139	5.139	0.000	73059614	750.0	732.7	
		Average of Peak Amounts =				747.5	
2	4.069	4.069	0.000	98122046	750.0	745.9	
2	4.733	4.733	0.000	77815226	750.0	755.0	
2	4.869	4.869	0.000	85620605	750.0	751.6	
2	5.183	5.183	0.000	83017687	750.0	741.2	
2	5.229	5.229	0.000	98604410	750.0	759.6	
		Average of Peak Amounts =				750.7	
						RPD = 0.42	
S 8 Polychlorinated biphenyls, Total							
1						747.5	
2						750.7	
						RPD = 0.42	

Reagents:

AR_1248_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

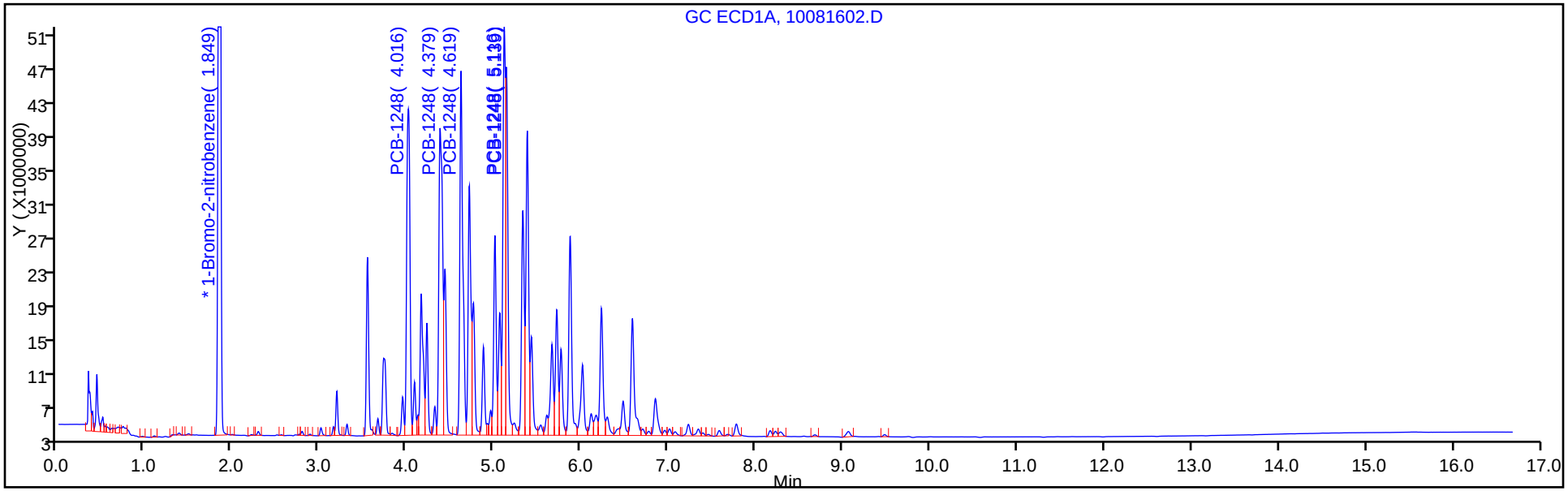
Report Date: 09-Oct-2016 09:27:25 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

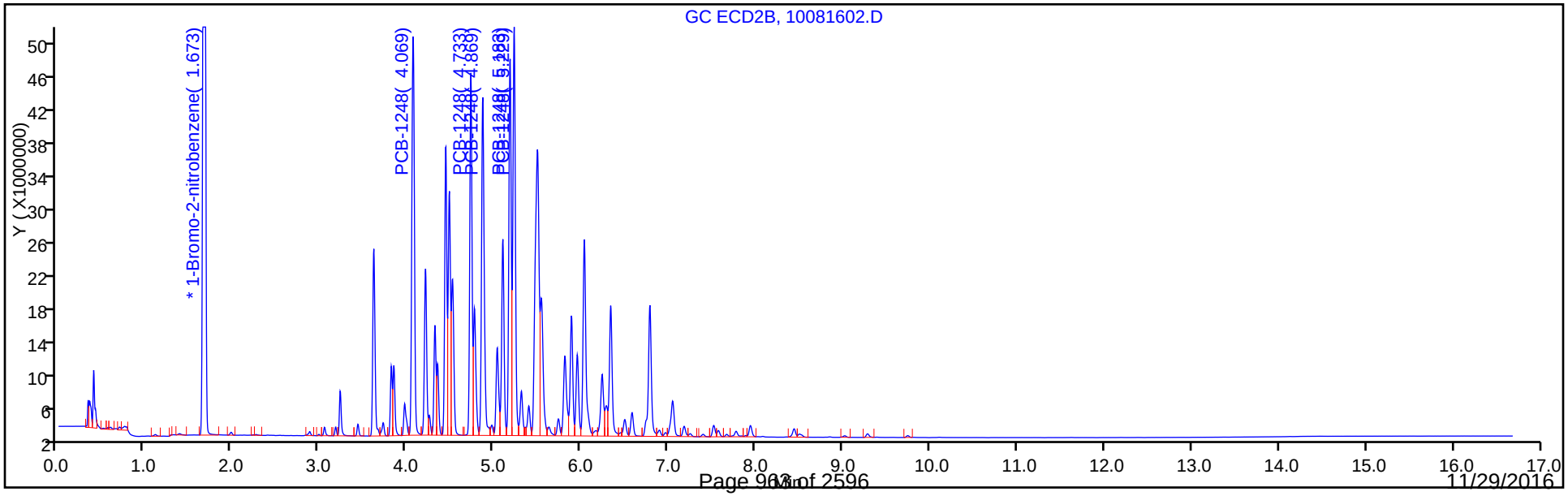
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081602.D

Injection Date:	08-Oct-2016 12:01:20	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL61248			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081603.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 12:22:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0051591-003
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:26 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	272570532	1000.0	1000.0	
2	1.676	1.676	0.000	262361109	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	69479983	500.0	499.0	
1	4.379	4.379	0.000	73026380	500.0	492.8	
1	4.619	4.619	0.000	71406024	500.0	500.2	
1	5.116	5.116	0.000	66959345	500.0	502.3	
1	5.139	5.139	0.000	49183526	500.0	476.9	
		Average of Peak Amounts =				494.2	
2	4.069	4.069	0.000	67844758	500.0	501.1	
2	4.733	4.733	0.000	53322748	500.0	502.1	
2	4.869	4.869	0.000	57569150	500.0	491.0	
2	5.183	5.183	0.000	57989591	500.0	503.7	
2	5.229	5.229	0.000	64868315	500.0	485.1	
		Average of Peak Amounts =				496.6	
						RPD = 0.48	

Reagents:

AR_1248_L5_00016 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

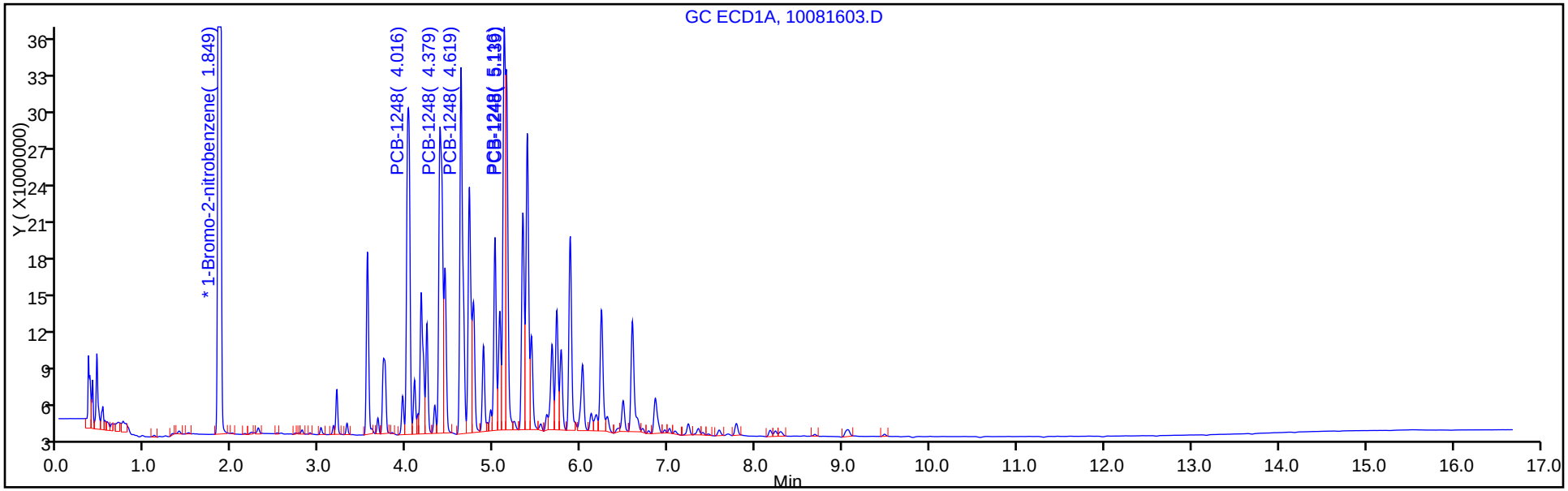
Report Date: 09-Oct-2016 09:27:27 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

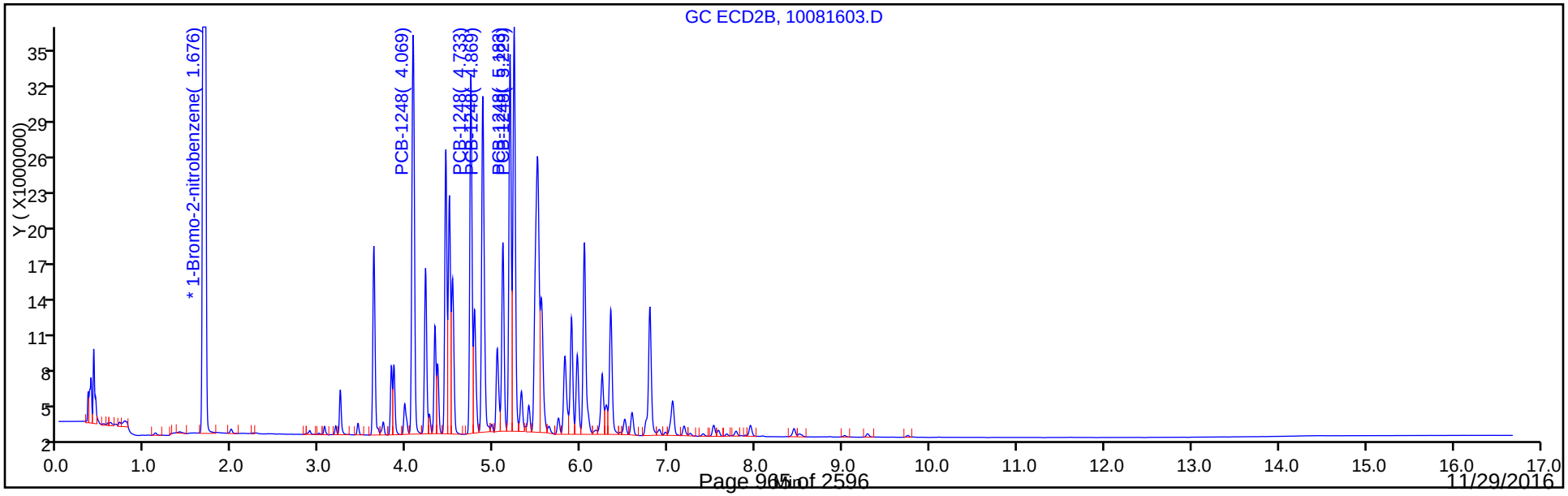
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081603.D

Injection Date:	08-Oct-2016 12:22:59	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL51248			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081604.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 12:44:36 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0051591-004
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:28 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	276693898	1000.0	1000.0	
2	1.675	1.676	-0.001	264568913	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.015	4.016	-0.001	36870209	250.0	256.0	
1	4.378	4.379	-0.001	40361030	250.0	262.4	
1	4.618	4.619	-0.001	38362532	250.0	258.3	
1	5.115	5.116	-0.001	34516669	250.0	251.4	
1	5.138	5.139	-0.001	28308910	250.0	265.9	
		Average of Peak Amounts =				258.8	
2	4.069	4.069	0.000	35542379	250.0	256.3	
2	4.732	4.733	-0.001	28154374	250.0	258.1	
2	4.869	4.869	0.000	30927195	250.0	258.0	
2	5.182	5.183	-0.001	30535038	250.0	259.9	
2	5.229	5.229	0.000	34940042	250.0	255.2	
		Average of Peak Amounts =				257.5	
						RPD = 0.50	
S 8 Polychlorinated biphenyls, Total							
1						258.8	
2						257.5	
						RPD = 0.50	

Reagents:

AR_1248_L4_00017 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

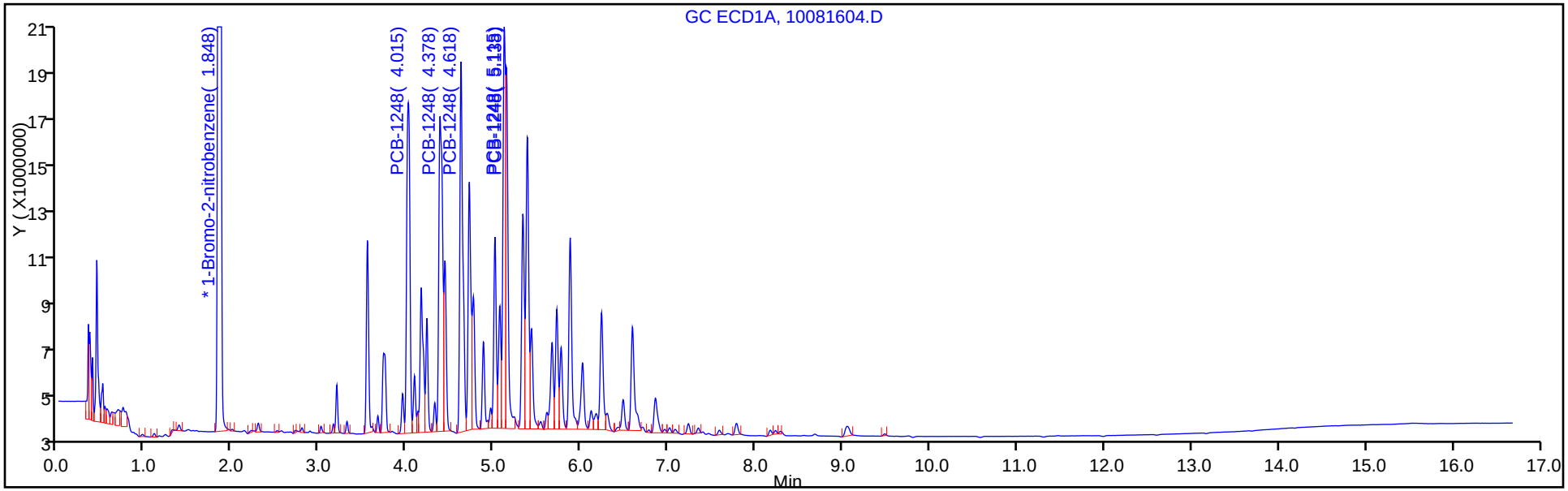
Report Date: 09-Oct-2016 09:27:29 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

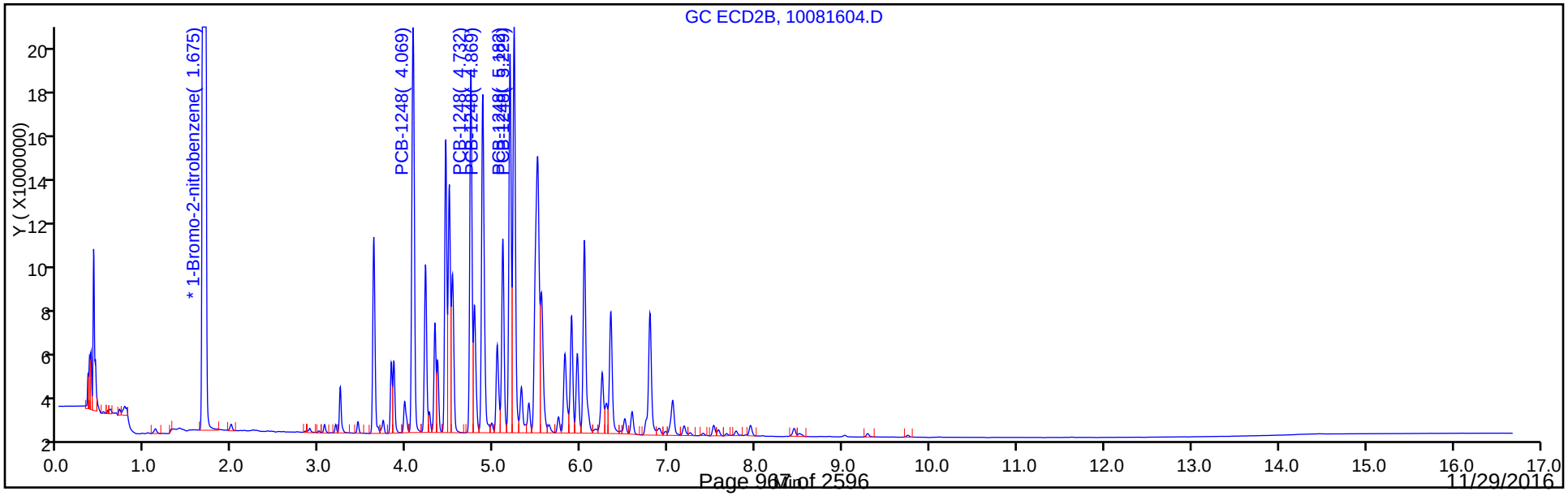
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081604.D

Injection Date:	08-Oct-2016 12:44:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL41248			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081605.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 13:06:17 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0051591-005
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:30 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:15:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	281803151	1000.0	1000.0	
2	1.676	1.676	0.000	268538234	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	15814330	100.0	101.8	
1	4.379	4.379	0.000	17524761	100.0	104.4	
1	4.619	4.619	0.000	16729350	100.0	102.8	
1	5.116	5.116	0.000	13988290	100.0	95.6	
1	5.139	5.139	0.000	11670371	100.0	101.4	
		Average of Peak Amounts =				101.2	
2	4.069	4.069	0.000	14943231	100.0	101.2	
2	4.733	4.733	0.000	11888418	100.0	101.5	
2	4.869	4.869	0.000	12826258	100.0	100.9	
2	5.183	5.183	0.000	12535083	100.0	101.2	
2	5.229	5.229	0.000	14558797	100.0	99.7	
		Average of Peak Amounts =				100.9	
						RPD = 0.30	
S 8 Polychlorinated biphenyls, Total							
1						101.2	
2						100.9	
						RPD = 0.30	

Reagents:

AR_1248_L3_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

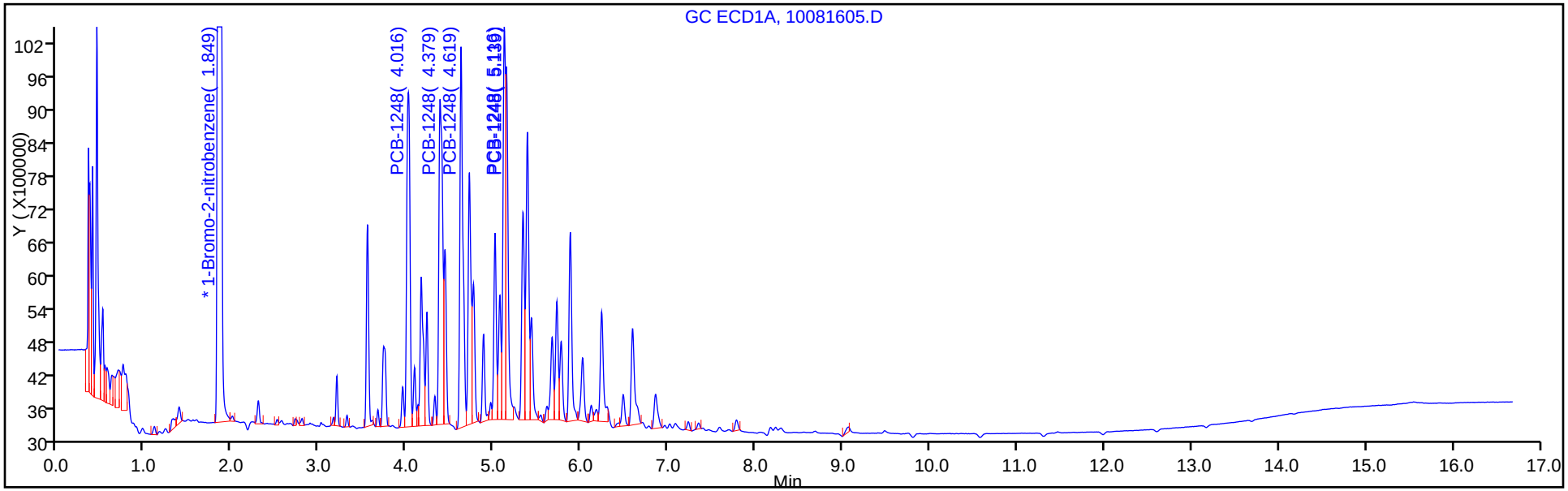
Report Date: 09-Oct-2016 09:27:30 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

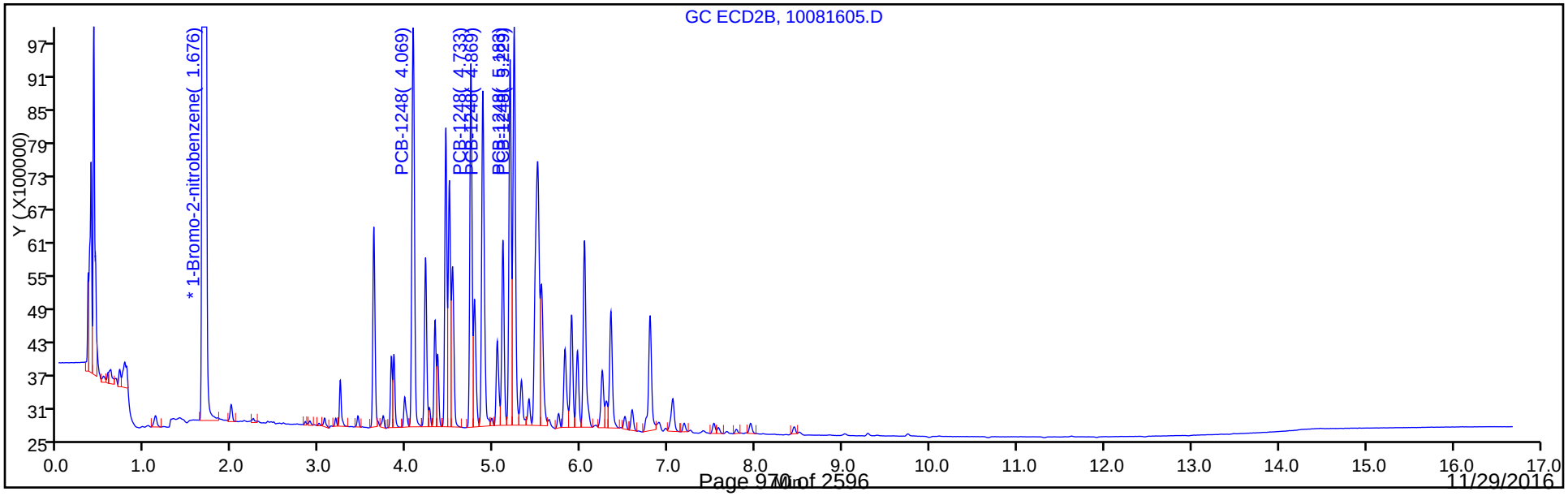
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081605.D

Injection Date:	08-Oct-2016 13:06:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL31248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081606.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 13:27:56 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0051591-006
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:31 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:16:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	271581344	1000.0	1000.0	
2	1.673	1.676	-0.003	259611401	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	4.016	4.016	0.000	8376509	50.0	51.3	
1	4.379	4.379	0.000	9209721	50.0	51.1	
1	4.619	4.619	0.000	9008367	50.0	51.4	
1	5.116	5.116	0.000	7697525	50.0	51.4	M
1	5.139	5.139	0.000	6284549	50.0	52.1	M
		Average of Peak Amounts =				51.5	
2	4.069	4.069	0.000	7849705	50.0	51.1	
2	4.733	4.733	0.000	6363516	50.0	51.8	
2	4.869	4.869	0.000	6761473	50.0	51.5	
2	5.183	5.183	0.000	6346622	50.0	49.9	
2	5.229	5.229	0.000	7916930	50.0	52.4	
		Average of Peak Amounts =				51.3	
						RPD = 0.25	
S 8 Polychlorinated biphenyls, Total							
1						51.5	
2						51.3	
						RPD = 0.25	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L2_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

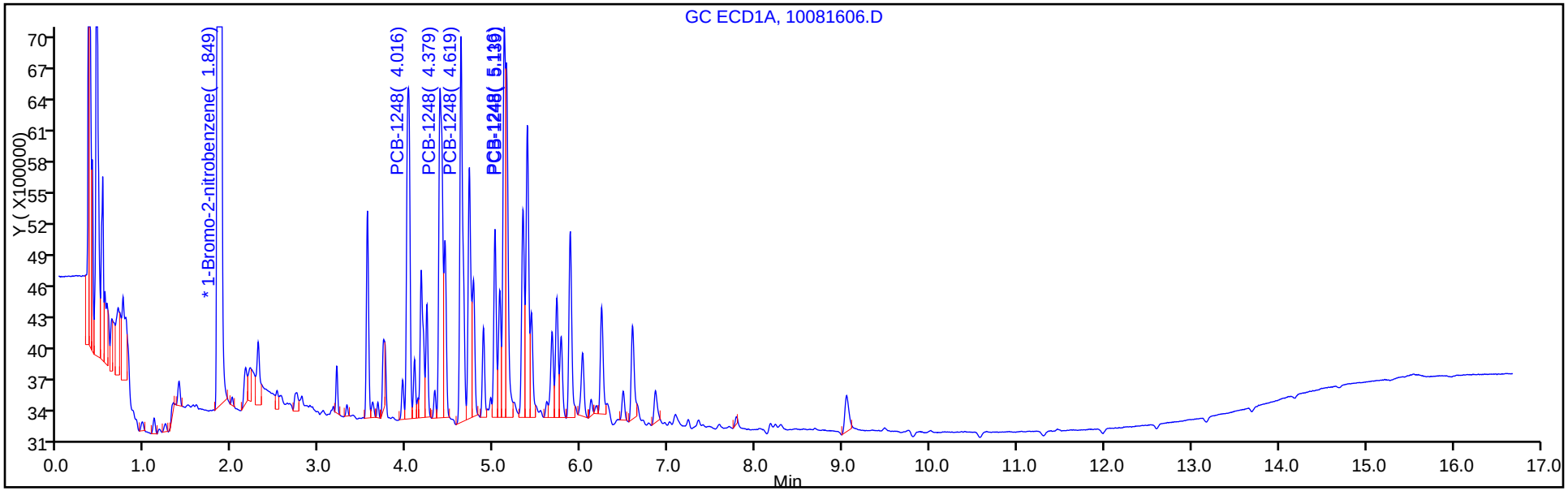
Report Date: 09-Oct-2016 09:27:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

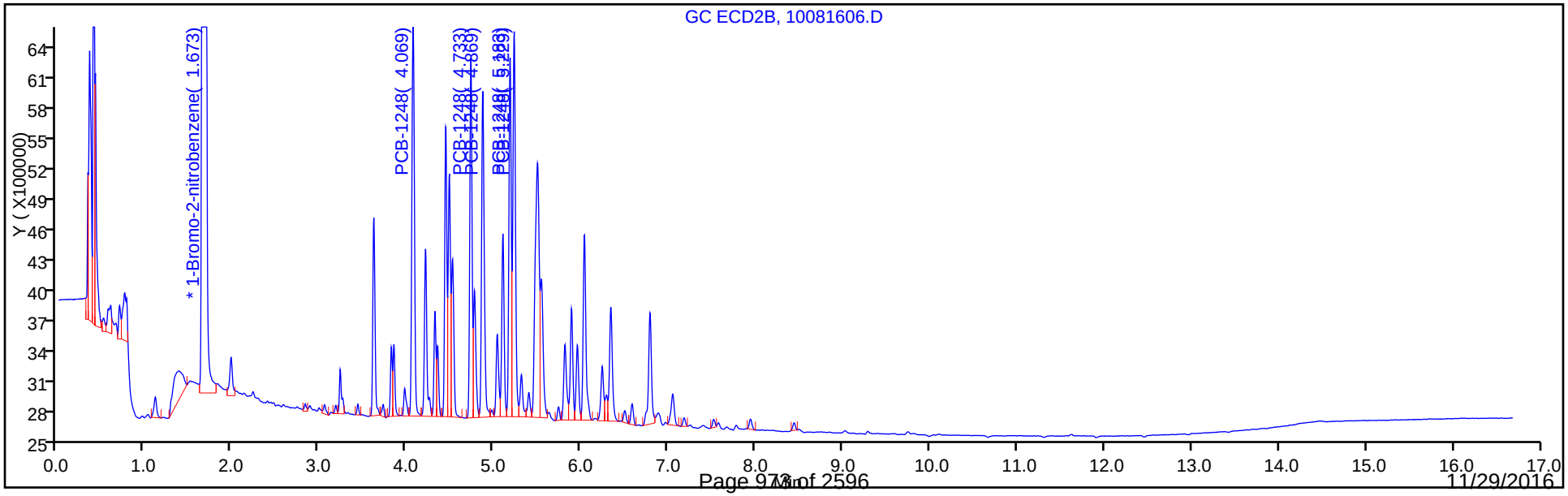
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081606.D

Injection Date:	08-Oct-2016 13:27:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL21248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081607.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 13:49:37 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0051591-007
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub2

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:33 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:17:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	273538542	1000.0	1000.0	
2	1.674	1.676	-0.002	258183302	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	4.014	4.016	-0.002	4632964	25.0	23.5	
1	4.381	4.379	0.002	5180031	25.0	22.8	
1	4.621	4.619	0.002	5113750	25.0	23.0	
1	5.118	5.116	0.002	4268535	25.0	25.0	M
1	5.138	5.139	-0.001	3399014	25.0	23.2	M
		Average of Peak Amounts =				23.5	
2	4.071	4.069	0.002	4210238	25.0	23.7	
2	4.734	4.733	0.001	3389824	25.0	23.1	
2	4.868	4.869	-0.001	3556460	25.0	23.6	
2	5.181	5.183	-0.002	3417810	25.0	24.0	
2	5.228	5.229	-0.001	4178481	25.0	23.8	
		Average of Peak Amounts =				23.6	
						RPD = 0.61	
S 8 Polychlorinated biphenyls, Total							
1						23.5	
2						23.6	
						RPD = 0.61	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L1_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

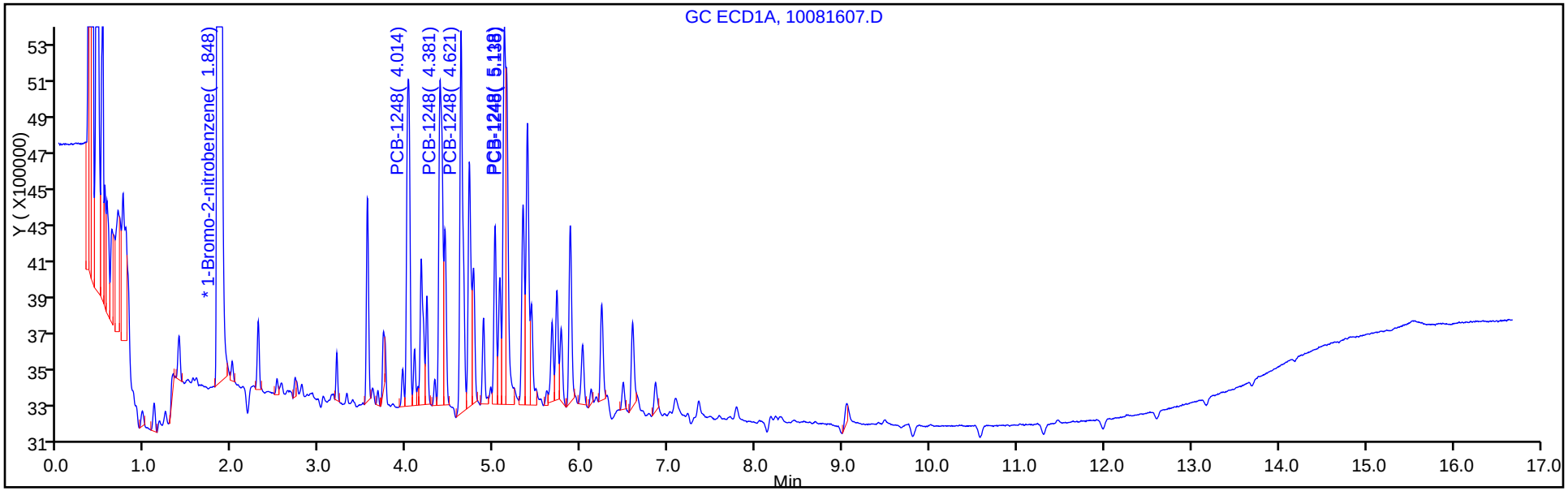
Report Date: 09-Oct-2016 09:27:34 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

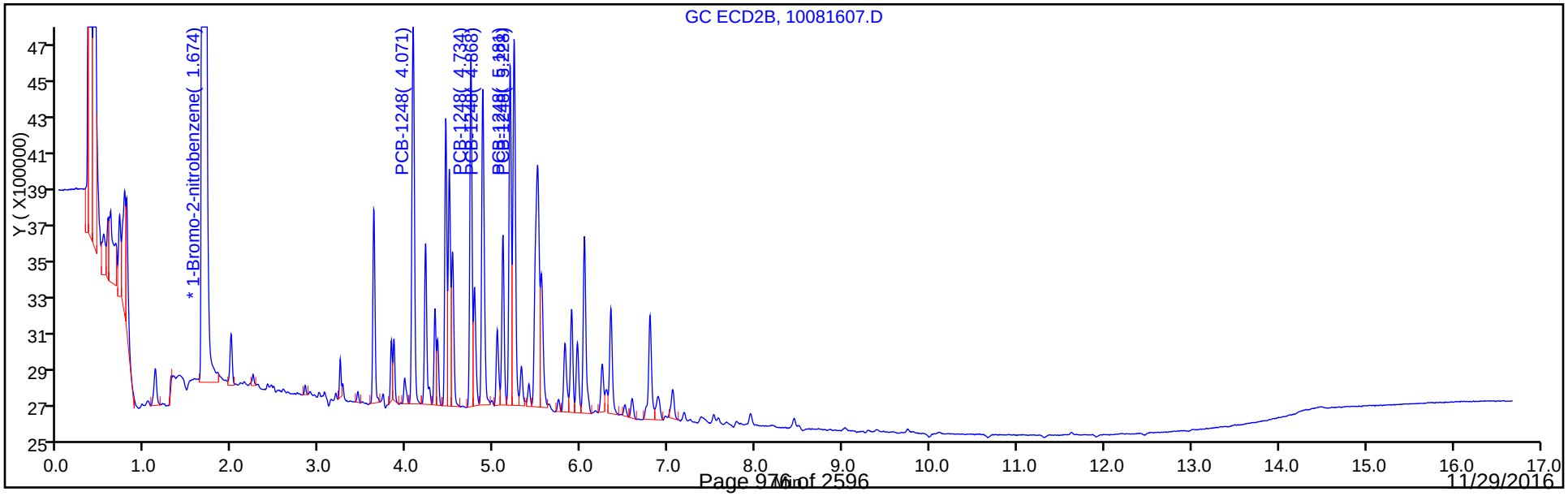
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081607.D

Injection Date:	08-Oct-2016 13:49:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL11248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 14:11 Calibration End Date: 10/08/2016 16:21 Calibration ID: 27243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-345281/14	10081614.D
Level 2	STDL22154 280-345281/13	10081613.D
Level 3	STDL32154 280-345281/12	10081612.D
Level 4	STDL42154 280-345281/11	10081611.D
Level 5	STDL52154 280-345281/10	10081610.D
Level 6	STDL62154 280-345281/9	10081609.D
Level 7	STDL72154 280-345281/8	10081608.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 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.1821 0.1131	0.1532 0.1156	0.1486	0.1302	0.1350	Lin1	2.0102	0.1172							0.9940		0.9900
PCB-1221 Peak 2	0.1273 0.0768	0.1088 0.0766	0.0985	0.0846	0.0914	Lin1	1.4923	0.0782							0.9940		0.9900
PCB-1221 Peak 3	0.4545 0.2894	0.3857 0.2762	0.3613	0.3181	0.3212	Lin1	5.2092	0.2855							0.9960		0.9900
PCB-1254 Peak 1	0.7907 0.5720	0.6950 0.5604	0.6395	0.5880	0.6319	Lin1	6.1160	0.5712							0.9980		0.9900
PCB-1254 Peak 2	0.6098 0.4691	0.5231 0.4527	0.5320	0.4607	0.5147	Lin1	3.9058	0.4652							0.9970		0.9900
PCB-1254 Peak 3	1.0313 0.7856	0.8991 0.7723	0.8889	0.7834	0.8634	Lin1	6.6881	0.7857							0.9980		0.9900
PCB-1254 Peak 4	0.7584 0.5925	0.6886 0.5846	0.7678	0.6221	0.6525	Lin1	6.2048	0.5972							0.9960		0.9900
PCB-1254 Peak 5	1.0899 0.8259	0.9728 0.8089	0.9346	0.8342	0.9058	Lin1	7.6716	0.8244							0.9980		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 14:11 Calibration End Date: 10/08/2016 16:21 Calibration ID: 27243

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-345281/14	10081614.D
Level 2	STDL22154 280-345281/13	10081613.D
Level 3	STDL32154 280-345281/12	10081612.D
Level 4	STDL42154 280-345281/11	10081611.D
Level 5	STDL52154 280-345281/10	10081610.D
Level 6	STDL62154 280-345281/9	10081609.D
Level 7	STDL72154 280-345281/8	10081608.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	1260306 22866436	2103559 31121751	4090911	9148083	18382021	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	881311 15528238	1494052 20621681	2711634	5941861	12446726	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	3146378 58518497	5296623 74356663	9946625	22352344	43728816	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	5473714 115671475	9545603 150885472	17604886	41322876	86033598	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	4220959 94874289	7183911 121869708	14644970	32373571	70080268	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	7139210 158866867	12348592 207922692	24468733	55050614	117566919	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	5249823 119826078	9457275 157404765	21134217	43717209	88845555	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	7544355 167011781	13361226 217779989	25726260	58617922	123339491	25.0 750	50.0 1000	100	250	500

Curve Type Legend:

Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081608.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 14:11:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0051591-008
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:35 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.849	0.002	269232670	1000.0	1000.0	
2	1.674	1.676	-0.002	258362097	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	31121751	1000.0	969.3	
1	3.154	3.155	-0.001	20621681	1000.0	961.0	
1	3.194	3.195	-0.001	74356663	1000.0	949.2	
		Average of Peak Amounts =				959.8	
2	3.054	3.052	0.002	32942936	1000.0	957.6	
2	3.181	3.182	-0.001	20938508	1000.0	953.9	
2	3.234	3.236	-0.002	73582489	1000.0	946.0	
		Average of Peak Amounts =				952.5	
						RPD = 0.77	
9 PCB-1254							
1	5.384	5.382	0.002	150885472	1000.0	970.4	
1	5.717	5.715	0.002	121869708	1000.0	964.7	
1	5.871	5.872	-0.001	207922692	1000.0	974.4	
1	6.231	6.229	0.002	157404765	1000.0	968.6	
1	6.847	6.849	-0.002	217779989	1000.0	971.8	
		Average of Peak Amounts =				970.0	
2	5.468	5.469	-0.001	140741741	1000.0	973.4	
2	5.888	5.886	0.002	105408523	1000.0	973.6	
2	6.034	6.032	0.002	192171388	1000.0	969.6	
2	6.338	6.336	0.002	142128238	1000.0	964.6	
2	7.048	7.046	0.002	198624137	1000.0	971.3	
		Average of Peak Amounts =				970.5	
						RPD = 0.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S 8 Polychlorinated biphenyls, Total							
1						1929.8	
2						1923.0	
						RPD = 0.35	

Reagents:

AR_2154_L7_00012	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

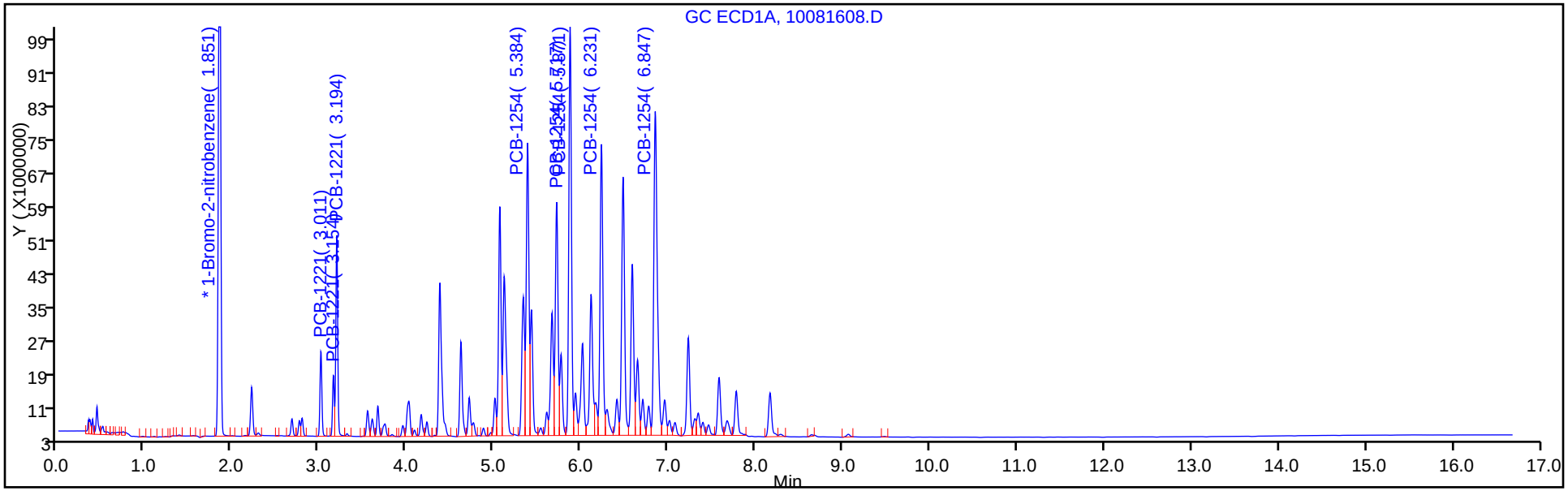
Report Date: 09-Oct-2016 09:27:35 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

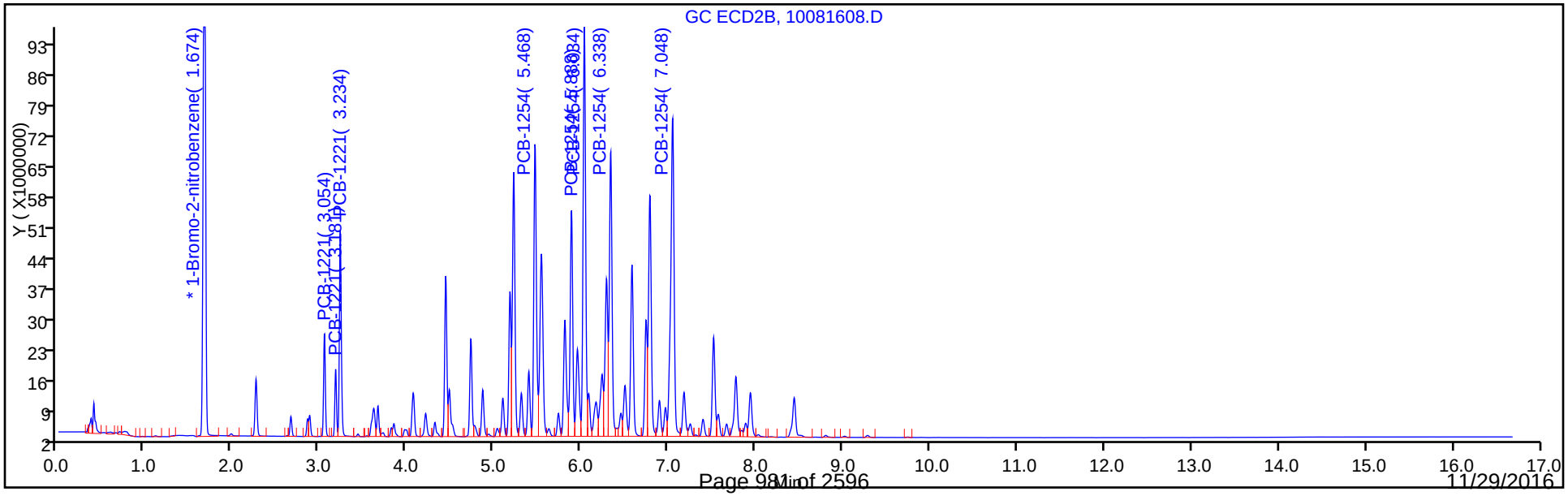
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081608.D

Injection Date:	08-Oct-2016 14:11:16	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL72154			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081609.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 14:32:58 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0051591-009
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:37 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	269638864	1000.0	1000.0	
2	1.676	1.676	0.000	258972991	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.012	3.012	0.000	22866436	750.0	706.6	
1	3.156	3.155	0.001	15528238	750.0	717.8	
1	3.192	3.195	-0.003	58518497	750.0	742.0	
		Average of Peak Amounts =				722.1	
2	3.053	3.052	0.001	25631969	750.0	740.3	
2	3.183	3.182	0.001	16303008	750.0	738.1	
2	3.233	3.236	-0.003	57816652	750.0	737.7	
		Average of Peak Amounts =				738.7	
						RPD = 2.27	
9 PCB-1254							
1	5.382	5.382	0.000	115671475	750.0	740.3	
1	5.716	5.715	0.001	94874289	750.0	748.0	
1	5.872	5.872	0.000	158866867	750.0	741.3	
1	6.229	6.229	0.000	119826078	750.0	733.7	
1	6.849	6.849	0.000	167011781	750.0	742.0	
		Average of Peak Amounts =				741.1	
2	5.469	5.469	0.000	107013897	750.0	735.7	
2	5.886	5.886	0.000	80569460	750.0	740.6	
2	6.032	6.032	0.000	147075721	750.0	737.2	
2	6.336	6.336	0.000	109033624	750.0	736.0	
2	7.046	7.046	0.000	151600315	750.0	737.2	
		Average of Peak Amounts =				737.3	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						1463.2	
2						1476.1	
						RPD = 0.87	

Reagents:

AR_2154_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

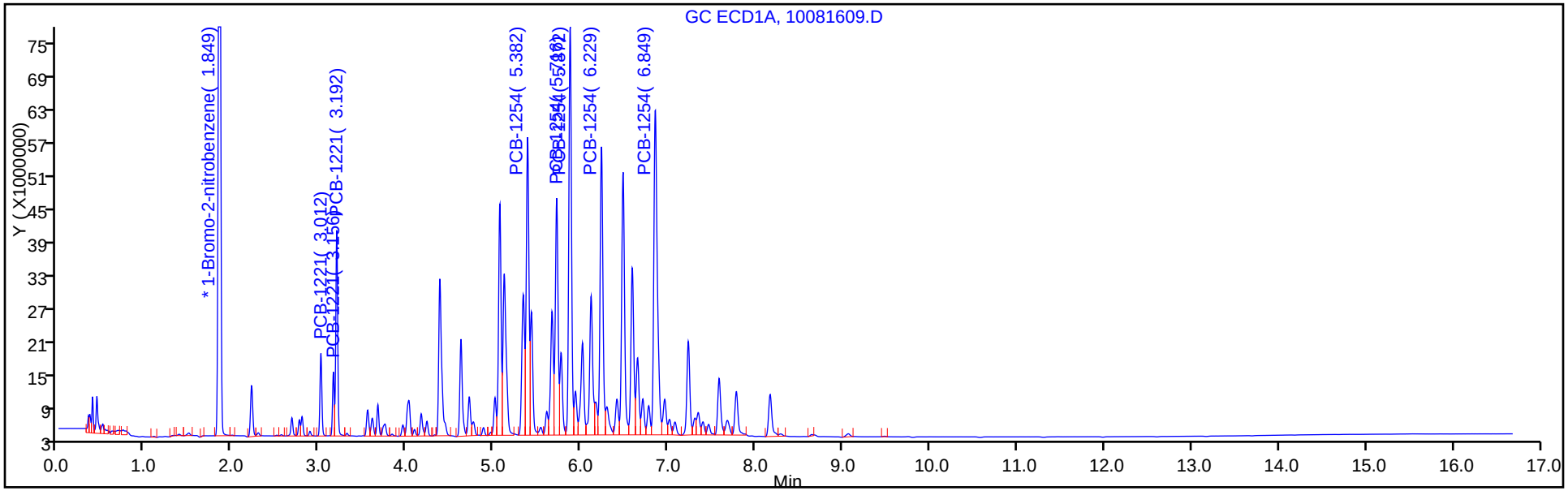
Report Date: 09-Oct-2016 09:27:37 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

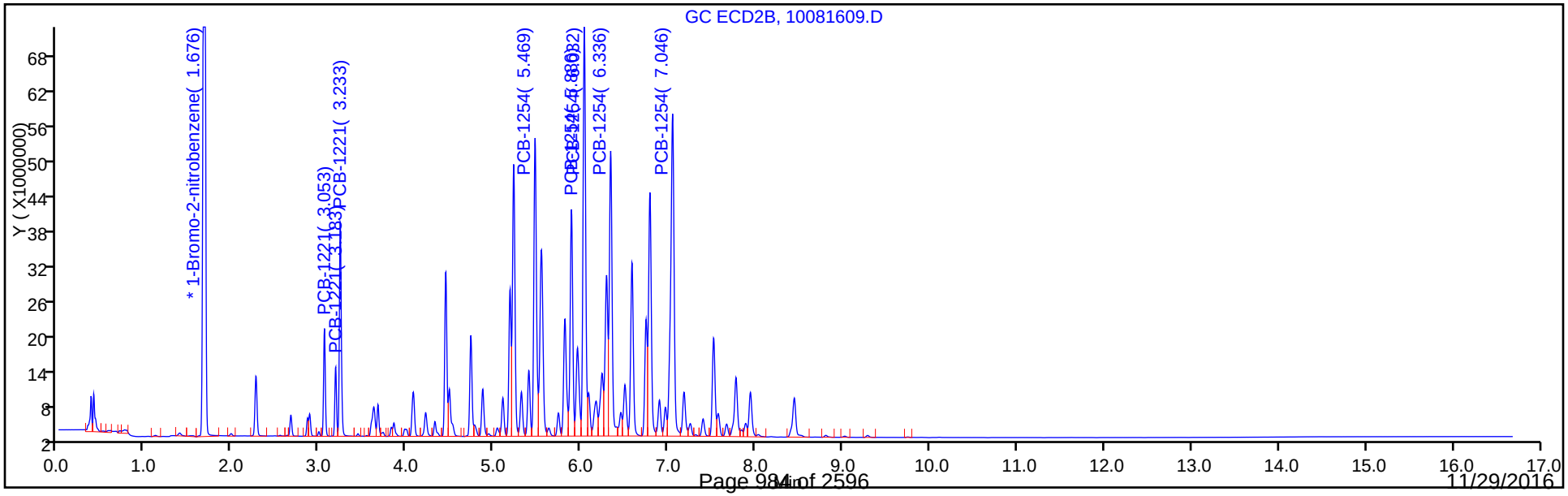
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081609.D

Injection Date:	08-Oct-2016 14:32:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL62154			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081610.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 14:54:37 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0051591-010
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	272320112	1000.0	1000.0	
2	1.676	1.676	0.000	259054874	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.012	3.012	0.000	18382021	500.0	558.9	
1	3.155	3.155	0.000	12446726	500.0	565.7	
1	3.195	3.195	0.000	43728816	500.0	544.3	
		Average of Peak Amounts =				556.3	
2	3.052	3.052	0.000	19045461	500.0	546.3	
2	3.182	3.182	0.000	12153048	500.0	546.8	
2	3.236	3.236	0.000	43622061	500.0	552.1	
		Average of Peak Amounts =				548.4	
						RPD = 1.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.382	5.382	0.000	86033598	500.0	542.4	
1	5.715	5.715	0.000	70080268	500.0	544.8	
1	5.872	5.872	0.000	117566919	500.0	540.9	
1	6.229	6.229	0.000	88845555	500.0	535.9	
1	6.849	6.849	0.000	123339491	500.0	540.1	
		Average of Peak Amounts =				540.8	
2	5.469	5.469	0.000	79004330	500.0	540.1	
2	5.886	5.886	0.000	58766371	500.0	538.0	
2	6.032	6.032	0.000	109336396	500.0	544.5	
2	6.336	6.336	0.000	81466458	500.0	547.3	
2	7.046	7.046	0.000	112253443	500.0	543.1	
		Average of Peak Amounts =				542.6	
						RPD = 0.33	

Reagents:

AR_2154_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

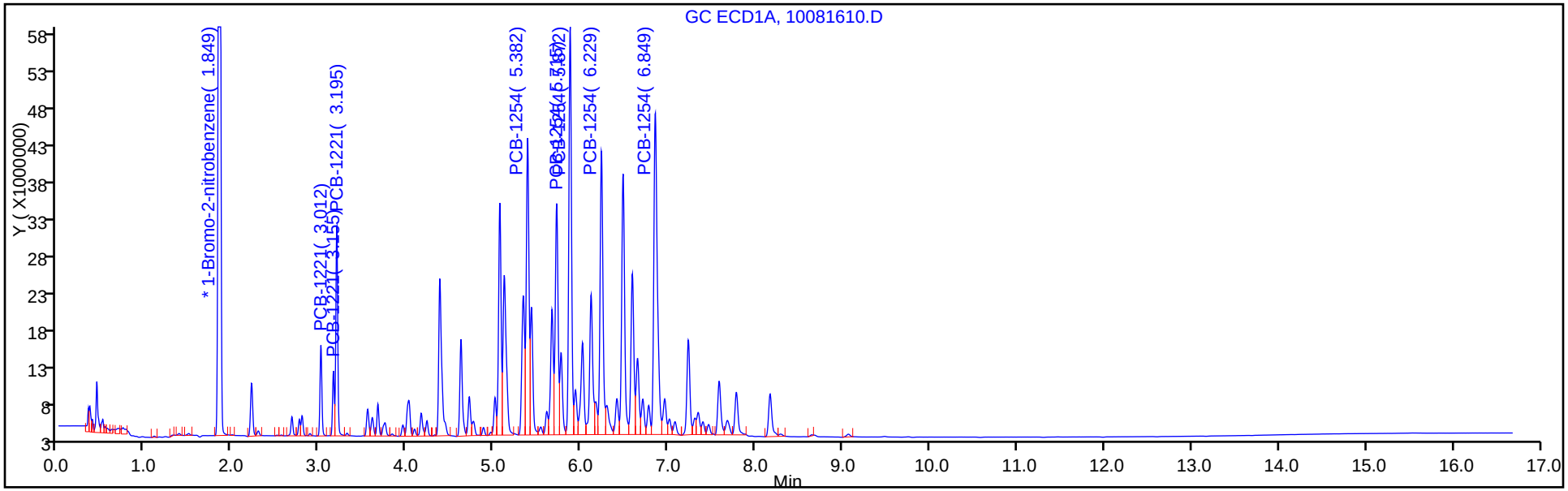
Report Date: 09-Oct-2016 09:27:39 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

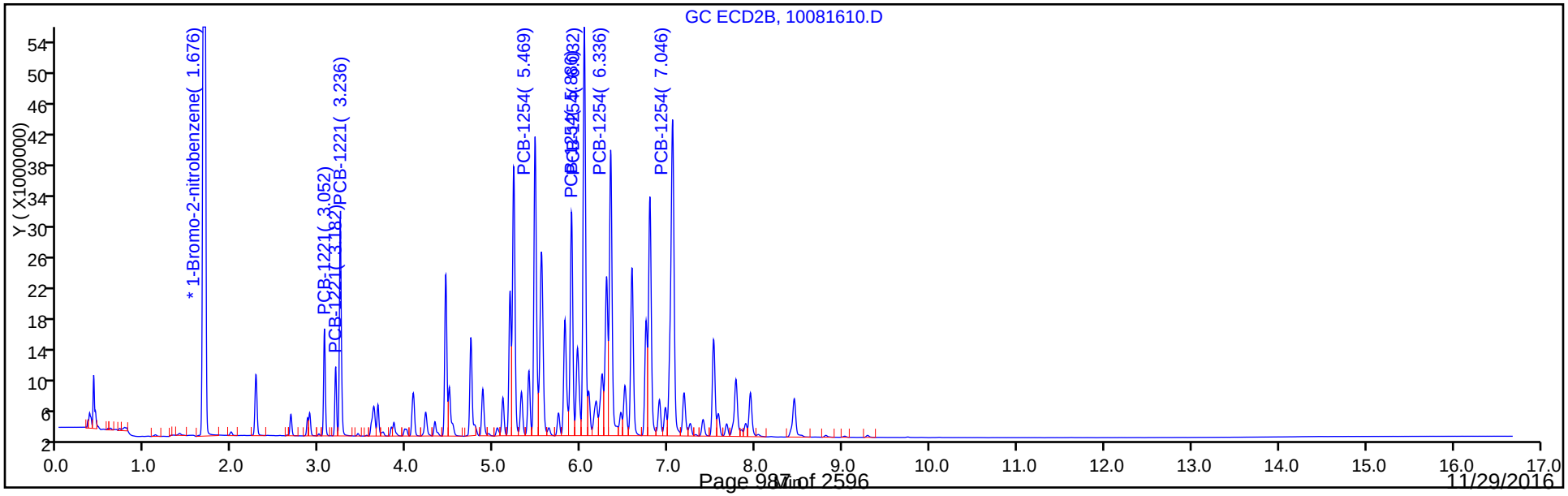
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081610.D

Injection Date:	08-Oct-2016 14:54:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL52154			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081611.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 15:16:17 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0051591-011
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:41 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	281085328	1000.0	1000.0	
2	1.676	1.676	0.000	269511166	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	9148083	250.0	260.6	
1	3.156	3.155	0.001	5941861	250.0	251.4	
1	3.193	3.195	-0.002	22352344	250.0	260.3	
		Average of Peak Amounts =				257.4	
2	3.053	3.052	0.001	9459303	250.0	253.6	
2	3.183	3.182	0.001	6102545	250.0	257.4	
2	3.233	3.236	-0.003	22172563	250.0	260.7	
		Average of Peak Amounts =				257.2	
						RPD = 0.08	
9 PCB-1254							
1	5.383	5.382	0.001	41322876	250.0	246.7	
1	5.716	5.715	0.001	32373571	250.0	239.2	
1	5.873	5.872	0.001	55050614	250.0	240.7	
1	6.233	6.229	0.004	43717209	250.0	250.0	
1	6.849	6.849	0.000	58617922	250.0	243.6	
		Average of Peak Amounts =				244.1	
2	5.469	5.469	0.000	38773462	250.0	249.0	
2	5.886	5.886	0.000	28597981	250.0	247.6	
2	6.033	6.032	0.001	53650433	250.0	249.9	
2	6.336	6.336	0.000	39806315	250.0	252.0	
2	7.046	7.046	0.000	54462736	250.0	247.9	
		Average of Peak Amounts =				249.3	
						RPD = 2.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S 8 Polychlorinated biphenyls, Total							
1						501.5	
2						506.5	
						RPD = 0.99	

Reagents:

AR_2154_L4_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

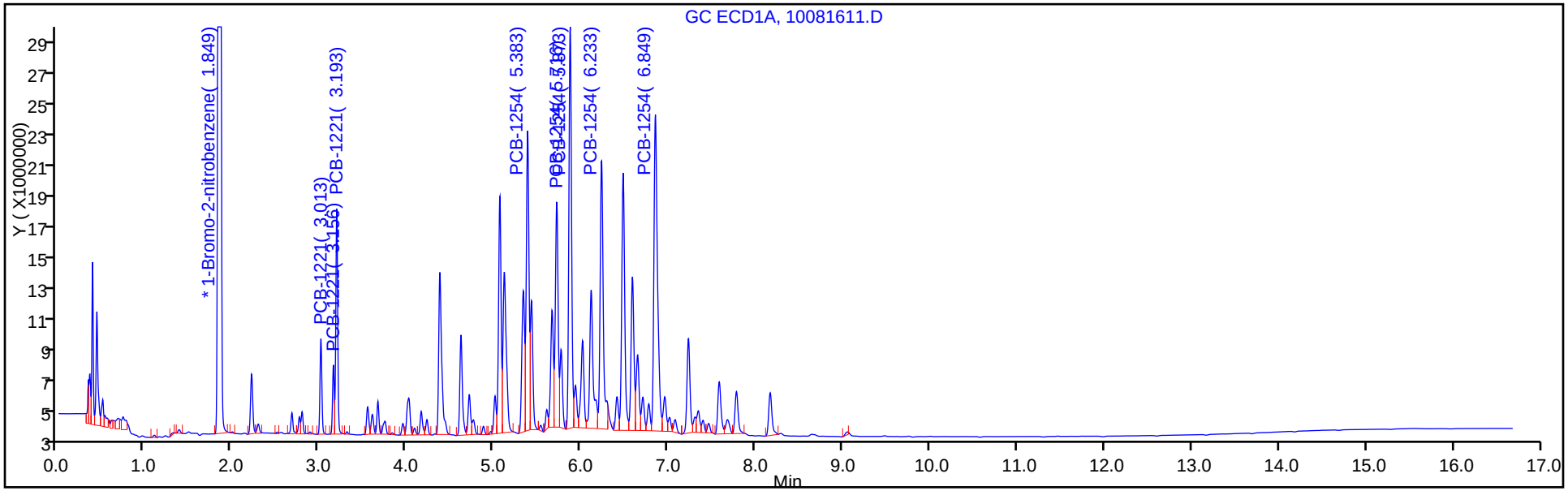
Report Date: 09-Oct-2016 09:27:41 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

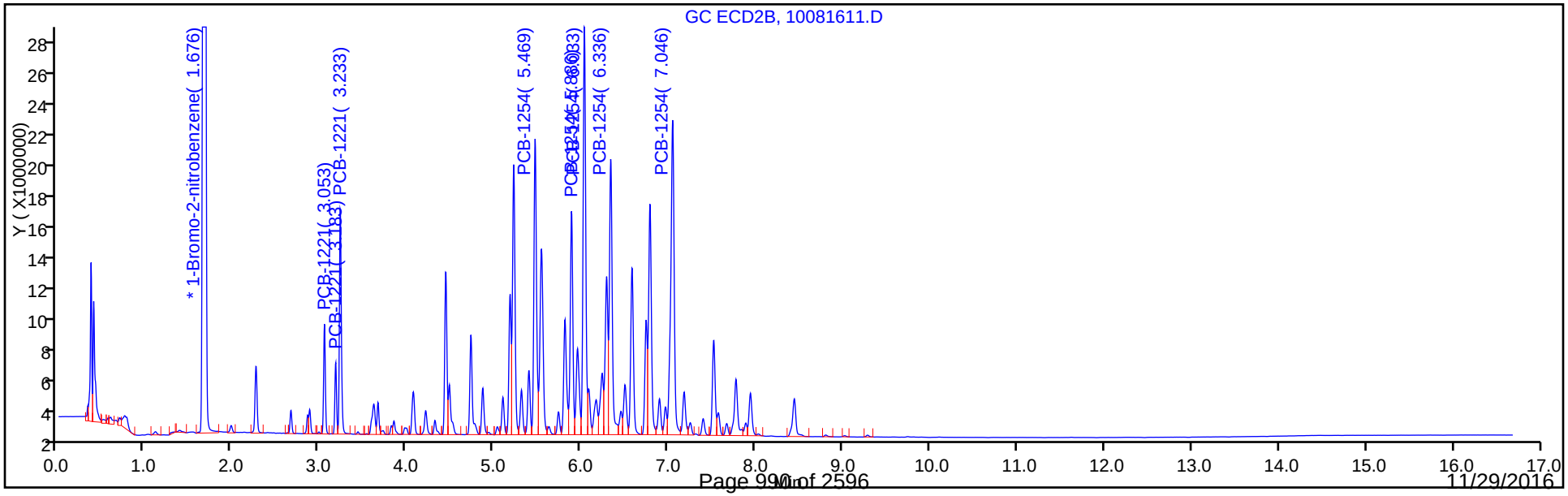
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081611.D

Injection Date:	08-Oct-2016 15:16:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL42154			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081612.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 15:37:57 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0051591-012
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:42 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.849	0.001	275270020	1000.0	1000.0	
2	1.673	1.676	-0.003	259575839	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	4090911	100.0	109.7	
1	3.156	3.155	0.001	2711634	100.0	107.0	
1	3.193	3.195	-0.002	9946625	100.0	108.3	
		Average of Peak Amounts =				108.3	
2	3.053	3.052	0.001	4053216	100.0	105.1	
2	3.180	3.182	-0.002	2605449	100.0	107.0	
2	3.233	3.236	-0.003	9629371	100.0	107.9	
		Average of Peak Amounts =				106.7	
						RPD = 1.51	
9 PCB-1254							
1	5.383	5.382	0.001	17604886	100.0	101.3	
1	5.716	5.715	0.001	14644970	100.0	106.0	
1	5.873	5.872	0.001	24468733	100.0	104.6	
1	6.230	6.229	0.001	21134217	100.0	118.2	
1	6.850	6.849	0.001	25726260	100.0	104.1	
		Average of Peak Amounts =				106.8	
2	5.470	5.469	0.001	16444205	100.0	103.5	
2	5.887	5.886	0.001	12028833	100.0	103.8	
2	6.033	6.032	0.001	22406798	100.0	101.0	
2	6.337	6.336	0.001	16593665	100.0	103.7	
2	7.047	7.046	0.001	22845753	100.0	102.3	
		Average of Peak Amounts =				102.8	
						RPD = 3.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						215.1	
2						209.5	
						RPD = 2.64	

Reagents:

AR_2154_L3_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

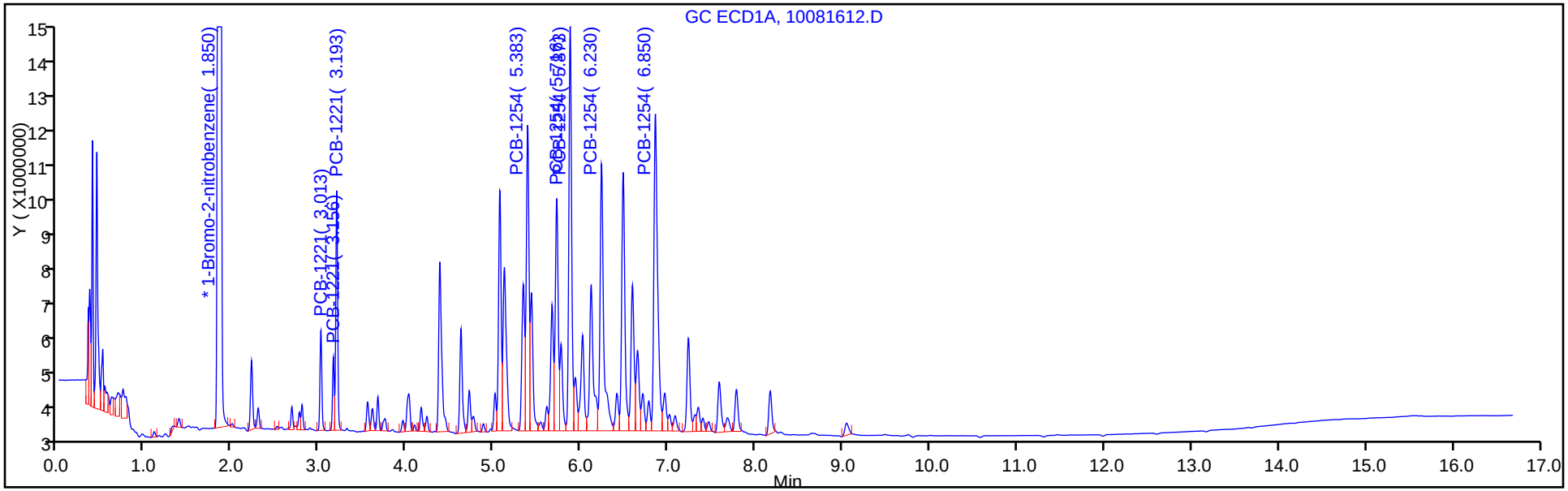
Report Date: 09-Oct-2016 09:27:43 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

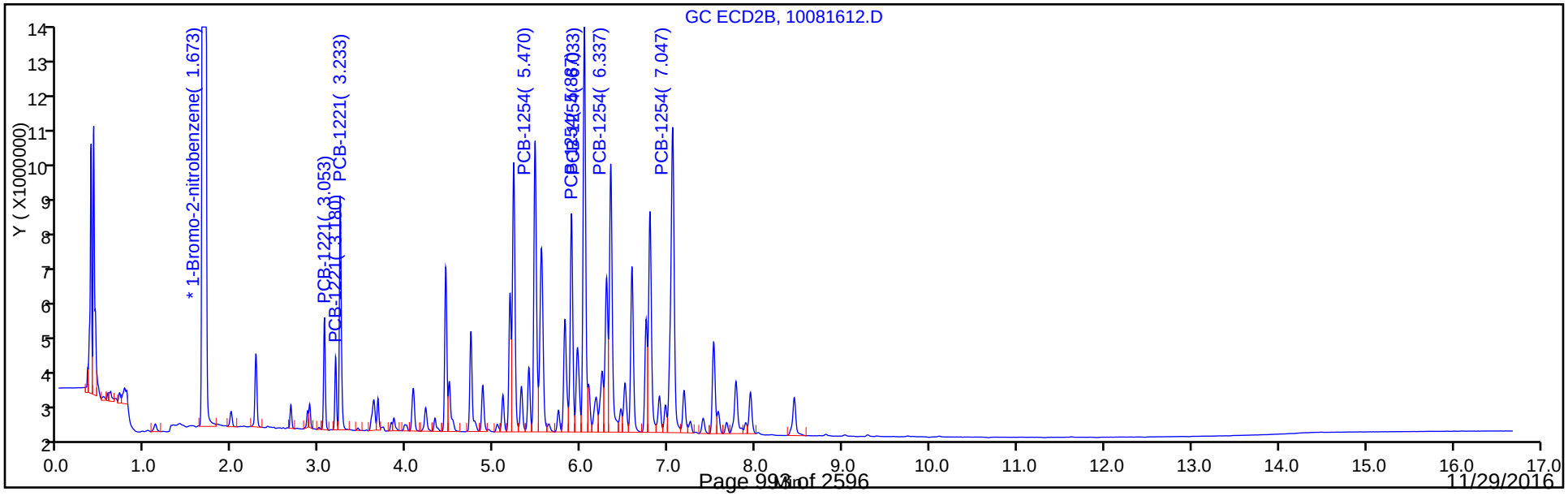
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081612.D

Injection Date:	08-Oct-2016 15:37:57	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL32154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081613.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 15:59:37 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0051591-013
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:44 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	274682261	1000.0	1000.0	
2	1.675	1.676	-0.001	259356788	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	2103559	50.0	48.2	
1	3.154	3.155	-0.001	1494052	50.0	50.5	
1	3.194	3.195	-0.001	5296623	50.0	49.3	
		Average of Peak Amounts =				49.3	
2	3.051	3.052	-0.001	2147920	50.0	49.3	
2	3.181	3.182	-0.001	1363390	50.0	50.0	
2	3.235	3.236	-0.001	5101274	50.0	48.9	
		Average of Peak Amounts =				49.4	
						RPD = 0.16	
9 PCB-1254							
1	5.384	5.382	0.002	9545603	50.0	50.1	
1	5.718	5.715	0.003	7183911	50.0	47.8	
1	5.871	5.872	-0.001	12348592	50.0	48.7	
1	6.231	6.229	0.002	9457275	50.0	47.3	
1	6.848	6.849	-0.001	13361226	50.0	49.7	
		Average of Peak Amounts =				48.7	
2	5.468	5.469	-0.001	8731074	50.0	49.8	
2	5.885	5.886	-0.001	5805015	50.0	46.2	
2	6.035	6.032	0.003	12044355	50.0	48.3	
2	6.338	6.336	0.002	8299413	50.0	47.2	
2	7.048	7.046	0.002	12050675	50.0	49.2	
		Average of Peak Amounts =				48.1	
						RPD = 1.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						98.1	
2						97.5	
						RPD = 0.52	

Reagents:

AR_2154_L2_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

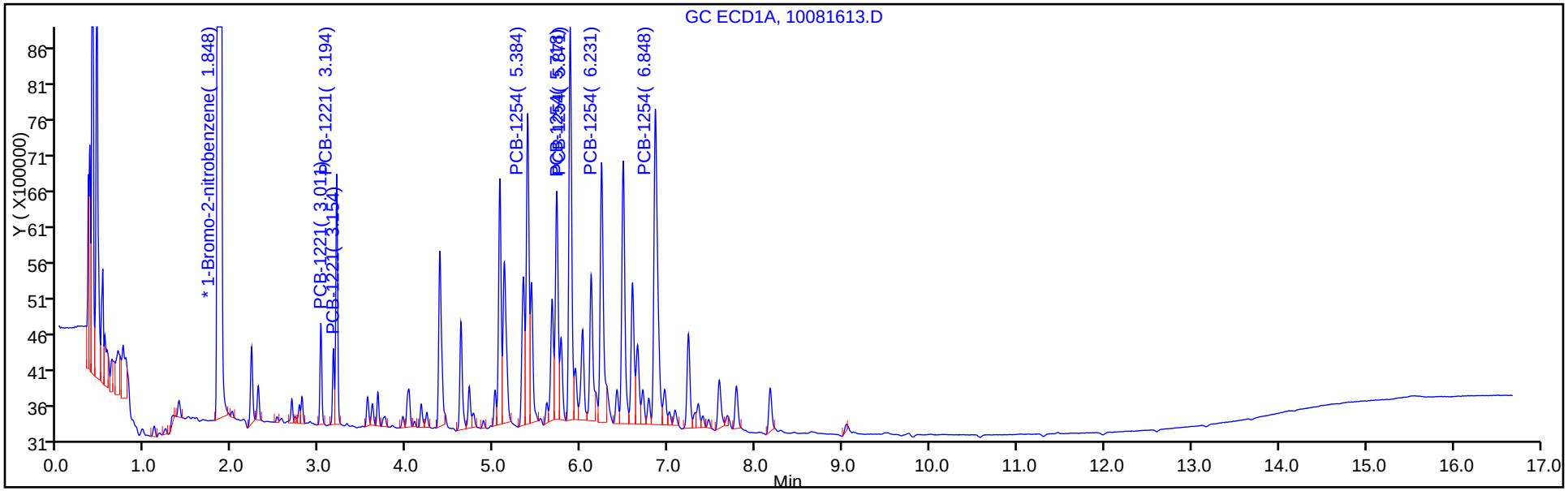
Report Date: 09-Oct-2016 09:27:44 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

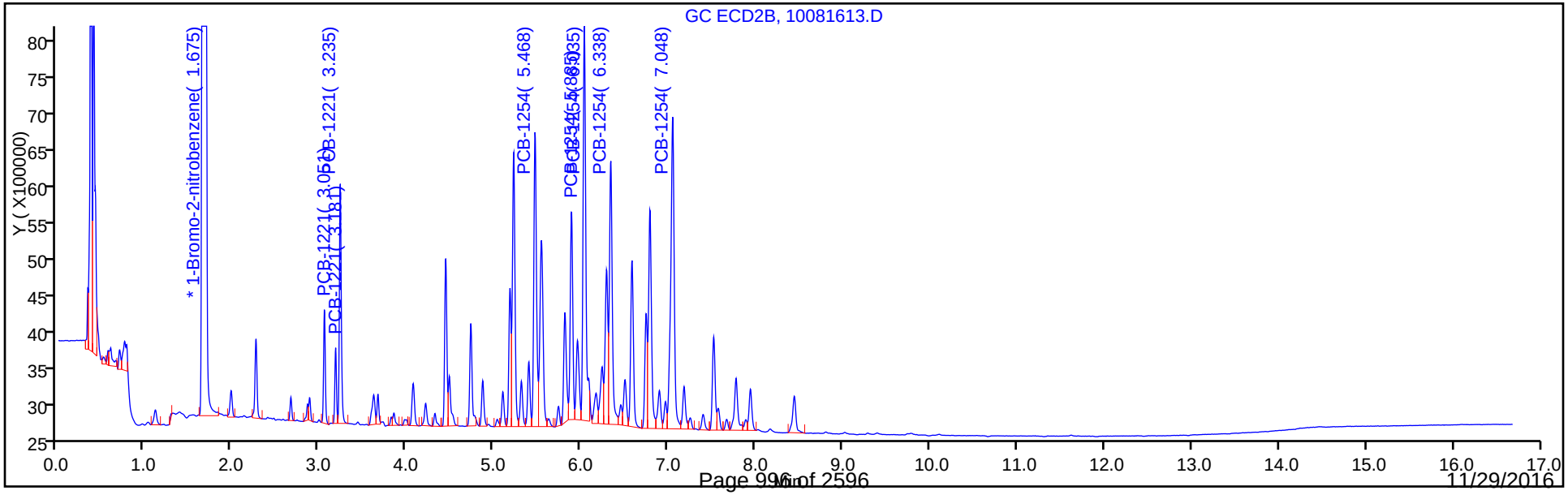
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081613.D

Injection Date:	08-Oct-2016 15:59:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL22154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081614.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 16:21:17 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0051591-014
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:46 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	276889714	1000.0	1000.0	
2	1.675	1.676	-0.001	262009479	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	1260306	25.0	21.7	
1	3.155	3.155	0.000	881311	25.0	21.6	
1	3.195	3.195	0.000	3146378	25.0	21.6	
		Average of Peak Amounts =				21.6	
2	3.051	3.052	-0.001	1259018	25.0	22.8	
2	3.181	3.182	-0.001	754627	25.0	21.7	
2	3.235	3.236	-0.001	3040349	25.0	21.6	
		Average of Peak Amounts =				22.0	
						RPD = 1.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.385	5.382	0.003	5473714	25.0	23.9	
1	5.718	5.715	0.003	4220959	25.0	24.4	
1	5.871	5.872	-0.001	7139210	25.0	24.3	
1	6.231	6.229	0.002	5249823	25.0	21.4	
1	6.851	6.849	0.002	7544355	25.0	23.7	
		Average of Peak Amounts =				23.5	
2	5.471	5.469	0.002	4998278	25.0	23.5	
2	5.888	5.886	0.002	3589092	25.0	25.3	
2	6.035	6.032	0.003	7468217	25.0	24.6	
2	6.338	6.336	0.002	5000680	25.0	24.3	
2	7.045	7.046	-0.001	6997974	25.0	24.0	
		Average of Peak Amounts =				24.3	
						RPD = 3.31	
S 8 Polychlorinated biphenyls, Total							
1						45.2	
2						46.4	
						RPD = 2.63	

Reagents:

AR_2154_L1_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

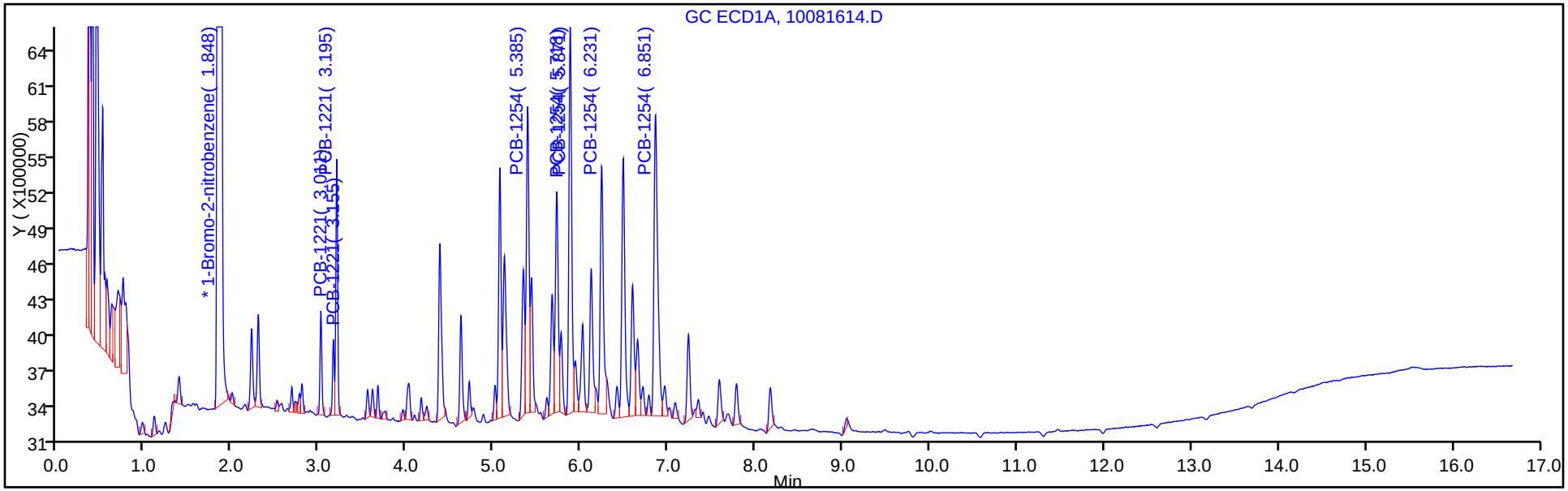
Report Date: 09-Oct-2016 09:27:46 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

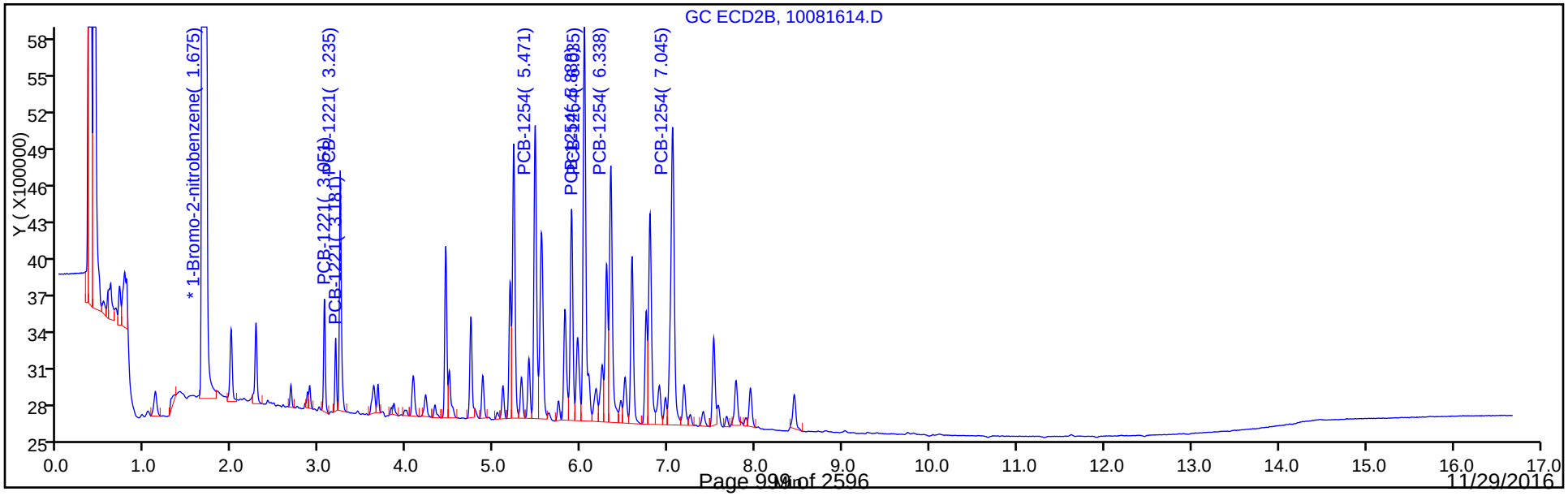
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081614.D

Injection Date:	08-Oct-2016 16:21:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL12154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 14:11 Calibration End Date: 10/08/2016 16:21 Calibration ID: 27244

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-345281/14	10081614.D
Level 2	STDL22154 280-345281/13	10081613.D
Level 3	STDL32154 280-345281/12	10081612.D
Level 4	STDL42154 280-345281/11	10081611.D
Level 5	STDL52154 280-345281/10	10081610.D
Level 6	STDL62154 280-345281/9	10081609.D
Level 7	STDL72154 280-345281/8	10081608.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 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.1922 0.1320	0.1656 0.1275	0.1561	0.1404	0.1470	Lin1	1.8144	0.1313							0.9970		0.9900
PCB-1221 Peak 2	0.1152 0.0839	0.1051 0.0810	0.1004	0.0906	0.0938	Lin1	1.0615	0.0838							0.9960		0.9900
PCB-1221 Peak 3	0.4642 0.2977	0.3934 0.2848	0.3710	0.3291	0.3368	Lin1	5.2070	0.2956							0.9950		0.9900
PCB-1254 Peak 1	0.7631 0.5510	0.6733 0.5447	0.6335	0.5755	0.6099	Lin1	6.0954	0.5534							0.9980		0.9900
PCB-1254 Peak 2	0.5479 0.4148	0.4476 0.4080	0.4634	0.4244	0.4537	Lin1	3.1858	0.4158							0.9980		0.9900
PCB-1254 Peak 3	1.1401 0.7572	0.9288 0.7438	0.8632	0.7963	0.8441	Lin1	9.8912	0.7570							0.9970		0.9900
PCB-1254 Peak 4	0.7634 0.5614	0.6400 0.5501	0.6393	0.5908	0.6290	Lin1	5.3692	0.5648							0.9970		0.9900
PCB-1254 Peak 5	1.0684 0.7805	0.9293 0.7688	0.8801	0.8083	0.8666	Lin1	7.8956	0.7834							0.9980		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 14:11 Calibration End Date: 10/08/2016 16:21 Calibration ID: 27244

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-345281/14	10081614.D
Level 2	STDL22154 280-345281/13	10081613.D
Level 3	STDL32154 280-345281/12	10081612.D
Level 4	STDL42154 280-345281/11	10081611.D
Level 5	STDL52154 280-345281/10	10081610.D
Level 6	STDL62154 280-345281/9	10081609.D
Level 7	STDL72154 280-345281/8	10081608.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	1259018 25631969	2147920 32942936	4053216	9459303	19045461	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	754627 16303008	1363390 20938508	2605449	6102545	12153048	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	3040349 57816652	5101274 73582489	9629371	22172563	43622061	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	4998278 107013897	8731074 140741741	16444205	38773462	79004330	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	3589092 80569460	5805015 105408523	12028833	28597981	58766371	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	7468217 147075721	12044355 192171388	22406798	53650433	109336396	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	5000680 109033624	8299413 142128238	16593665	39806315	81466458	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	6997974 151600315	12050675 198624137	22845753	54462736	112253443	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081608.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 14:11:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0051591-008
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:35 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.849	0.002	269232670	1000.0	1000.0	
2	1.674	1.676	-0.002	258362097	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	31121751	1000.0	969.3	
1	3.154	3.155	-0.001	20621681	1000.0	961.0	
1	3.194	3.195	-0.001	74356663	1000.0	949.2	
		Average of Peak Amounts =				959.8	
2	3.054	3.052	0.002	32942936	1000.0	957.6	
2	3.181	3.182	-0.001	20938508	1000.0	953.9	
2	3.234	3.236	-0.002	73582489	1000.0	946.0	
		Average of Peak Amounts =				952.5	
						RPD = 0.77	
9 PCB-1254							
1	5.384	5.382	0.002	150885472	1000.0	970.4	
1	5.717	5.715	0.002	121869708	1000.0	964.7	
1	5.871	5.872	-0.001	207922692	1000.0	974.4	
1	6.231	6.229	0.002	157404765	1000.0	968.6	
1	6.847	6.849	-0.002	217779989	1000.0	971.8	
		Average of Peak Amounts =				970.0	
2	5.468	5.469	-0.001	140741741	1000.0	973.4	
2	5.888	5.886	0.002	105408523	1000.0	973.6	
2	6.034	6.032	0.002	192171388	1000.0	969.6	
2	6.338	6.336	0.002	142128238	1000.0	964.6	
2	7.048	7.046	0.002	198624137	1000.0	971.3	
		Average of Peak Amounts =				970.5	
						RPD = 0.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S 8 Polychlorinated biphenyls, Total							
1						1929.8	
2						1923.0	
						RPD = 0.35	

Reagents:

AR_2154_L7_00012	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

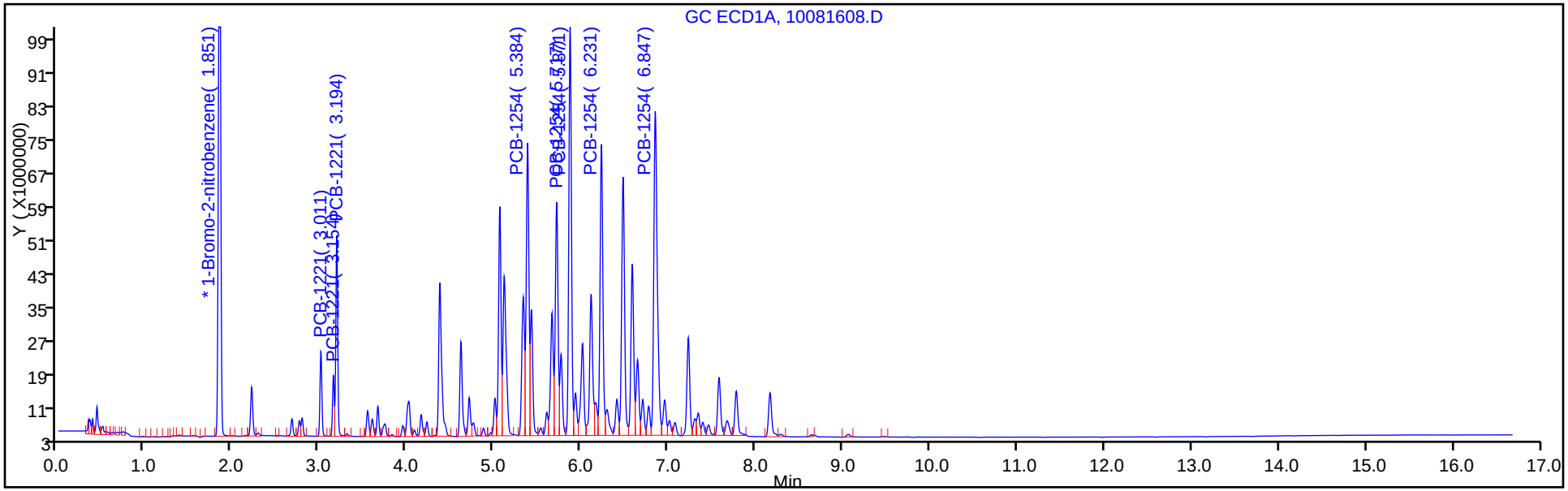
Report Date: 09-Oct-2016 09:27:36 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

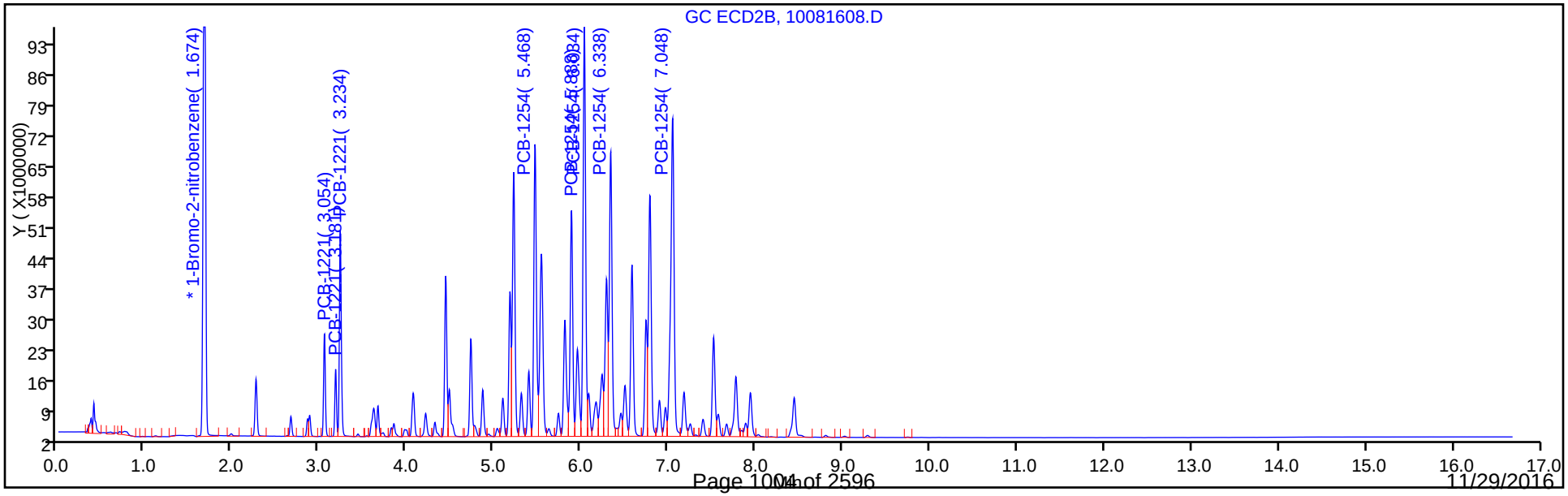
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081608.D

Injection Date:	08-Oct-2016 14:11:16	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL72154			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081609.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 14:32:58 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0051591-009
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:37 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	269638864	1000.0	1000.0	
2	1.676	1.676	0.000	258972991	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.012	3.012	0.000	22866436	750.0	706.6	
1	3.156	3.155	0.001	15528238	750.0	717.8	
1	3.192	3.195	-0.003	58518497	750.0	742.0	
		Average of Peak Amounts =				722.1	
2	3.053	3.052	0.001	25631969	750.0	740.3	
2	3.183	3.182	0.001	16303008	750.0	738.1	
2	3.233	3.236	-0.003	57816652	750.0	737.7	
		Average of Peak Amounts =				738.7	
						RPD = 2.27	
9 PCB-1254							
1	5.382	5.382	0.000	115671475	750.0	740.3	
1	5.716	5.715	0.001	94874289	750.0	748.0	
1	5.872	5.872	0.000	158866867	750.0	741.3	
1	6.229	6.229	0.000	119826078	750.0	733.7	
1	6.849	6.849	0.000	167011781	750.0	742.0	
		Average of Peak Amounts =				741.1	
2	5.469	5.469	0.000	107013897	750.0	735.7	
2	5.886	5.886	0.000	80569460	750.0	740.6	
2	6.032	6.032	0.000	147075721	750.0	737.2	
2	6.336	6.336	0.000	109033624	750.0	736.0	
2	7.046	7.046	0.000	151600315	750.0	737.2	
		Average of Peak Amounts =				737.3	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						1463.2	
2						1476.1	
						RPD = 0.87	

Reagents:

AR_2154_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

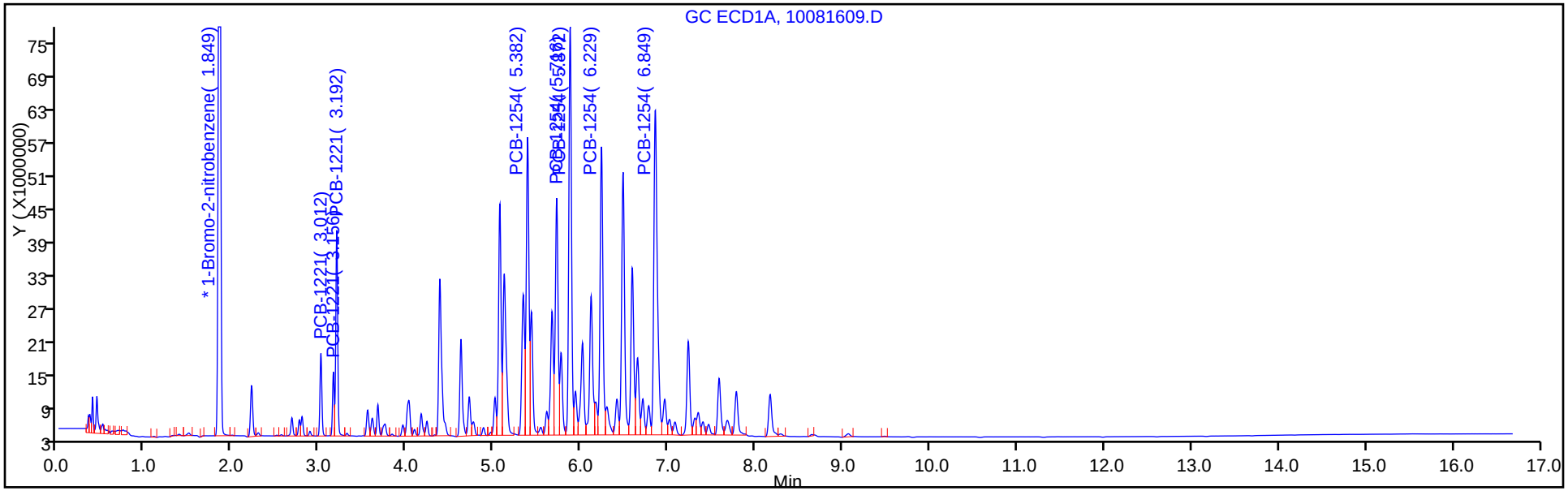
Report Date: 09-Oct-2016 09:27:38 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

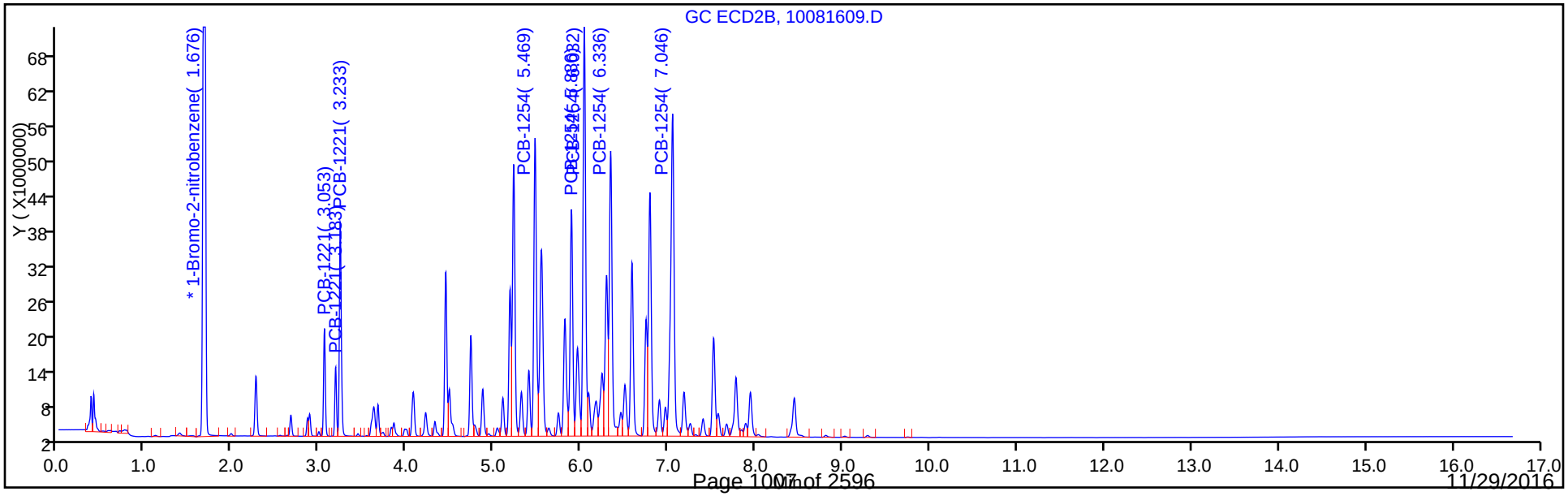
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081609.D

Injection Date:	08-Oct-2016 14:32:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL62154			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081610.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 14:54:37 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0051591-010
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	272320112	1000.0	1000.0	
2	1.676	1.676	0.000	259054874	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.012	3.012	0.000	18382021	500.0	558.9	
1	3.155	3.155	0.000	12446726	500.0	565.7	
1	3.195	3.195	0.000	43728816	500.0	544.3	
		Average of Peak Amounts =				556.3	
2	3.052	3.052	0.000	19045461	500.0	546.3	
2	3.182	3.182	0.000	12153048	500.0	546.8	
2	3.236	3.236	0.000	43622061	500.0	552.1	
		Average of Peak Amounts =				548.4	
						RPD = 1.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.382	5.382	0.000	86033598	500.0	542.4	
1	5.715	5.715	0.000	70080268	500.0	544.8	
1	5.872	5.872	0.000	117566919	500.0	540.9	
1	6.229	6.229	0.000	88845555	500.0	535.9	
1	6.849	6.849	0.000	123339491	500.0	540.1	
		Average of Peak Amounts =				540.8	
2	5.469	5.469	0.000	79004330	500.0	540.1	
2	5.886	5.886	0.000	58766371	500.0	538.0	
2	6.032	6.032	0.000	109336396	500.0	544.5	
2	6.336	6.336	0.000	81466458	500.0	547.3	
2	7.046	7.046	0.000	112253443	500.0	543.1	
		Average of Peak Amounts =				542.6	
						RPD = 0.33	

Reagents:

AR_2154_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

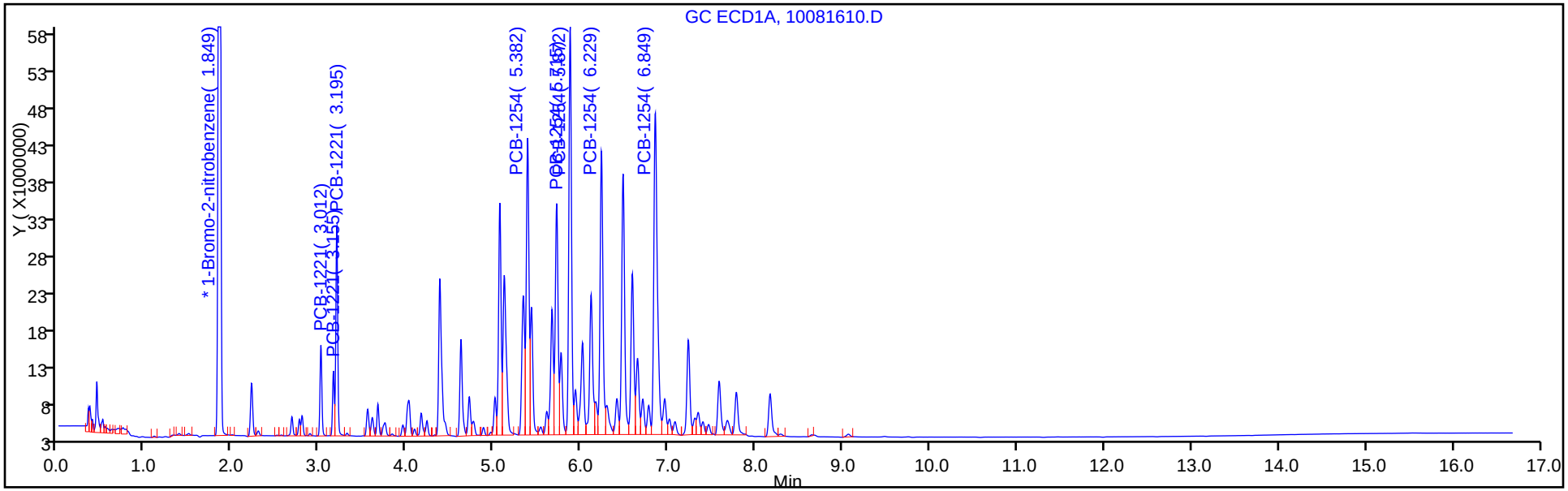
Report Date: 09-Oct-2016 09:27:39 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

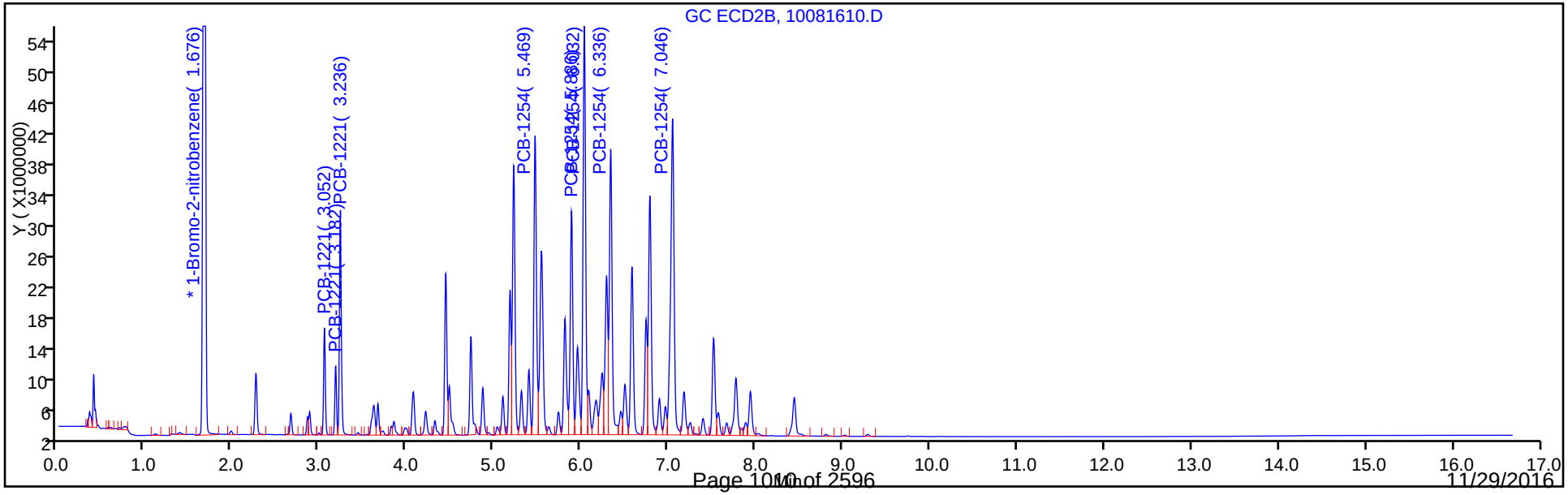
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081610.D

Injection Date:	08-Oct-2016 14:54:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL52154			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081611.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 15:16:17 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0051591-011
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:41 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	281085328	1000.0	1000.0	
2	1.676	1.676	0.000	269511166	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	9148083	250.0	260.6	
1	3.156	3.155	0.001	5941861	250.0	251.4	
1	3.193	3.195	-0.002	22352344	250.0	260.3	
		Average of Peak Amounts =				257.4	
2	3.053	3.052	0.001	9459303	250.0	253.6	
2	3.183	3.182	0.001	6102545	250.0	257.4	
2	3.233	3.236	-0.003	22172563	250.0	260.7	
		Average of Peak Amounts =				257.2	
						RPD = 0.08	
9 PCB-1254							
1	5.383	5.382	0.001	41322876	250.0	246.7	
1	5.716	5.715	0.001	32373571	250.0	239.2	
1	5.873	5.872	0.001	55050614	250.0	240.7	
1	6.233	6.229	0.004	43717209	250.0	250.0	
1	6.849	6.849	0.000	58617922	250.0	243.6	
		Average of Peak Amounts =				244.1	
2	5.469	5.469	0.000	38773462	250.0	249.0	
2	5.886	5.886	0.000	28597981	250.0	247.6	
2	6.033	6.032	0.001	53650433	250.0	249.9	
2	6.336	6.336	0.000	39806315	250.0	252.0	
2	7.046	7.046	0.000	54462736	250.0	247.9	
		Average of Peak Amounts =				249.3	
						RPD = 2.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S 8 Polychlorinated biphenyls, Total							
1						501.5	
2						506.5	
						RPD = 0.99	

Reagents:

AR_2154_L4_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

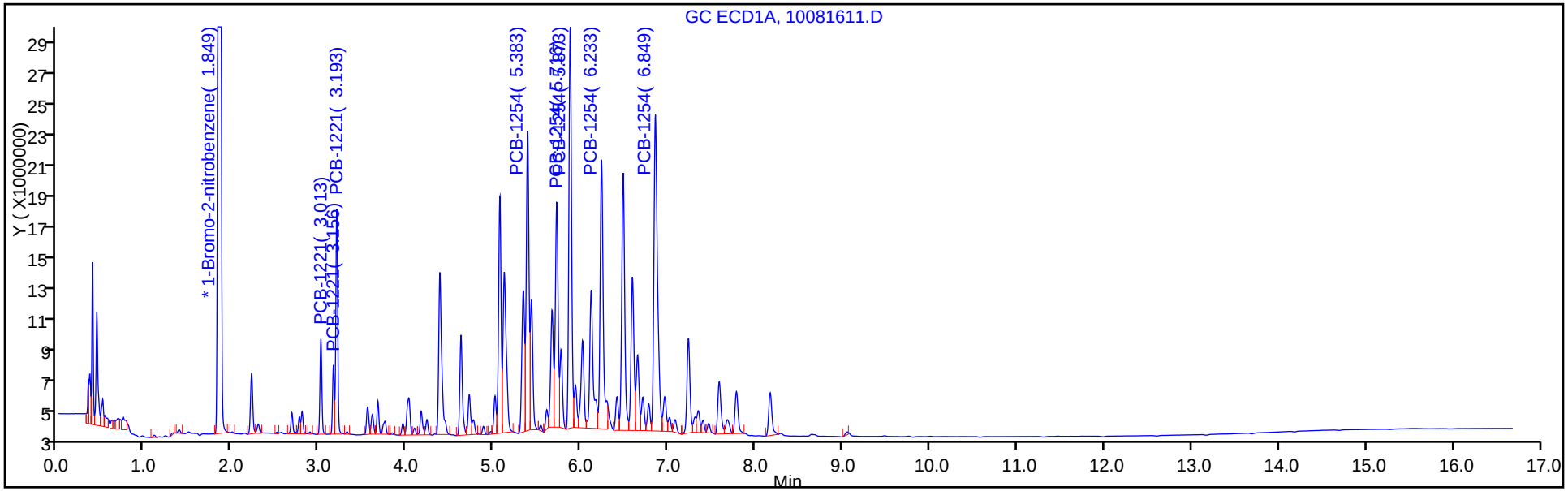
Report Date: 09-Oct-2016 09:27:41 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

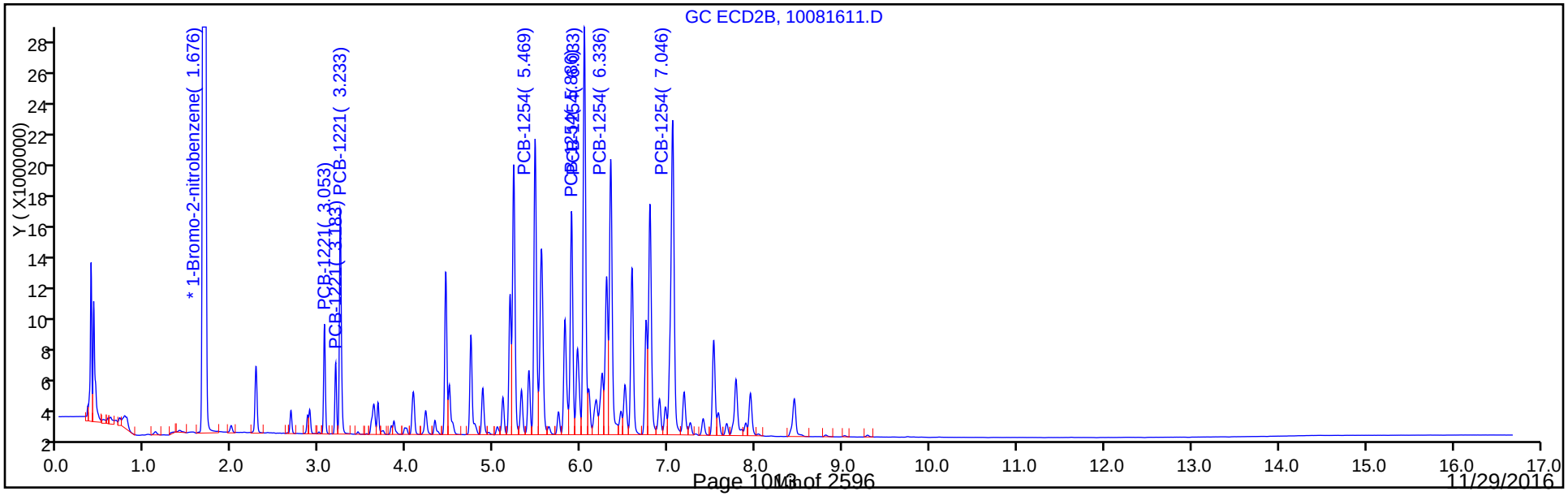
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081611.D

Injection Date:	08-Oct-2016 15:16:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL42154			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081612.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 15:37:57 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0051591-012
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:42 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.849	0.001	275270020	1000.0	1000.0	
2	1.673	1.676	-0.003	259575839	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	4090911	100.0	109.7	
1	3.156	3.155	0.001	2711634	100.0	107.0	
1	3.193	3.195	-0.002	9946625	100.0	108.3	
		Average of Peak Amounts =				108.3	
2	3.053	3.052	0.001	4053216	100.0	105.1	
2	3.180	3.182	-0.002	2605449	100.0	107.0	
2	3.233	3.236	-0.003	9629371	100.0	107.9	
		Average of Peak Amounts =				106.7	
						RPD = 1.51	
9 PCB-1254							
1	5.383	5.382	0.001	17604886	100.0	101.3	
1	5.716	5.715	0.001	14644970	100.0	106.0	
1	5.873	5.872	0.001	24468733	100.0	104.6	
1	6.230	6.229	0.001	21134217	100.0	118.2	
1	6.850	6.849	0.001	25726260	100.0	104.1	
		Average of Peak Amounts =				106.8	
2	5.470	5.469	0.001	16444205	100.0	103.5	
2	5.887	5.886	0.001	12028833	100.0	103.8	
2	6.033	6.032	0.001	22406798	100.0	101.0	
2	6.337	6.336	0.001	16593665	100.0	103.7	
2	7.047	7.046	0.001	22845753	100.0	102.3	
		Average of Peak Amounts =				102.8	
						RPD = 3.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						215.1	
2						209.5	
						RPD = 2.64	

Reagents:

AR_2154_L3_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

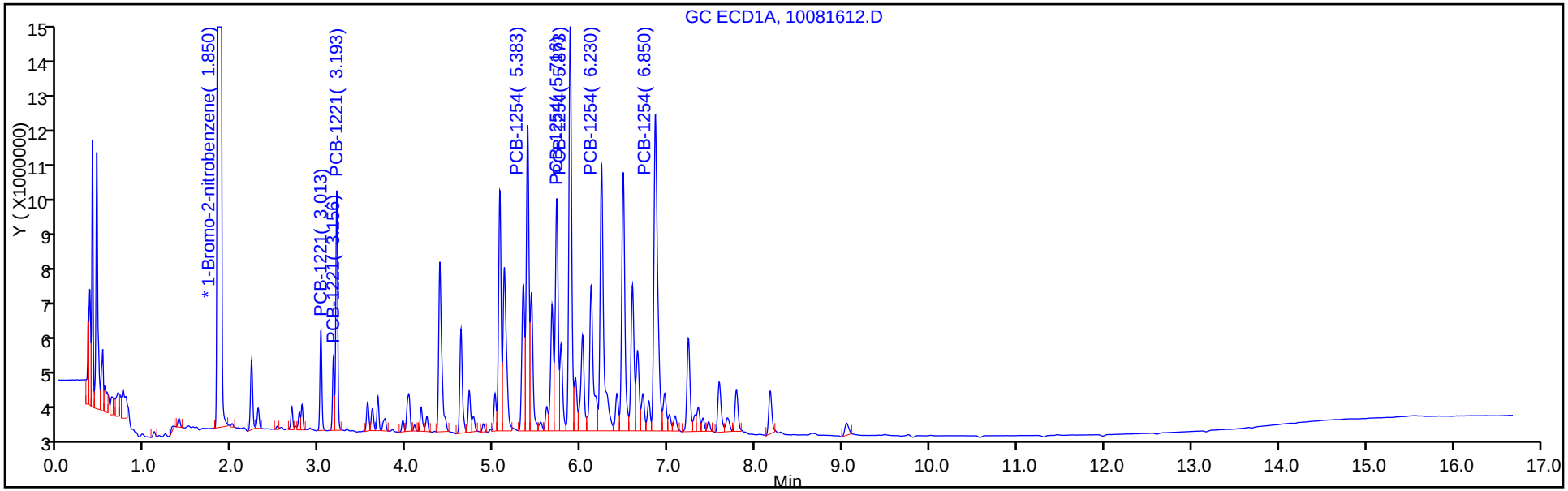
Report Date: 09-Oct-2016 09:27:43 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

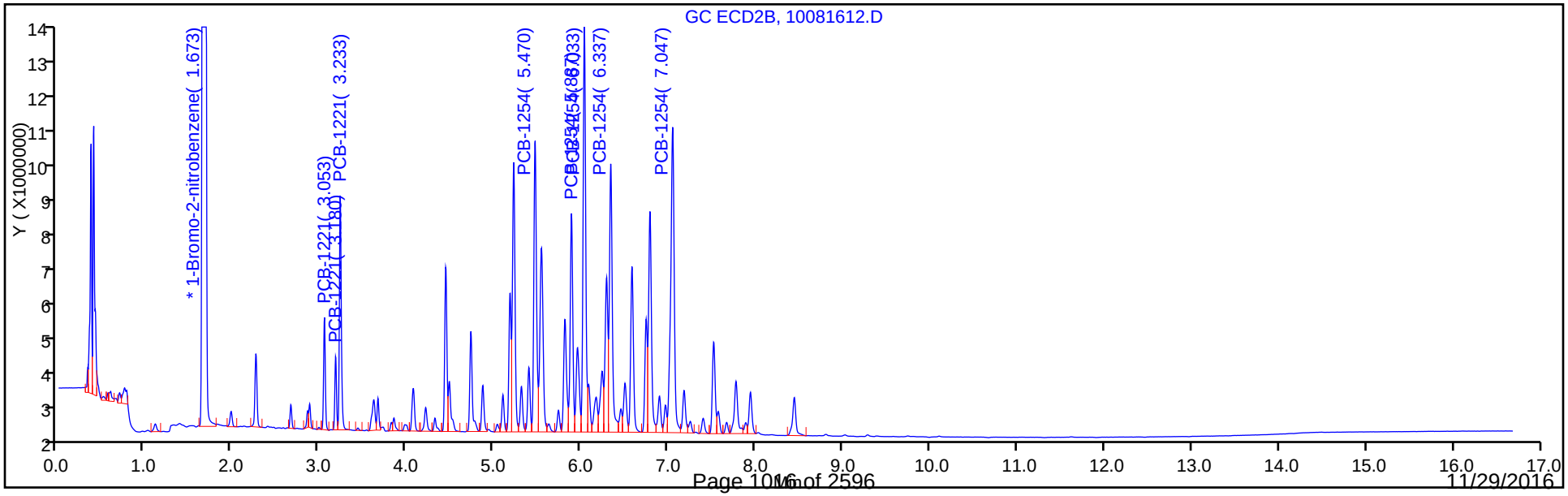
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081612.D

Injection Date:	08-Oct-2016 15:37:57	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL32154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081613.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 15:59:37 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0051591-013
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:44 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	274682261	1000.0	1000.0	
2	1.675	1.676	-0.001	259356788	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	2103559	50.0	48.2	
1	3.154	3.155	-0.001	1494052	50.0	50.5	
1	3.194	3.195	-0.001	5296623	50.0	49.3	
		Average of Peak Amounts =				49.3	
2	3.051	3.052	-0.001	2147920	50.0	49.3	
2	3.181	3.182	-0.001	1363390	50.0	50.0	
2	3.235	3.236	-0.001	5101274	50.0	48.9	
		Average of Peak Amounts =				49.4	
						RPD = 0.16	
9 PCB-1254							
1	5.384	5.382	0.002	9545603	50.0	50.1	
1	5.718	5.715	0.003	7183911	50.0	47.8	
1	5.871	5.872	-0.001	12348592	50.0	48.7	
1	6.231	6.229	0.002	9457275	50.0	47.3	
1	6.848	6.849	-0.001	13361226	50.0	49.7	
		Average of Peak Amounts =				48.7	
2	5.468	5.469	-0.001	8731074	50.0	49.8	
2	5.885	5.886	-0.001	5805015	50.0	46.2	
2	6.035	6.032	0.003	12044355	50.0	48.3	
2	6.338	6.336	0.002	8299413	50.0	47.2	
2	7.048	7.046	0.002	12050675	50.0	49.2	
		Average of Peak Amounts =				48.1	
						RPD = 1.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
S	8 Polychlorinated biphenyls, Total						
1						98.1	
2						97.5	
						RPD = 0.52	

Reagents:

AR_2154_L2_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

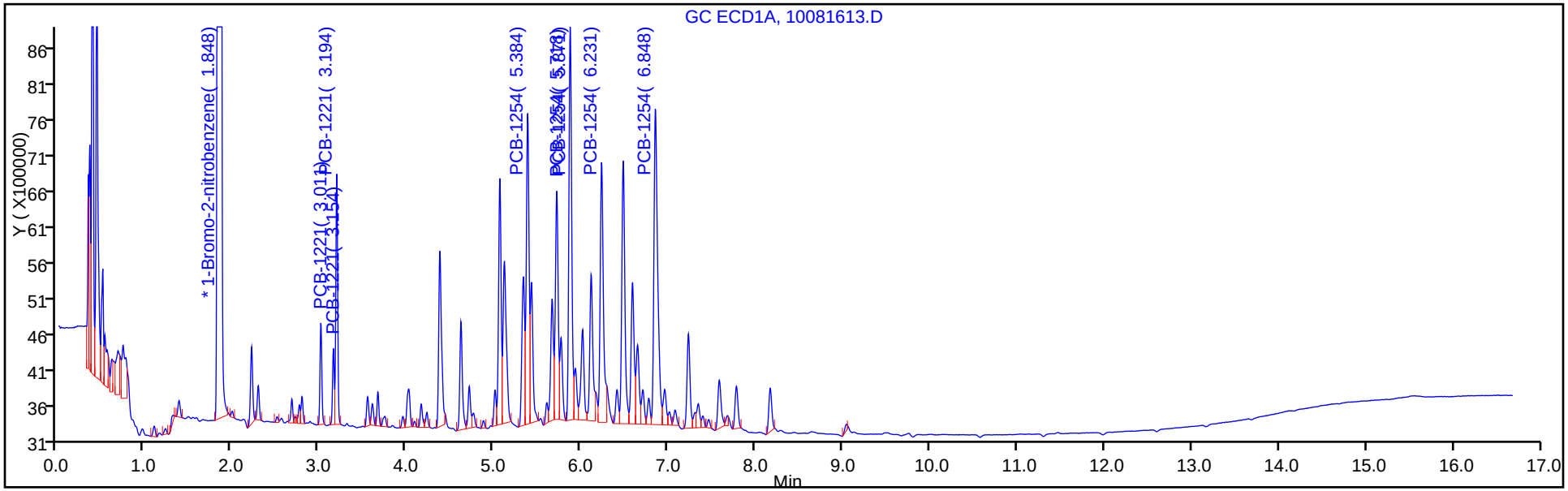
Report Date: 09-Oct-2016 09:27:45 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

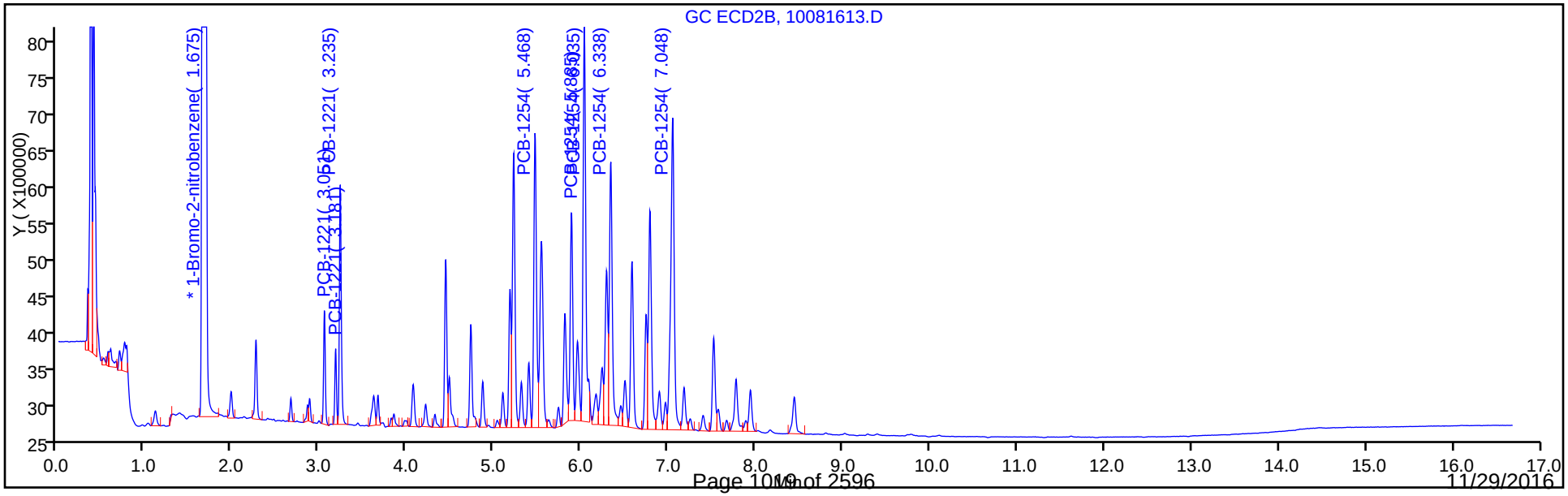
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081613.D

Injection Date:	08-Oct-2016 15:59:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL22154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081614.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 16:21:17 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0051591-014
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:46 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.849	-0.001	276889714	1000.0	1000.0	
2	1.675	1.676	-0.001	262009479	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.011	3.012	-0.001	1260306	25.0	21.7	
1	3.155	3.155	0.000	881311	25.0	21.6	
1	3.195	3.195	0.000	3146378	25.0	21.6	
		Average of Peak Amounts =				21.6	
2	3.051	3.052	-0.001	1259018	25.0	22.8	
2	3.181	3.182	-0.001	754627	25.0	21.7	
2	3.235	3.236	-0.001	3040349	25.0	21.6	
		Average of Peak Amounts =				22.0	
						RPD = 1.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.385	5.382	0.003	5473714	25.0	23.9	
1	5.718	5.715	0.003	4220959	25.0	24.4	
1	5.871	5.872	-0.001	7139210	25.0	24.3	
1	6.231	6.229	0.002	5249823	25.0	21.4	
1	6.851	6.849	0.002	7544355	25.0	23.7	
		Average of Peak Amounts =				23.5	
2	5.471	5.469	0.002	4998278	25.0	23.5	
2	5.888	5.886	0.002	3589092	25.0	25.3	
2	6.035	6.032	0.003	7468217	25.0	24.6	
2	6.338	6.336	0.002	5000680	25.0	24.3	
2	7.045	7.046	-0.001	6997974	25.0	24.0	
		Average of Peak Amounts =				24.3	
						RPD = 3.31	
S 8 Polychlorinated biphenyls, Total							
1						45.2	
2						46.4	
						RPD = 2.63	

Reagents:

AR_2154_L1_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

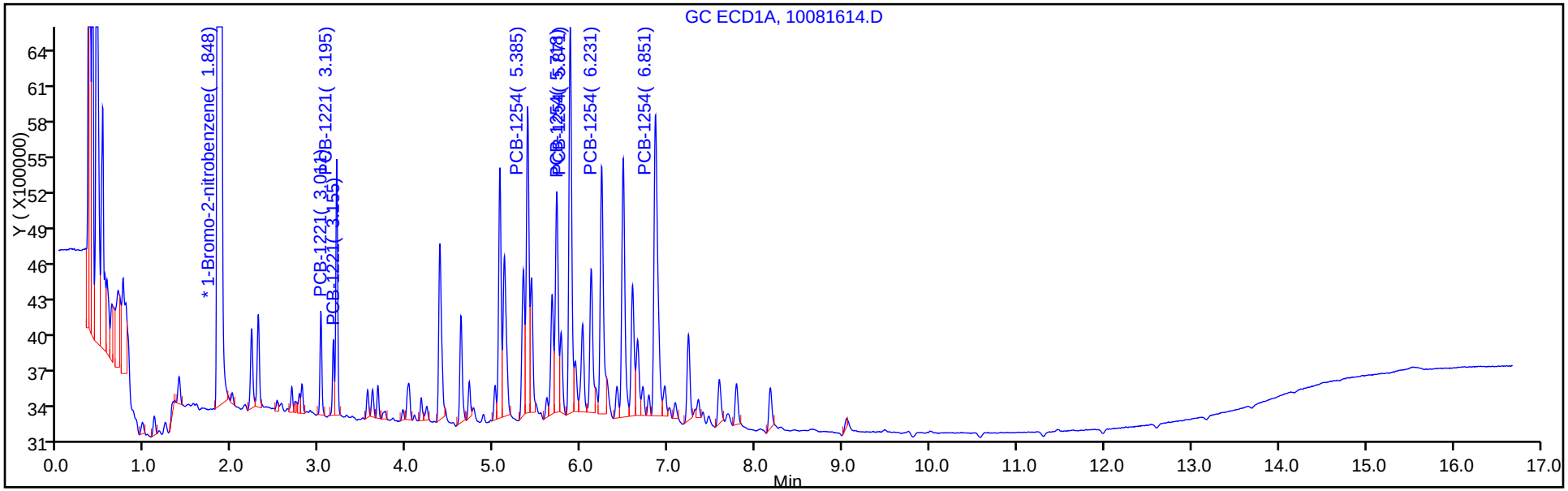
Report Date: 09-Oct-2016 09:27:46 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

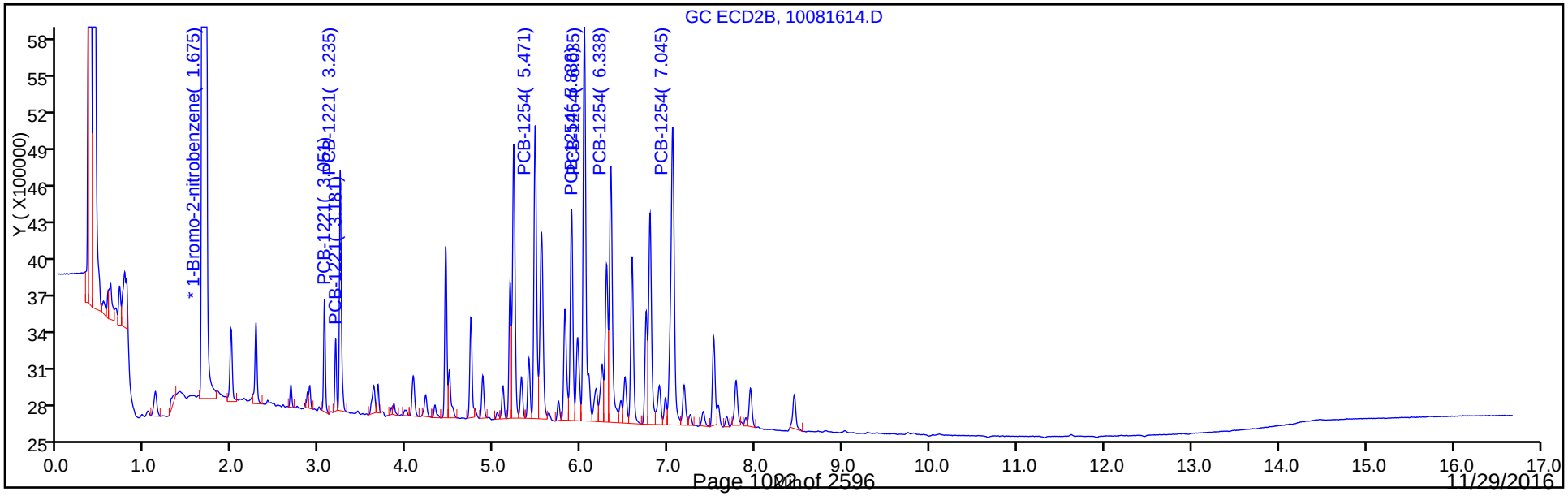
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081614.D

Injection Date:	08-Oct-2016 16:21:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL12154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 16:42 Calibration End Date: 10/08/2016 18:52 Calibration ID: 27247

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-345281/21	10081621.D
Level 2	STDL21660 280-345281/20	10081620.D
Level 3	STDL31660 280-345281/19	10081619.D
Level 4	STDL41660 280-345281/18	10081618.D
Level 5	STDL51660 280-345281/17	10081617.D
Level 6	STDL61660 280-345281/16	10081616.D
Level 7	STDL71660 280-345281/15	10081615.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 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.2971 0.2110	0.2746 0.2051	0.2571	0.2265	0.2203	Lin1	3.0285	0.2078							0.9990		0.9900
PCB-1016 Peak 2	0.5618 0.3922	0.5330 0.3773	0.4902	0.4307	0.4170	Lin1	6.3804	0.3861							0.9970		0.9900
PCB-1016 Peak 3	1.1705 0.8783	1.0767 0.8592	1.0122	0.9217	0.9149	Lin1	9.6486	0.8682							0.9990		0.9900
PCB-1016 Peak 4	0.5264 0.3931	0.4948 0.3787	0.4630	0.4135	0.4077	Lin1	4.8372	0.3855							0.9990		0.9900
PCB-1016 Peak 5	0.5245 0.3997	0.4866 0.3875	0.4647	0.3985	0.4010	Lin1	4.3181	0.3892							0.9990		0.9900
PCB-1260 Peak 1	0.8124 0.5957	0.7347 0.5835	0.6854	0.6099	0.6310	Lin1	6.7206	0.5895							0.9990		0.9900
PCB-1260 Peak 2	1.4253 1.1247	1.3201 1.0937	1.2445	1.1079	1.1704	Lin1	9.4887	1.1062							0.9990		0.9900
PCB-1260 Peak 3	0.6949 0.5485	0.6305 0.5428	0.5886	0.5312	0.5676	Lin1	3.9156	0.5425							0.9990		0.9900
PCB-1260 Peak 4	1.5844 1.1776	1.4990 1.1454	1.4218	1.2979	1.2265	Lin1	15.302	1.1649							0.9980		0.9900
PCB-1260 Peak 5	0.8322 0.6530	0.7791 0.6499	0.7368	0.6841	0.6903	Lin1	5.7185	0.6539							0.9990		0.9900
Tetrachloro-m-xylene (Surr)	17.307 12.870	15.989 12.604	15.027	13.677	13.515	Lin1	7.4657	12.756							0.9990		0.9900
DCB Decachlorobiphenyl (Surr)	16.966 12.562	15.478 12.195	14.421	13.129	13.124	Lin1	7.1978	12.371							0.9990		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 16:42 Calibration End Date: 10/08/2016 18:52 Calibration ID: 27247

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-345281/21	10081621.D
Level 2	STDL21660 280-345281/20	10081620.D
Level 3	STDL31660 280-345281/19	10081619.D
Level 4	STDL41660 280-345281/18	10081618.D
Level 5	STDL51660 280-345281/17	10081617.D
Level 6	STDL61660 280-345281/16	10081616.D
Level 7	STDL71660 280-345281/15	10081615.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	2068792 42520565	3704299 55040808	7229394	15929332	30681611	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	3911568 79050845	7190201 101232778	13785568	30291915	58084143	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	8150652 177006327	14526378 230529784	28461655	64822500	127440814	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	3665410 79230979	6675916 101620993	13019160	29078133	56798187	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	3652312 80546084	6564298 103960024	13067394	28022370	55853071	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	5657078 120046212	9911386 156560058	19274263	42891675	87905559	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	9924750 226656596	17810078 293460060	34994844	77912763	163032185	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	4838426 110539541	8506323 145645097	16551860	37357200	79068724	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	11032629 237334174	20222696 307330151	39981555	91276632	170845932	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	5794670 131607970	10511237 174373109	20718344	48110482	96156099	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene (Surr)	BNB	Lin1	6025618 129689586	10785571 169082456	21127413	48094725	94134005	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl (Surr)	BNB	Lin1	5906808 126579845	10440662 163599797	20275699	46167799	91408864	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081615.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 16:42:57 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0051591-015
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:47 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:13:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	268307579	1000.0	1000.0	
2	1.672	1.676	-0.004	253574546	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.796	2.797	-0.001	169082456	50.0	48.8	
2	2.736	2.734	0.002	175966913	50.0	49.2	
						RPD = 0.88	
1 PCB-1016							M
1	3.196	3.193	0.003	55040808	1000.0	972.7	
1	3.546	3.547	-0.001	101232778	1000.0	960.8	M
1	4.022	4.020	0.002	230529784	1000.0	978.5	M
1	4.162	4.163	-0.001	101620993	1000.0	970.0	M
1	4.619	4.620	-0.001	103960024	1000.0	984.6	M
		Average of Peak Amounts =				973.3	
2	3.619	3.620	-0.001	103145363	1000.0	965.6	
2	4.072	4.070	0.002	217662809	1000.0	973.5	
2	4.212	4.214	-0.002	93557678	1000.0	976.4	
2	4.446	4.444	0.002	53541018	1000.0	1005.2	
2	4.732	4.734	-0.002	75743411	1000.0	995.8	
		Average of Peak Amounts =				983.3	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.112	6.110	0.002	156560058	1000.0	978.5	
1	6.846	6.847	-0.001	293460060	1000.0	980.2	
1	7.342	7.340	0.002	145645097	1000.0	993.4	
1	7.776	7.777	-0.001	307330151	1000.0	970.2	
1	8.162	8.163	-0.001	174373109	1000.0	985.1	
		Average of Peak Amounts =				981.5	
2	6.579	6.580	-0.001	172031476	1000.0	978.9	
2	7.046	7.044	0.002	263806910	1000.0	981.7	
2	7.572	7.570	0.002	125703859	1000.0	992.2	
2	7.939	7.940	-0.001	277241764	1000.0	987.6	
2	8.439	8.440	-0.001	206769032	1000.0	982.8	
		Average of Peak Amounts =				984.6	
						RPD = 0.32	
$ 15 DCB Decachlorobiphenyl							
1	9.749	9.750	-0.001	163599797	50.0	48.7	
2	10.102	10.104	-0.002	137561004	50.0	49.2	
						RPD = 0.98	
S 8 Polychlorinated biphenyls, Total							
1						1954.8	
2						1967.9	
						RPD = 0.67	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

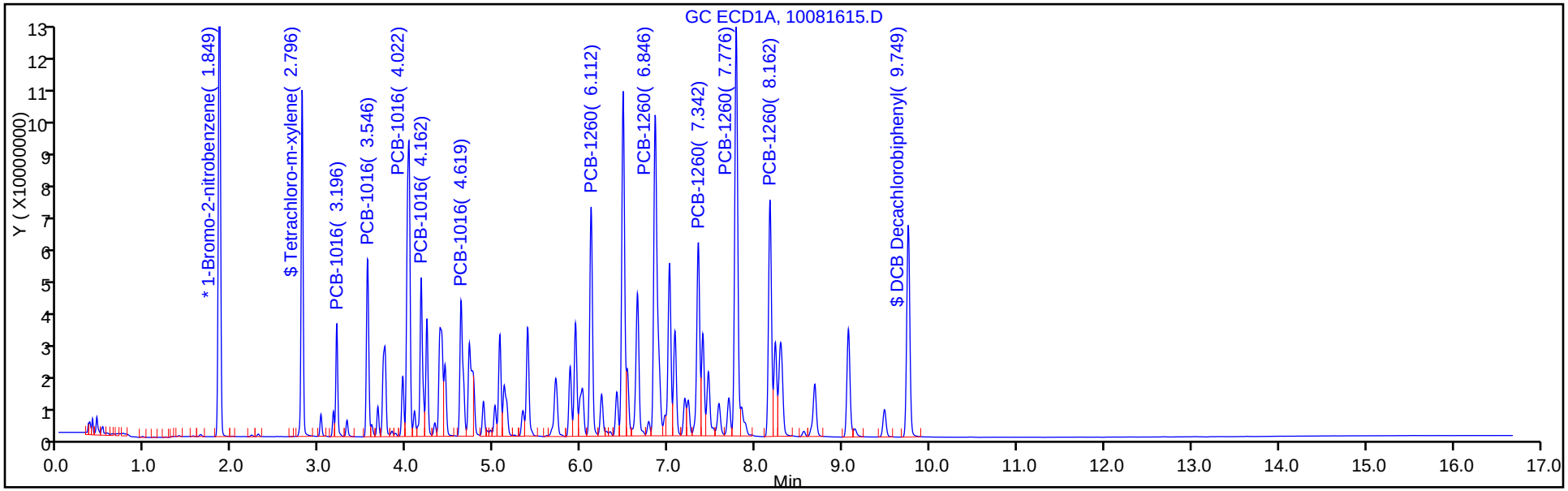
Report Date: 09-Oct-2016 09:27:48 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

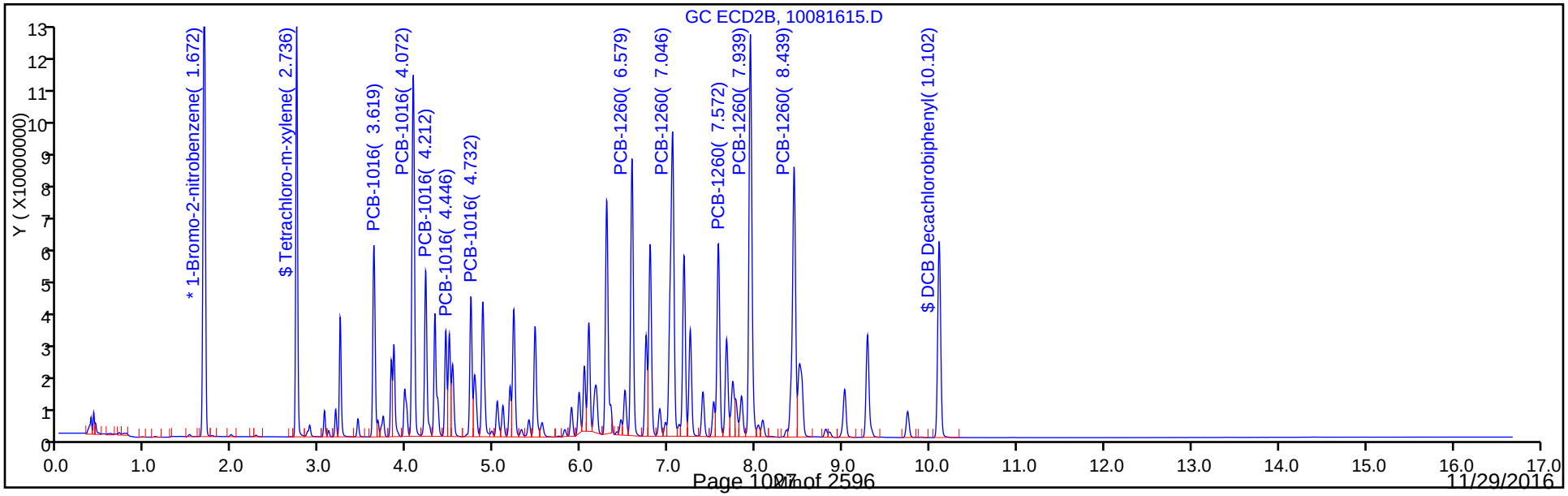
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081615.D

Injection Date:	08-Oct-2016 16:42:57	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL71660			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:27:48 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081615.D

Injection Date: 08-Oct-2016 16:42:57 Instrument ID: SGC_P3

Lims ID: STDL71660

Client ID:

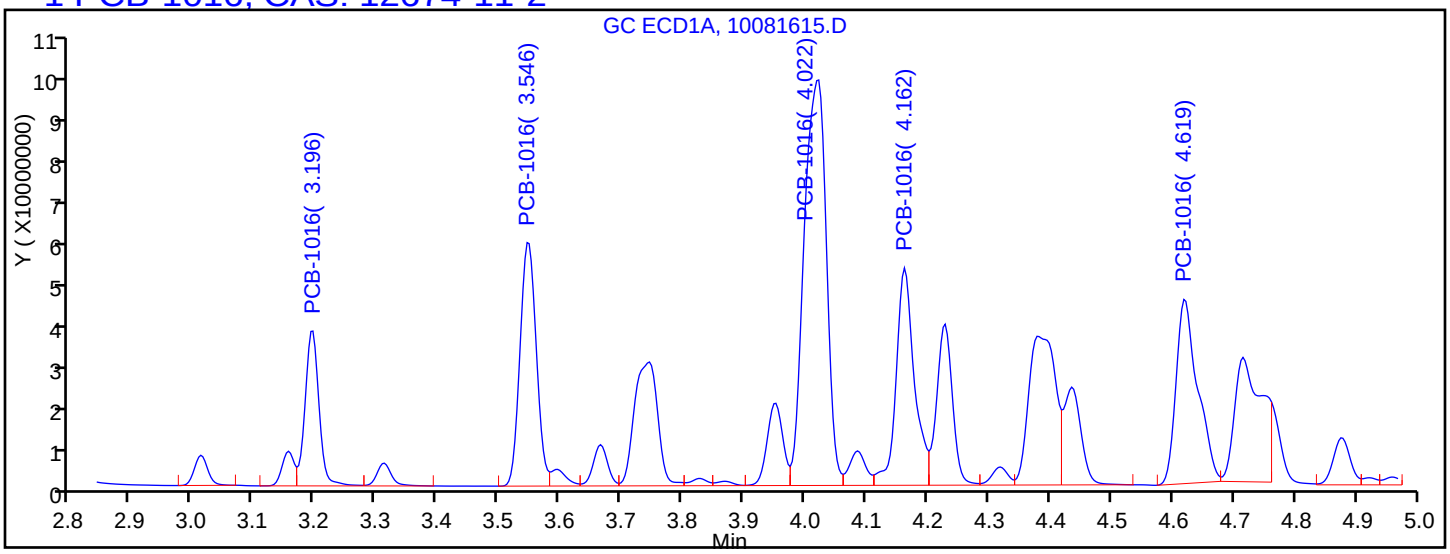
Operator ID: jax ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

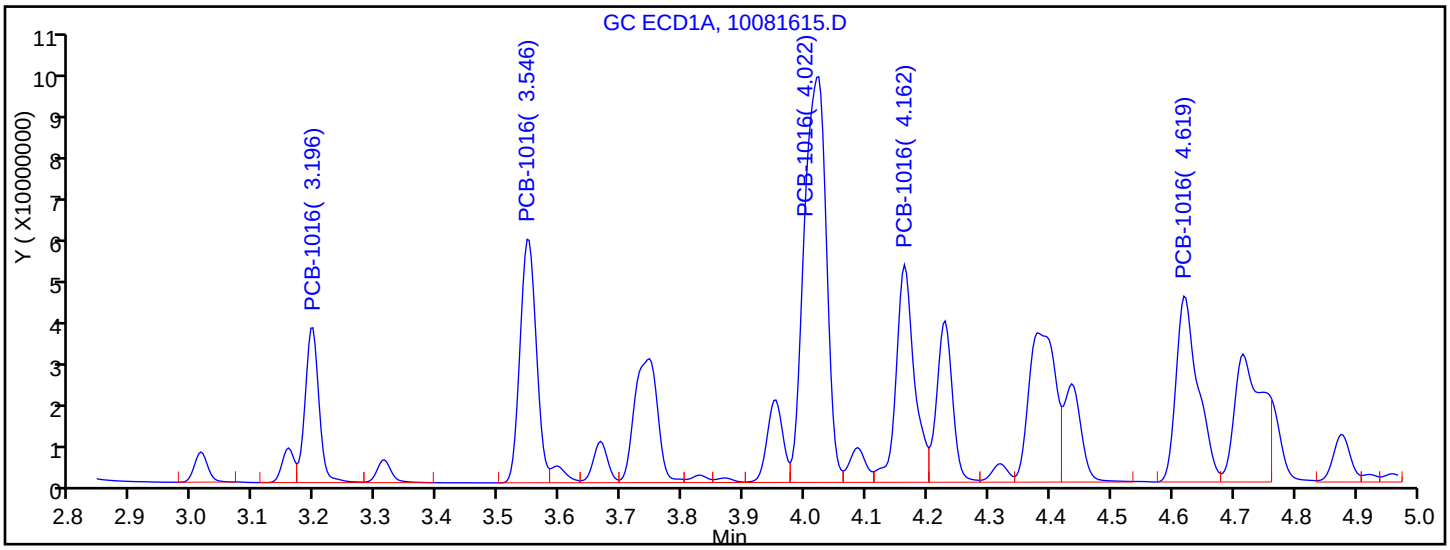
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.196	Response = 55040808	
3.546	Response = 101270671	
4.022	Response = 230263380	
4.162	Response = 101252500	
4.619	Response = 101281352	



Manual Integration Results

3.196	Response = 55040808	
3.546	Response = 101232778	M
4.022	Response = 230529784	M
4.162	Response = 101620993	M
4.619	Response = 103960024	M

Reviewer: jacksonto, 09-Oct-2016 09:13:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081616.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 17:04:38 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0051591-016
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:49 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:12:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.849	-0.002	268709937	1000.0	1000.0	
2	1.673	1.676	-0.003	253592332	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	129689586	37.5	37.3	
2	2.733	2.734	-0.001	134152881	37.5	37.5	
						RPD = 0.54	
1 PCB-1016							M
1	3.193	3.193	0.000	42520565	750.0	747.0	
1	3.547	3.547	0.000	79050845	750.0	745.5	M
1	4.020	4.020	0.000	177006327	750.0	747.6	M
1	4.163	4.163	0.000	79230979	750.0	752.3	M
1	4.620	4.620	0.000	80546084	750.0	759.2	M
		Average of Peak Amounts =				750.3	
2	3.620	3.620	0.000	80228770	750.0	747.5	
2	4.070	4.070	0.000	167889635	750.0	748.4	
2	4.213	4.214	-0.001	72017346	750.0	749.2	
2	4.443	4.444	-0.001	39155213	750.0	732.2	
2	4.733	4.734	-0.001	56756339	750.0	743.9	
		Average of Peak Amounts =				744.2	
						RPD = 0.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.110	6.110	0.000	120046212	750.0	746.5	
1	6.846	6.847	-0.001	226656596	750.0	753.9	
1	7.340	7.340	0.000	110539541	750.0	751.1	
1	7.776	7.777	-0.001	237334174	750.0	745.1	
1	8.163	8.163	0.000	131607970	750.0	740.2	
		Average of Peak Amounts =				747.4	
2	6.580	6.580	0.000	131640945	750.0	746.7	
2	7.043	7.044	-0.001	201986527	750.0	749.4	
2	7.570	7.570	0.000	96359675	750.0	758.5	
2	7.937	7.940	-0.003	211581655	750.0	751.8	
2	8.440	8.440	0.000	158422282	750.0	751.2	
		Average of Peak Amounts =				751.5	
						RPD = 0.55	
$ 15 DCB Decachlorobiphenyl							
1	9.750	9.750	0.000	126579845	37.5	37.5	
2	10.103	10.104	-0.001	104633981	37.5	37.3	
						RPD = 0.54	
S 8 Polychlorinated biphenyls, Total							
1						1497.7	
2						1495.8	
						RPD = 0.13	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L6_00027	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

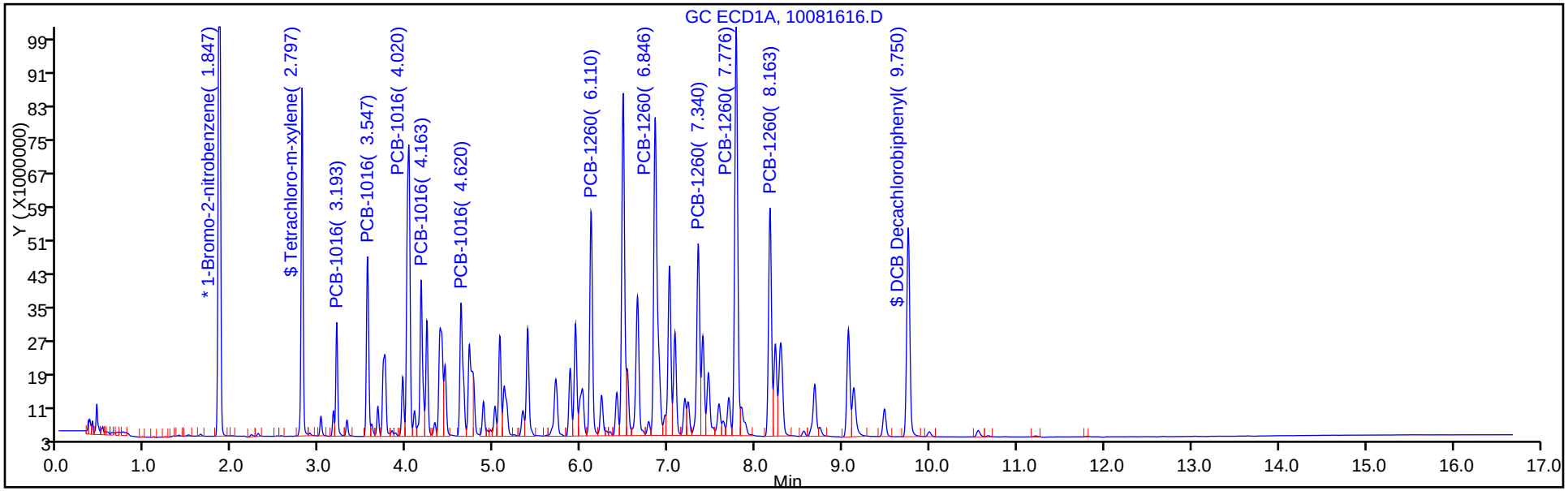
Report Date: 09-Oct-2016 09:27:50 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

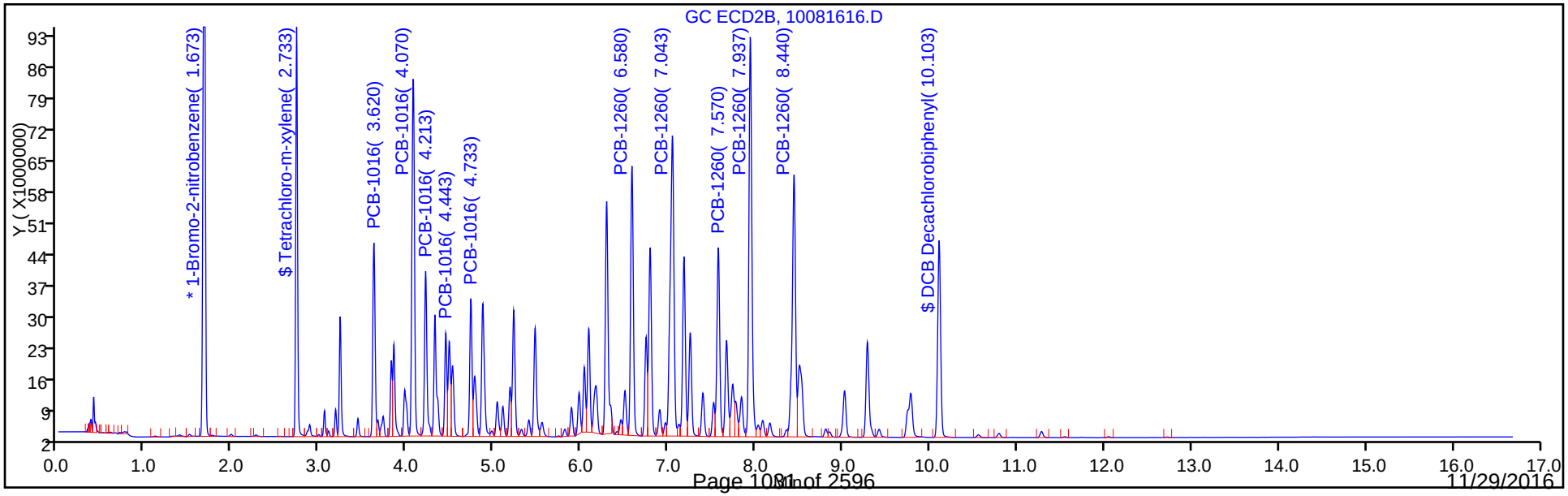
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081616.D

Injection Date:	08-Oct-2016 17:04:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL61660			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:27:50 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081616.D

Injection Date: 08-Oct-2016 17:04:38 Instrument ID: SGC_P3

Lims ID: STDL61660

Client ID:

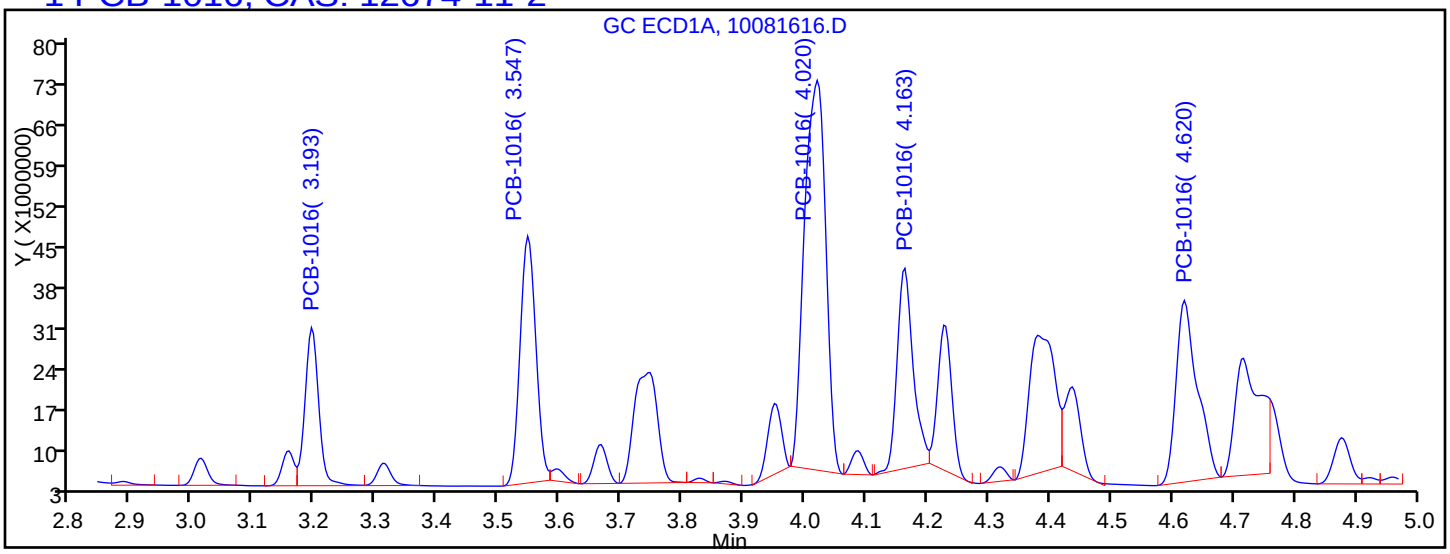
Operator ID: jax ALS Bottle#: 16 Worklist Smp#: 16

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

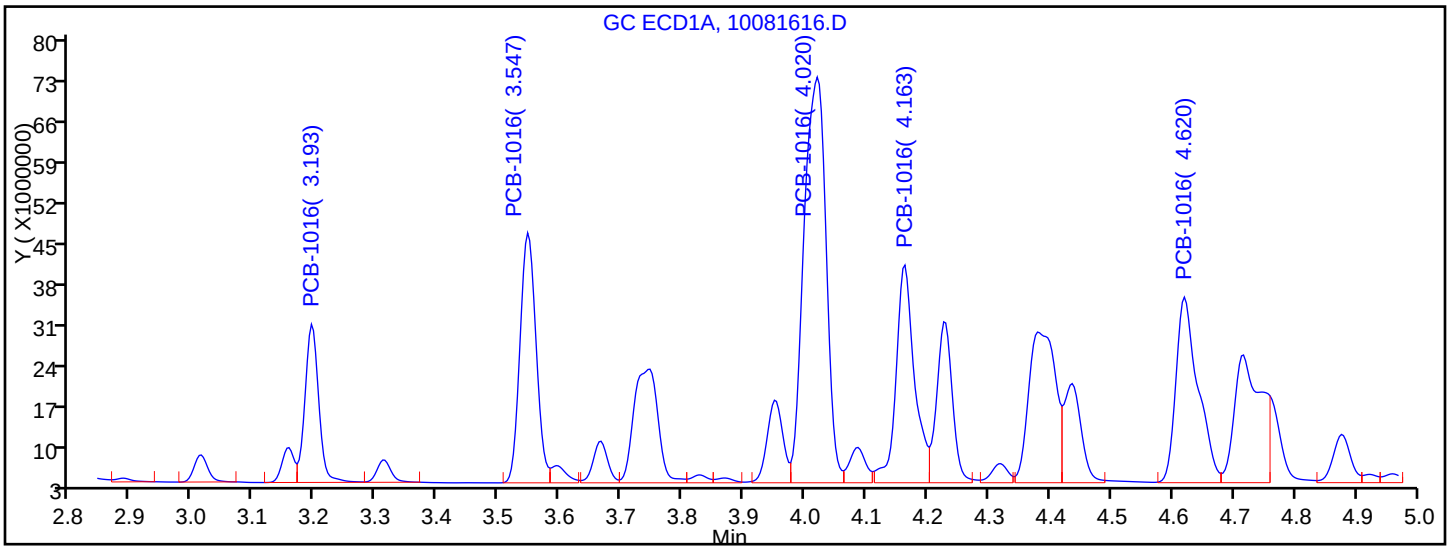
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.193	Response = 42520565
3.547	Response = 76703380
4.020	Response = 162734802
4.163	Response = 63425019
4.620	Response = 75600784



Manual Integration Results

3.193	Response = 42520565	
3.547	Response = 79050845	M
4.020	Response = 177006327	M
4.163	Response = 79230979	M
4.620	Response = 80546084	M

Reviewer: jacksonto, 09-Oct-2016 09:12:54

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081617.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 08-Oct-2016 17:26:17 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0051591-017
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:51 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.847	0.000	278602349	1000.0	1000.0	
2	1.674	1.674	0.000	263936559	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	94134005	25.0	25.9	
2	2.734	2.734	0.000	95978795	25.0	25.6	
						RPD = 1.07	
1 PCB-1016							
1	3.193	3.193	0.000	30681611	500.0	515.5	
1	3.547	3.547	0.000	58084143	500.0	523.5	
1	4.020	4.020	0.000	127440814	500.0	515.7	
1	4.163	4.163	0.000	56798187	500.0	516.3	
1	4.620	4.620	0.000	55853071	500.0	504.1	
		Average of Peak Amounts =				515.0	
2	3.620	3.620	0.000	59028778	500.0	523.7	
2	4.070	4.070	0.000	121652212	500.0	517.9	
2	4.214	4.214	0.000	51961220	500.0	516.2	
2	4.444	4.444	0.000	28344022	500.0	506.0	
2	4.734	4.734	0.000	40574882	500.0	508.1	
		Average of Peak Amounts =				514.4	
						RPD = 0.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.110	6.110	0.000	87905559	500.0	523.9	
1	6.847	6.847	0.000	163032185	500.0	520.4	
1	7.340	7.340	0.000	79068724	500.0	515.9	
1	7.777	7.777	0.000	170845932	500.0	513.3	
1	8.163	8.163	0.000	96156099	500.0	519.0	
		Average of Peak Amounts =				518.5	
2	6.580	6.580	0.000	94702932	500.0	513.1	
2	7.044	7.044	0.000	144780015	500.0	513.2	
2	7.570	7.570	0.000	65072064	500.0	489.1	
2	7.940	7.940	0.000	147875936	500.0	502.3	
2	8.440	8.440	0.000	112943857	500.0	512.3	
		Average of Peak Amounts =				506.0	
						RPD = 2.44	
$ 15 DCB Decachlorobiphenyl							
1	9.750	9.750	0.000	91408864	25.0	25.9	
2	10.104	10.104	0.000	75707503	25.0	25.8	
						RPD = 0.62	

Reagents:

AR_1660_L5_00060	Amount Added: 1.00	Units: mL	
BNB IS_00008	Amount Added: 1.00	Units: mL	Run Reagent

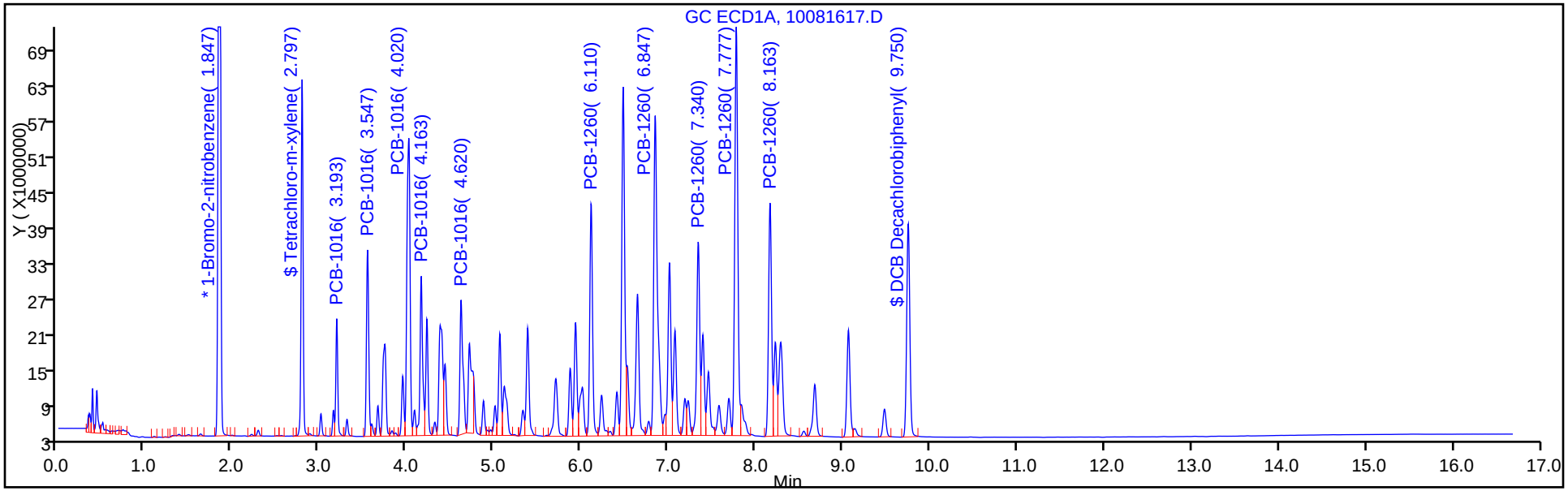
Report Date: 09-Oct-2016 09:27:52 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

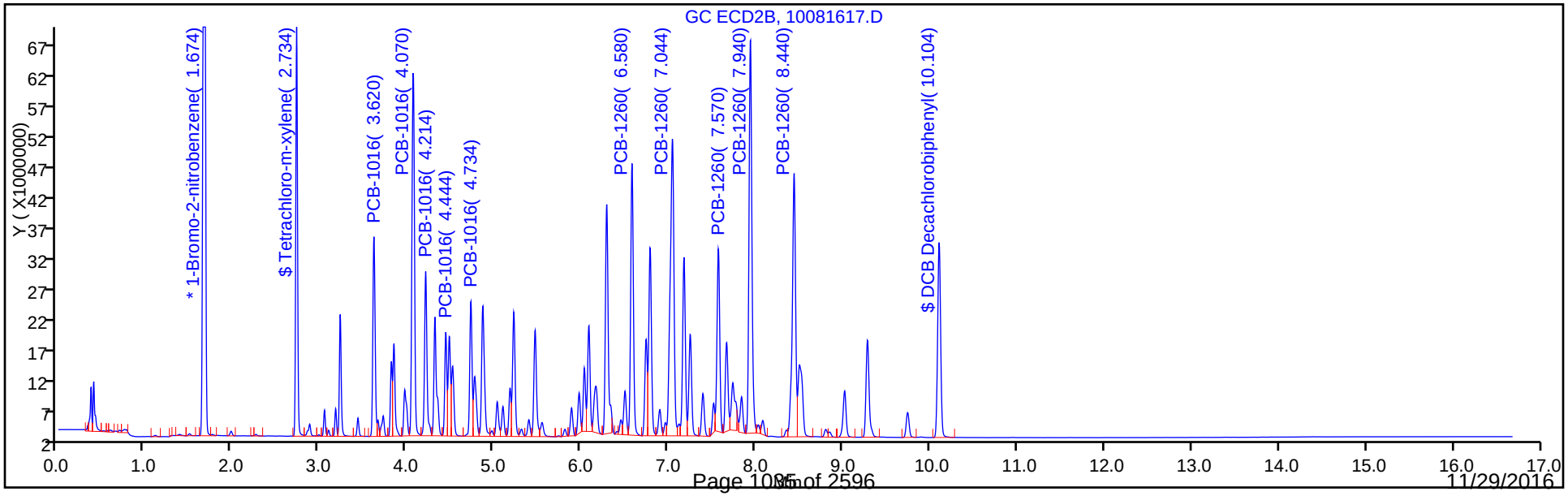
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081617.D

Injection Date:	08-Oct-2016 17:26:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL51660			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081618.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 17:47:58 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0051591-018
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:53 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.847	0.004	281308235	1000.0	1000.0	
2	1.674	1.674	0.000	266493345	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	48094725	12.5	12.8	
2	2.734	2.734	0.000	48076336	12.5	12.5	
						RPD = 2.32	
1 PCB-1016							
1	3.194	3.193	0.001	15929332	250.0	258.0	
1	3.547	3.547	0.000	30291915	250.0	262.4	
1	4.021	4.020	0.001	64822500	250.0	254.3	
1	4.164	4.163	0.001	29078133	250.0	255.6	
1	4.621	4.620	0.001	28022370	250.0	244.9	
		Average of Peak Amounts =				255.0	
2	3.621	3.620	0.001	30373439	250.0	259.0	
2	4.071	4.070	0.001	61921742	250.0	255.9	
2	4.214	4.214	0.000	26268815	250.0	253.3	
2	4.444	4.444	0.000	14493841	250.0	251.1	
2	4.734	4.734	0.000	20476139	250.0	249.4	
		Average of Peak Amounts =				253.7	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.111	6.110	0.001	42891675	250.0	247.3	
1	6.847	6.847	0.000	77912763	250.0	241.8	
1	7.341	7.340	0.001	37357200	250.0	237.6	
1	7.774	7.777	-0.003	91276632	250.0	265.4	
1	8.164	8.163	0.001	48110482	250.0	252.8	
		Average of Peak Amounts =				249.0	
2	6.581	6.580	0.001	48908567	250.0	257.7	
2	7.044	7.044	0.000	73427627	250.0	253.1	
2	7.571	7.570	0.001	34815751	250.0	255.2	
2	7.937	7.940	-0.003	76723593	250.0	254.3	
2	8.441	8.440	0.001	56606842	250.0	250.6	
		Average of Peak Amounts =				254.2	
						RPD = 2.07	
$ 15 DCB Decachlorobiphenyl							
1	9.751	9.750	0.001	46167799	12.5	12.7	
2	10.104	10.104	0.000	38012109	12.5	12.6	
						RPD = 0.85	
S 8 Polychlorinated biphenyls, Total							
1						504.0	
2						507.9	
						RPD = 0.78	

Reagents:

AR_1660_L4_00063	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

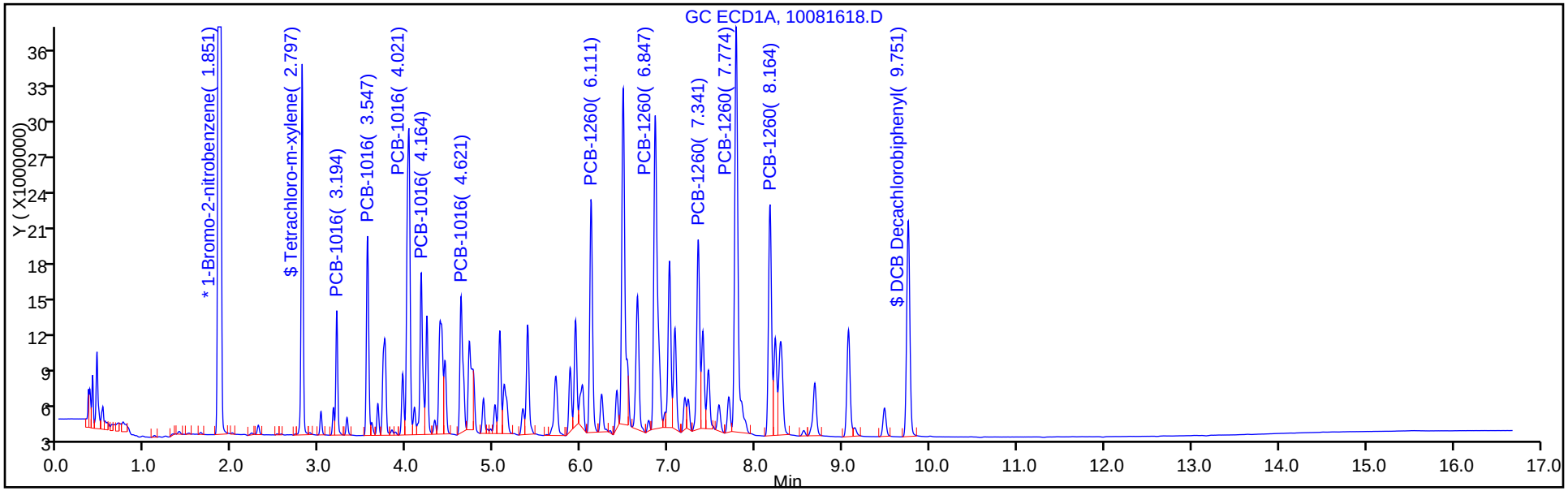
Report Date: 09-Oct-2016 09:27:53 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

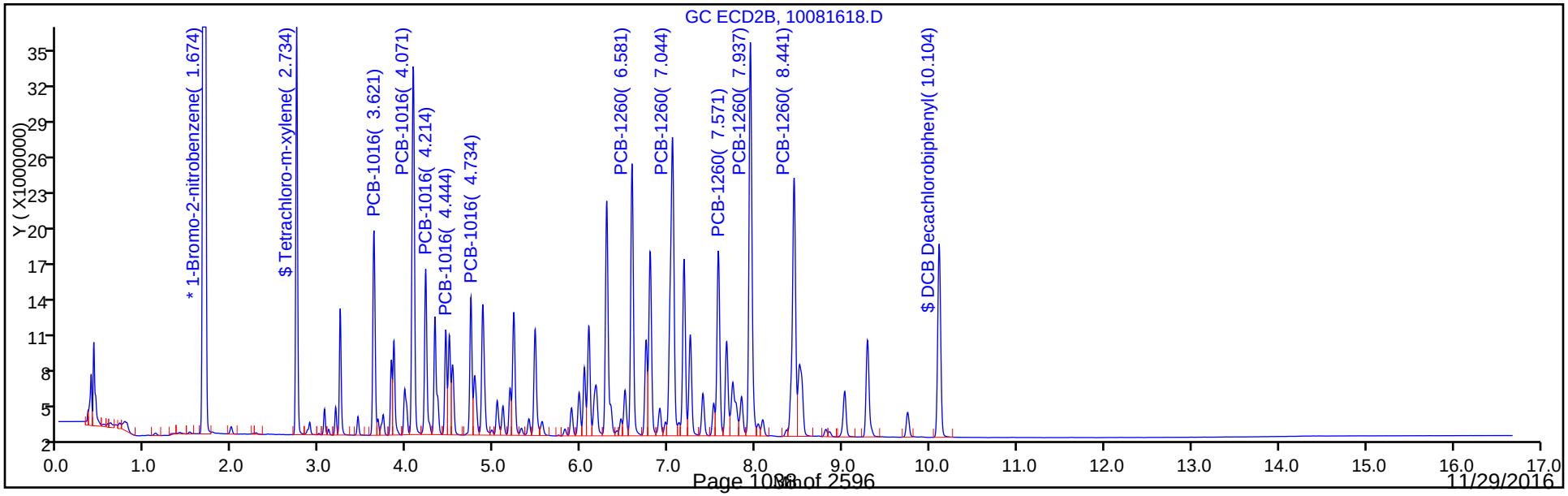
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081618.D

Injection Date:	08-Oct-2016 17:47:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL41660			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081619.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 18:09:37 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0051591-019
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:55 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.847	0.004	281194735	1000.0	1000.0	
2	1.674	1.674	0.000	267390777	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	21127413	5.00	5.30	
2	2.734	2.734	0.000	20865105	5.00	5.20	
						RPD = 1.93	
1 PCB-1016							
1	3.194	3.193	0.001	7229394	100.0	109.2	
1	3.547	3.547	0.000	13785568	100.0	110.5	
1	4.021	4.020	0.001	28461655	100.0	105.5	
1	4.161	4.163	-0.002	13019160	100.0	107.6	
1	4.621	4.620	0.001	13067394	100.0	108.3	
		Average of Peak Amounts =				108.2	
2	3.621	3.620	0.001	13632279	100.0	107.0	
2	4.071	4.070	0.001	27232682	100.0	106.3	
2	4.214	4.214	0.000	11696309	100.0	106.7	
2	4.444	4.444	0.000	6483390	100.0	106.1	
2	4.731	4.734	-0.003	8922467	100.0	103.2	
		Average of Peak Amounts =				105.8	
						RPD = 2.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.111	6.110	0.001	19274263	100.0	104.9	
1	6.847	6.847	0.000	34994844	100.0	103.9	
1	7.341	7.340	0.001	16551860	100.0	101.3	
1	7.777	7.777	0.000	39981555	100.0	108.9	
1	8.164	8.163	0.001	20718344	100.0	103.9	
		Average of Peak Amounts =				104.6	
2	6.581	6.580	0.001	21200527	100.0	105.8	
2	7.044	7.044	0.000	31709422	100.0	103.6	
2	7.571	7.570	0.001	15166854	100.0	106.0	
2	7.938	7.940	-0.002	33160631	100.0	105.1	
2	8.441	8.440	0.001	24444863	100.0	103.7	
		Average of Peak Amounts =				104.8	
						RPD = 0.22	
$ 15 DCB Decachlorobiphenyl							
1	9.751	9.750	0.001	20275699	5.00	5.25	
2	10.104	10.104	0.000	16640965	5.00	5.22	
						RPD = 0.59	
S 8 Polychlorinated biphenyls, Total							
1						212.8	
2						210.7	
						RPD = 1.00	

Reagents:

AR_1660_L3_00026	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

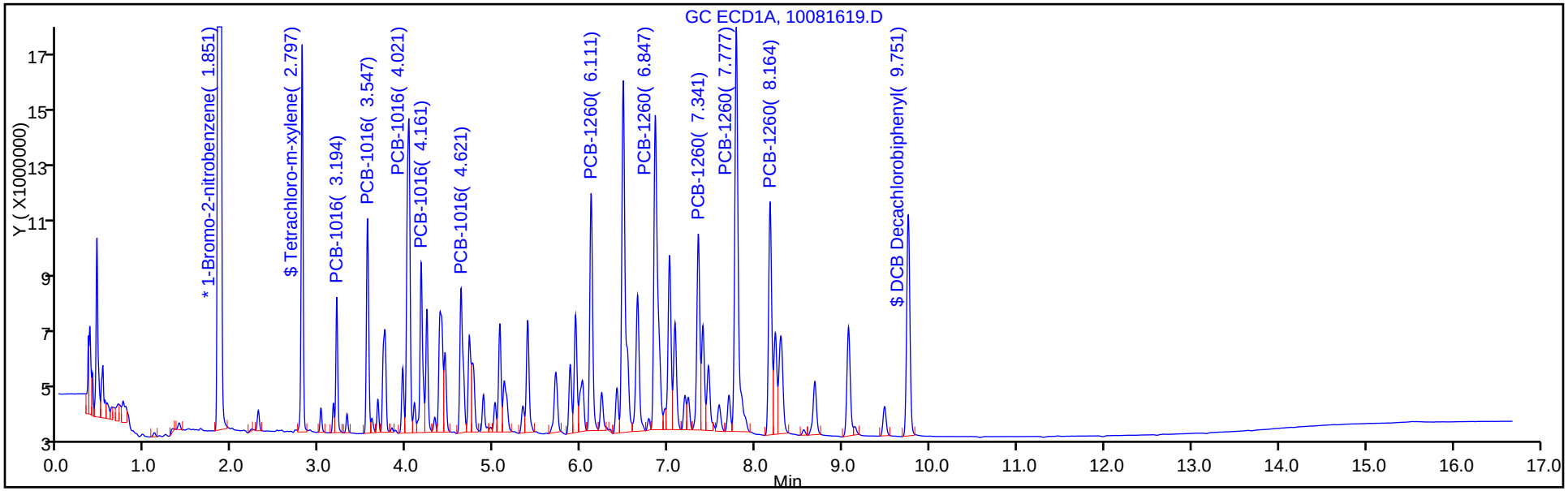
Report Date: 09-Oct-2016 09:27:55 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

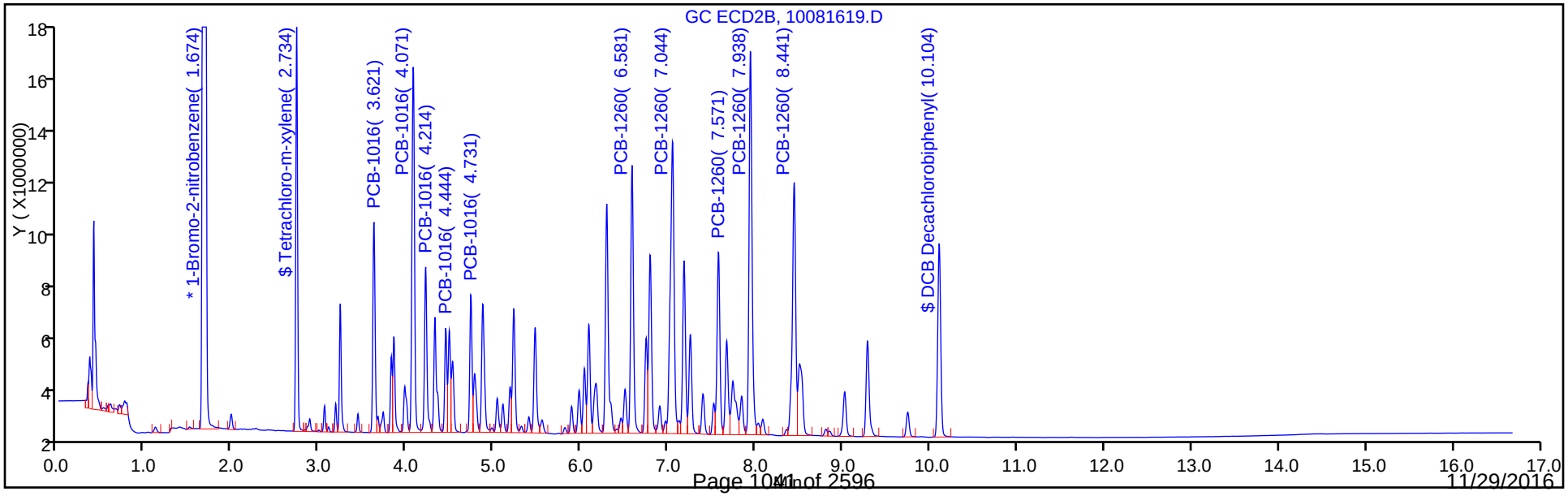
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081619.D

Injection Date:	08-Oct-2016 18:09:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL31660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081620.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 18:31:17 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0051591-020
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:57 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.847	0.001	269819481	1000.0	1000.0	
2	1.672	1.674	-0.002	256792124	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.795	2.797	-0.002	10785571	2.50	2.55	
2	2.732	2.734	-0.002	10422018	2.50	2.53	
						RPD = 0.90	
1 PCB-1016							
1	3.195	3.193	0.002	3704299	50.0	51.5	
1	3.545	3.547	-0.002	7190201	50.0	52.5	
1	4.022	4.020	0.002	14526378	50.0	50.9	
1	4.162	4.163	-0.001	6675916	50.0	51.6	
1	4.618	4.620	-0.002	6564298	50.0	51.4	
		Average of Peak Amounts =				51.6	
2	3.619	3.620	-0.001	7053543	50.0	50.2	
2	4.072	4.070	0.002	13679130	50.0	50.6	
2	4.212	4.214	-0.002	5886484	50.0	51.0	
2	4.445	4.444	0.001	3327251	50.0	51.7	
2	4.732	4.734	-0.002	4571082	50.0	50.9	
		Average of Peak Amounts =				50.9	
						RPD = 1.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.112	6.110	0.002	9911386	50.0	50.9	
1	6.848	6.847	0.001	17810078	50.0	51.1	
1	7.342	7.340	0.002	8506323	50.0	50.9	
1	7.778	7.777	0.001	20222696	50.0	51.2	
1	8.165	8.163	0.002	10511237	50.0	50.8	
		Average of Peak Amounts =				51.0	
2	6.582	6.580	0.002	10585540	50.0	50.3	
2	7.045	7.044	0.001	16234443	50.0	50.8	
2	7.572	7.570	0.002	7604224	50.0	51.2	
2	7.938	7.940	-0.002	16562215	50.0	50.9	
2	8.438	8.440	-0.002	12328783	50.0	51.0	
		Average of Peak Amounts =				50.9	
						RPD = 0.26	
$ 15 DCB Decachlorobiphenyl							
1	9.748	9.750	-0.002	10440662	2.50	2.55	
2	10.105	10.104	0.001	8507239	2.50	2.55	
						RPD = 0.21	
S 8 Polychlorinated biphenyls, Total							
1						102.6	
2						101.7	
						RPD = 0.81	

Reagents:

AR_1660_L2_00025	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

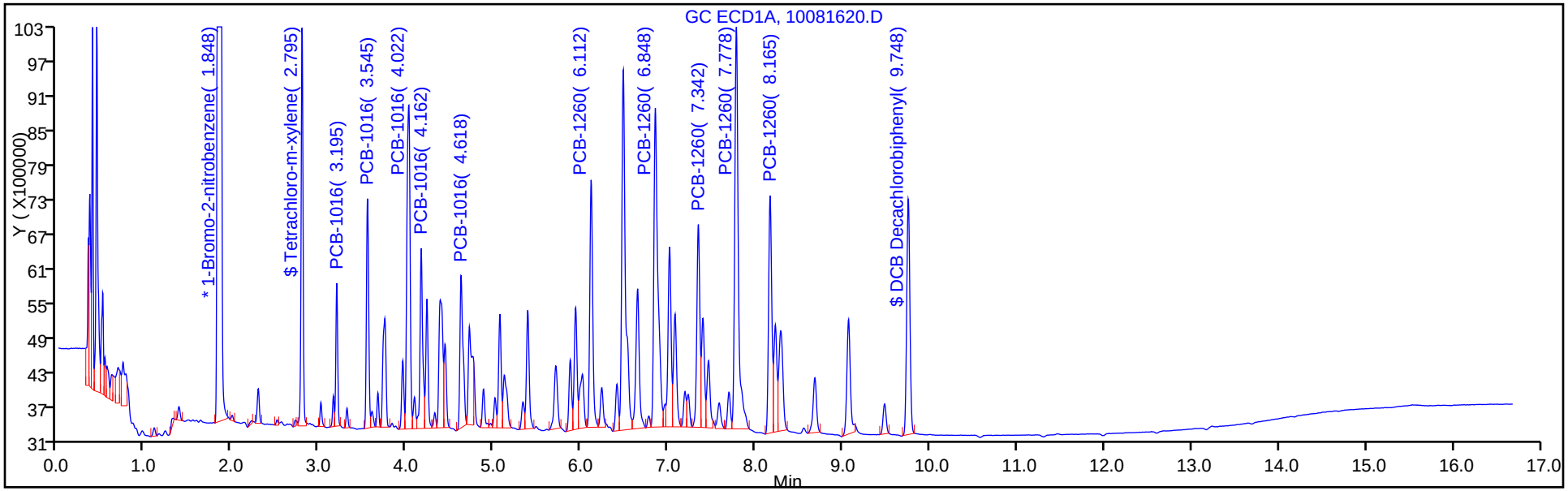
Report Date: 09-Oct-2016 09:27:57 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

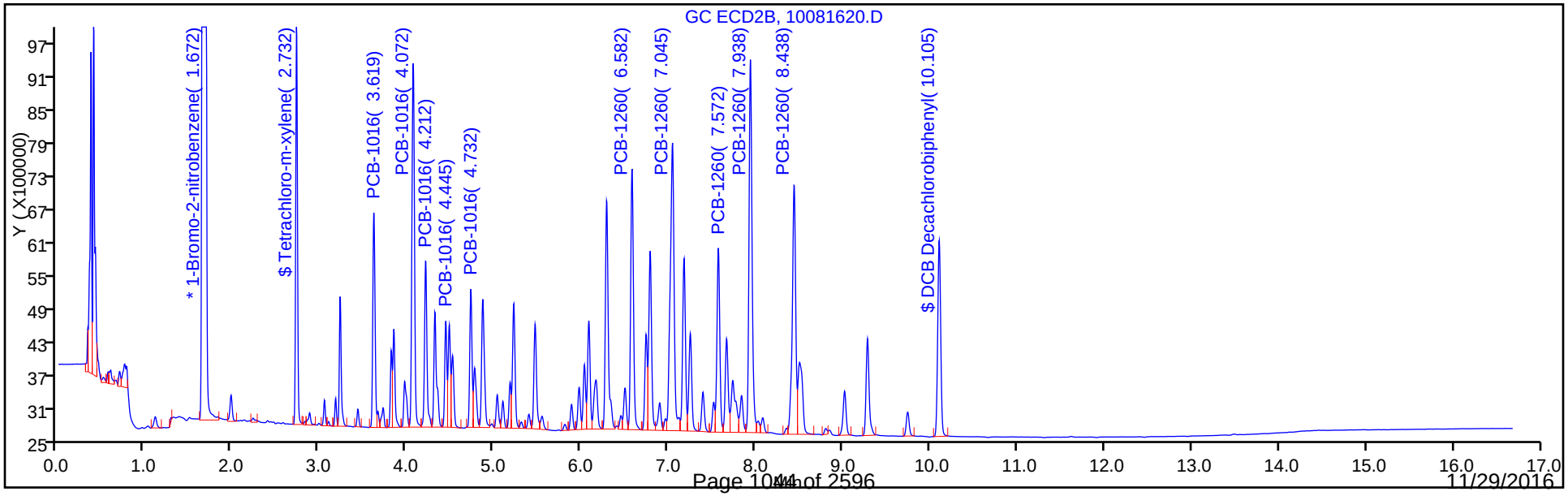
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081620.D

Injection Date:	08-Oct-2016 18:31:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL21660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081621.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 18:52:58 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0051591-021
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:59 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.847	0.002	278525441	1000.0	1000.0	
2	1.676	1.674	0.002	265035398	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.796	2.797	-0.001	6025618	1.25	1.11	
2	2.733	2.734	-0.001	5743872	1.25	1.17	
						RPD = 5.47	
1 PCB-1016							
1	3.193	3.193	0.000	2068792	25.0	21.2	
1	3.546	3.547	-0.001	3911568	25.0	19.9	
1	4.019	4.020	-0.001	8150652	25.0	22.6	
1	4.163	4.163	0.000	3665410	25.0	21.6	
1	4.619	4.620	-0.001	3652312	25.0	22.6	
		Average of Peak Amounts =				21.6	
2	3.619	3.620	-0.001	4180376	25.0	22.0	
2	4.073	4.070	0.003	7572879	25.0	22.3	
2	4.213	4.214	-0.001	3233906	25.0	22.3	
2	4.446	4.444	0.002	1833115	25.0	22.7	
2	4.733	4.734	-0.001	2580475	25.0	23.7	
		Average of Peak Amounts =				22.6	
						RPD = 4.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.113	6.110	0.003	5657078	25.0	23.1	
1	6.849	6.847	0.002	9924750	25.0	23.6	
1	7.343	7.340	0.003	4838426	25.0	24.8	
1	7.776	7.777	-0.001	11032629	25.0	20.9	
1	8.166	8.163	0.003	5794670	25.0	23.1	
		Average of Peak Amounts =				23.1	
2	6.583	6.580	0.003	5892668	25.0	22.6	
2	7.046	7.044	0.002	9070327	25.0	23.2	
2	7.573	7.570	0.003	4120910	25.0	22.8	
2	7.939	7.940	-0.001	8968208	25.0	23.0	
2	8.439	8.440	-0.001	6659442	25.0	23.3	
		Average of Peak Amounts =				23.0	
						RPD = 0.46	
$ 15 DCB Decachlorobiphenyl							
1	9.749	9.750	-0.001	5906808	1.25	1.13	
2	10.103	10.104	-0.001	4726924	1.25	1.15	
						RPD = 1.63	
S 8 Polychlorinated biphenyls, Total							
1						44.6	
2						45.6	
						RPD = 2.09	

Reagents:

AR_1660_L1_00026	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

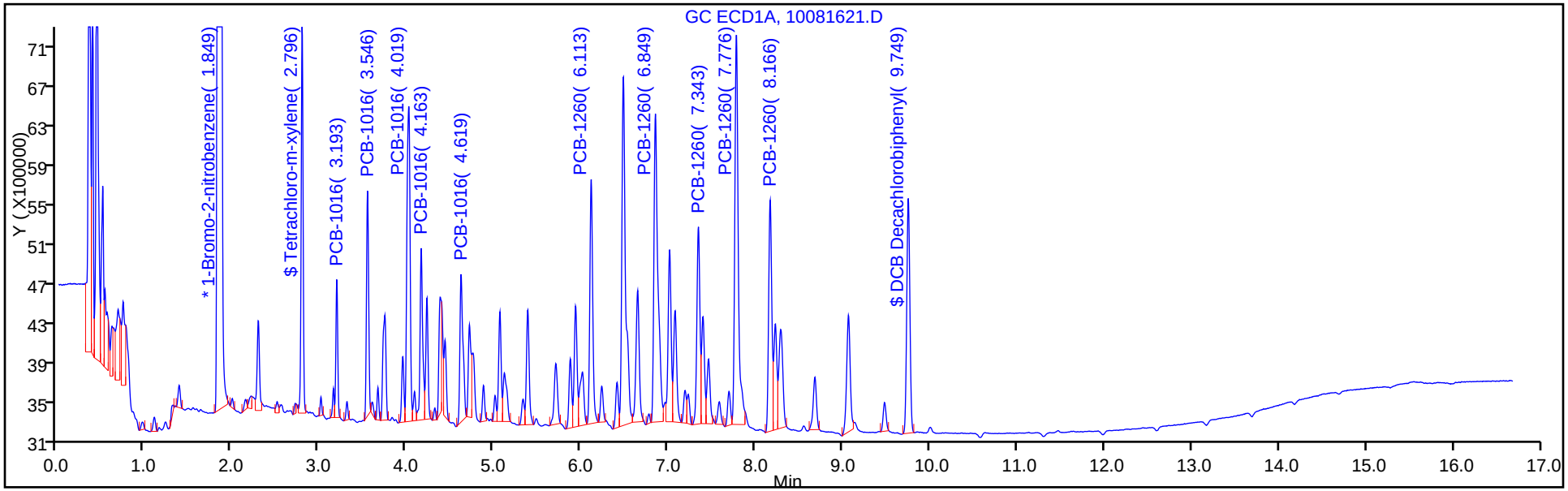
Report Date: 09-Oct-2016 09:27:59 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

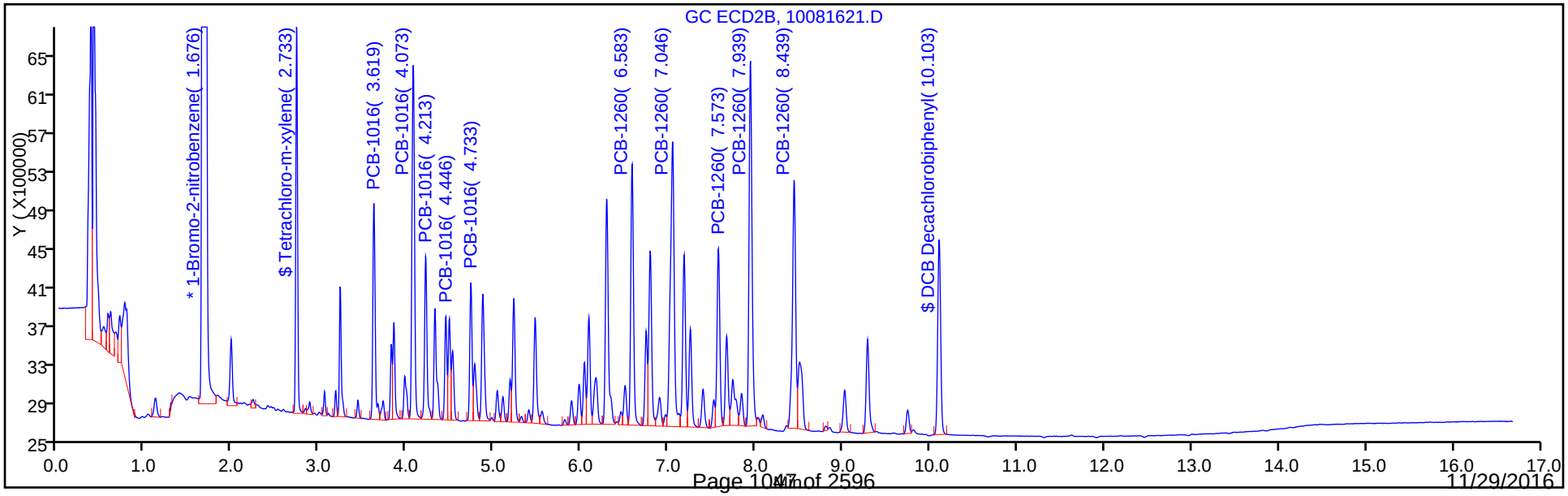
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081621.D

Injection Date:	08-Oct-2016 18:52:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL11660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 16:42 Calibration End Date: 10/08/2016 18:52 Calibration ID: 27248

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-345281/21	10081621.D
Level 2	STDL21660 280-345281/20	10081620.D
Level 3	STDL31660 280-345281/19	10081619.D
Level 4	STDL41660 280-345281/18	10081618.D
Level 5	STDL51660 280-345281/17	10081617.D
Level 6	STDL61660 280-345281/16	10081616.D
Level 7	STDL71660 280-345281/15	10081615.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 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.6309 0.4218	0.5494 0.4068	0.5098	0.4559	0.4473	Lin1	6.6567	0.4143							0.9980		0.9900
PCB-1016 Peak 2	1.1429 0.8827	1.0654 0.8584	1.0185	0.9294	0.9218	Lin1	9.0911	0.8724							0.9990		0.9900
PCB-1016 Peak 3	0.4881 0.3787	0.4585 0.3690	0.4374	0.3943	0.3937	Lin1	3.8566	0.3739							0.9990		0.9900
PCB-1016 Peak 4	0.2767 0.2059	0.2591 0.2111	0.2425	0.2175	0.2148	Lin1	2.2035	0.2079							0.9990		0.9900
PCB-1016 Peak 5	0.3895 0.2984	0.3560 0.2987	0.3337	0.3073	0.3075	Lin1	2.6830	0.2973							1.0000		0.9900
PCB-1260 Peak 1	0.8893 0.6921	0.8244 0.6784	0.7929	0.7341	0.7176	Lin1	6.7064	0.6862							0.9990		0.9900
PCB-1260 Peak 2	1.3689 1.0620	1.2644 1.0404	1.1859	1.1021	1.0971	Lin1	9.8689	1.0497							1.0000		0.9900
PCB-1260 Peak 3	0.6219 0.5066	0.5922 0.4957	0.5672	0.5226	0.4931	Lin1	4.2360	0.4954							0.9990		0.9900
PCB-1260 Peak 4	1.3535 1.1125	1.2899 1.0933	1.2402	1.1516	1.1205	Lin1	8.5942	1.0983							1.0000		0.9900
PCB-1260 Peak 5	1.0051 0.8329	0.9602 0.8154	0.9142	0.8497	0.8558	Lin1	5.9738	0.8236							1.0000		0.9900
Tetrachloro-m-xylene (Surr)	17.338 14.107	16.234 13.879	15.606	14.432	14.546	Lin1	5.2663	13.985							1.0000		0.9900
DCB Decachlorobiphenyl (Surr)	14.268 11.003	13.252 10.850	12.447	11.411	11.474	Lin1	5.2618	10.923							0.9990		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 16:42 Calibration End Date: 10/08/2016 18:52 Calibration ID: 27248

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-345281/21	10081621.D
Level 2	STDL21660 280-345281/20	10081620.D
Level 3	STDL31660 280-345281/19	10081619.D
Level 4	STDL41660 280-345281/18	10081618.D
Level 5	STDL51660 280-345281/17	10081617.D
Level 6	STDL61660 280-345281/16	10081616.D
Level 7	STDL71660 280-345281/15	10081615.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	4180376 80228770	7053543 103145363	13632279	30373439	59028778	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	7572879 167889635	13679130 217662809	27232682	61921742	121652212	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	3233906 72017346	5886484 93557678	11696309	26268815	51961220	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	1833115 39155213	3327251 53541018	6483390	14493841	28344022	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	2580475 56756339	4571082 75743411	8922467	20476139	40574882	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	5892668 131640945	10585540 172031476	21200527	48908567	94702932	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	9070327 201986527	16234443 263806910	31709422	73427627	144780015	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	4120910 96359675	7604224 125703859	15166854	34815751	65072064	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	8968208 211581655	16562215 277241764	33160631	76723593	147875936	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	6659442 158422282	12328783 206769032	24444863	56606842	112943857	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene (Surr)	BNB	Lin1	5743872 134152881	10422018 175966913	20865105	48076336	95978795	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl (Surr)	BNB	Lin1	4726924 104633981	8507239 137561004	16640965	38012109	75707503	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081615.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 16:42:57 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0051591-015
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:47 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:13:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.849	0.000	268307579	1000.0	1000.0	
2	1.672	1.676	-0.004	253574546	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.796	2.797	-0.001	169082456	50.0	48.8	
2	2.736	2.734	0.002	175966913	50.0	49.2	
						RPD = 0.88	
1 PCB-1016							M
1	3.196	3.193	0.003	55040808	1000.0	972.7	
1	3.546	3.547	-0.001	101232778	1000.0	960.8	M
1	4.022	4.020	0.002	230529784	1000.0	978.5	M
1	4.162	4.163	-0.001	101620993	1000.0	970.0	M
1	4.619	4.620	-0.001	103960024	1000.0	984.6	M
		Average of Peak Amounts =				973.3	
2	3.619	3.620	-0.001	103145363	1000.0	965.6	
2	4.072	4.070	0.002	217662809	1000.0	973.5	
2	4.212	4.214	-0.002	93557678	1000.0	976.4	
2	4.446	4.444	0.002	53541018	1000.0	1005.2	
2	4.732	4.734	-0.002	75743411	1000.0	995.8	
		Average of Peak Amounts =				983.3	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.112	6.110	0.002	156560058	1000.0	978.5	
1	6.846	6.847	-0.001	293460060	1000.0	980.2	
1	7.342	7.340	0.002	145645097	1000.0	993.4	
1	7.776	7.777	-0.001	307330151	1000.0	970.2	
1	8.162	8.163	-0.001	174373109	1000.0	985.1	
		Average of Peak Amounts =				981.5	
2	6.579	6.580	-0.001	172031476	1000.0	978.9	
2	7.046	7.044	0.002	263806910	1000.0	981.7	
2	7.572	7.570	0.002	125703859	1000.0	992.2	
2	7.939	7.940	-0.001	277241764	1000.0	987.6	
2	8.439	8.440	-0.001	206769032	1000.0	982.8	
		Average of Peak Amounts =				984.6	
						RPD = 0.32	
$ 15 DCB Decachlorobiphenyl							
1	9.749	9.750	-0.001	163599797	50.0	48.7	
2	10.102	10.104	-0.002	137561004	50.0	49.2	
						RPD = 0.98	
S 8 Polychlorinated biphenyls, Total							
1						1954.8	
2						1967.9	
						RPD = 0.67	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

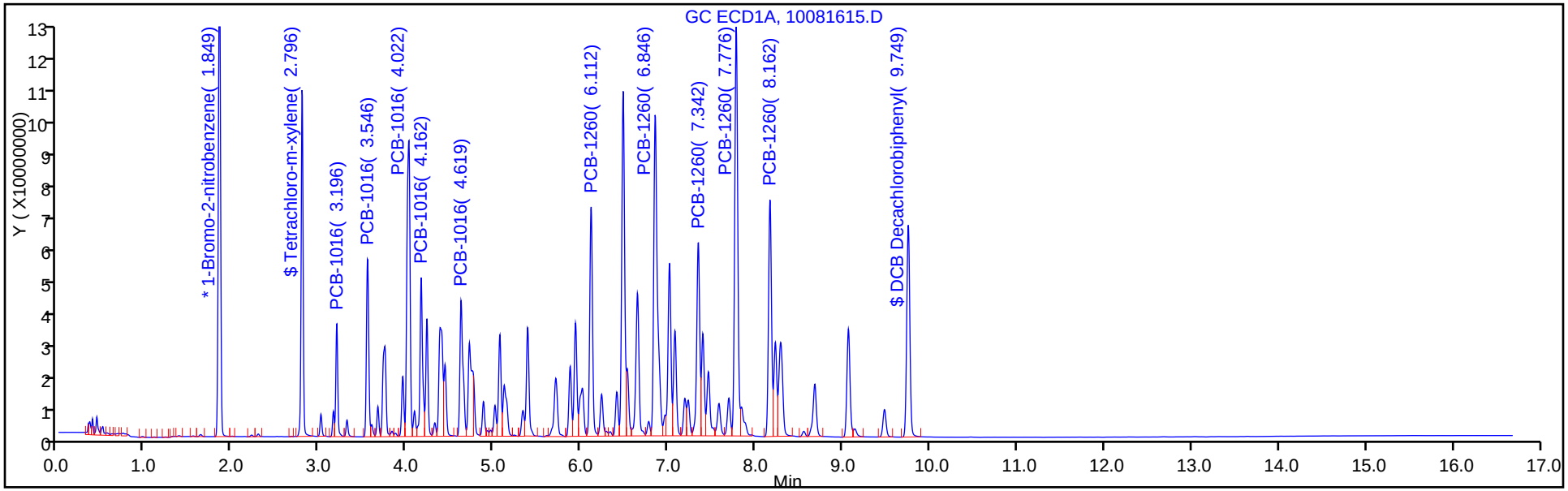
Report Date: 09-Oct-2016 09:27:48 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

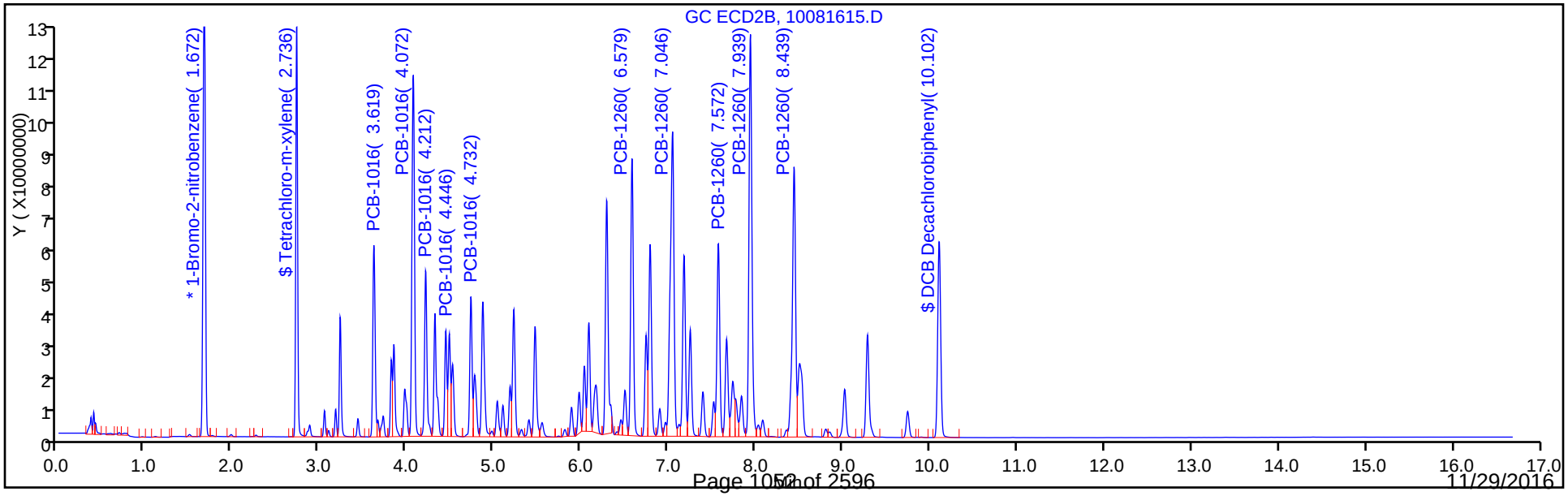
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081615.D

Injection Date:	08-Oct-2016 16:42:57	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL71660			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081616.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 17:04:38 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0051591-016
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:49 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:12:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.849	-0.002	268709937	1000.0	1000.0	
2	1.673	1.676	-0.003	253592332	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	129689586	37.5	37.3	
2	2.733	2.734	-0.001	134152881	37.5	37.5	
						RPD = 0.54	
1 PCB-1016							M
1	3.193	3.193	0.000	42520565	750.0	747.0	
1	3.547	3.547	0.000	79050845	750.0	745.5	M
1	4.020	4.020	0.000	177006327	750.0	747.6	M
1	4.163	4.163	0.000	79230979	750.0	752.3	M
1	4.620	4.620	0.000	80546084	750.0	759.2	M
		Average of Peak Amounts =				750.3	
2	3.620	3.620	0.000	80228770	750.0	747.5	
2	4.070	4.070	0.000	167889635	750.0	748.4	
2	4.213	4.214	-0.001	72017346	750.0	749.2	
2	4.443	4.444	-0.001	39155213	750.0	732.2	
2	4.733	4.734	-0.001	56756339	750.0	743.9	
		Average of Peak Amounts =				744.2	
						RPD = 0.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.110	6.110	0.000	120046212	750.0	746.5	
1	6.846	6.847	-0.001	226656596	750.0	753.9	
1	7.340	7.340	0.000	110539541	750.0	751.1	
1	7.776	7.777	-0.001	237334174	750.0	745.1	
1	8.163	8.163	0.000	131607970	750.0	740.2	
		Average of Peak Amounts =				747.4	
2	6.580	6.580	0.000	131640945	750.0	746.7	
2	7.043	7.044	-0.001	201986527	750.0	749.4	
2	7.570	7.570	0.000	96359675	750.0	758.5	
2	7.937	7.940	-0.003	211581655	750.0	751.8	
2	8.440	8.440	0.000	158422282	750.0	751.2	
		Average of Peak Amounts =				751.5	
						RPD = 0.55	
$ 15 DCB Decachlorobiphenyl							
1	9.750	9.750	0.000	126579845	37.5	37.5	
2	10.103	10.104	-0.001	104633981	37.5	37.3	
						RPD = 0.54	
S 8 Polychlorinated biphenyls, Total							
1						1497.7	
2						1495.8	
						RPD = 0.13	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L6_00027	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

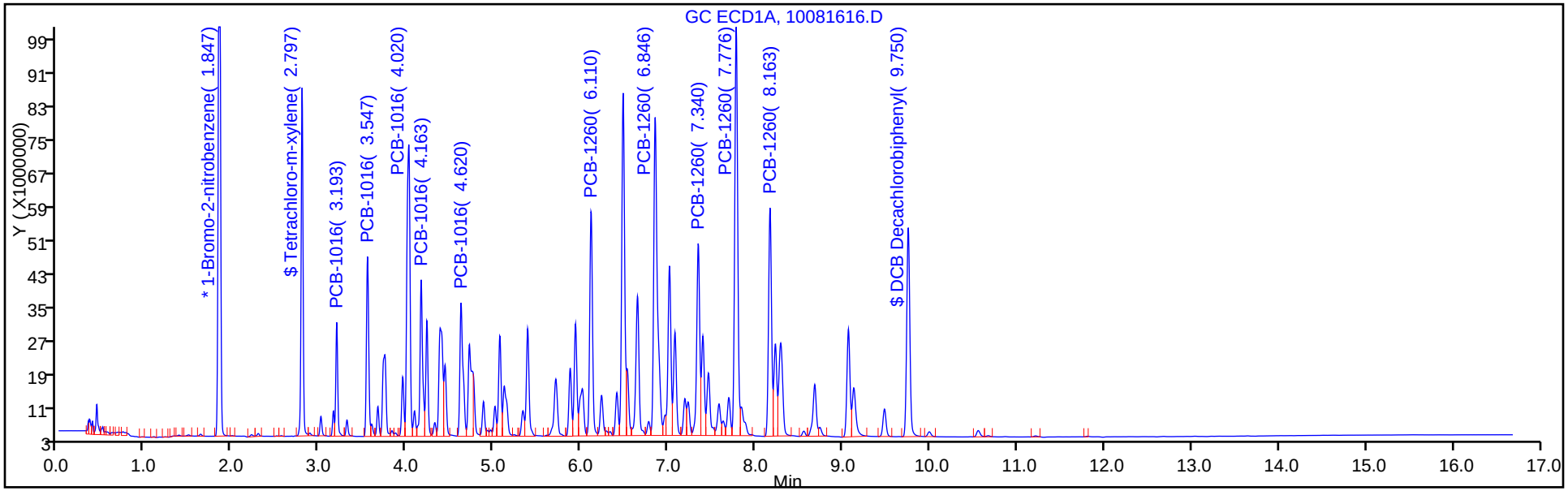
Report Date: 09-Oct-2016 09:27:50 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

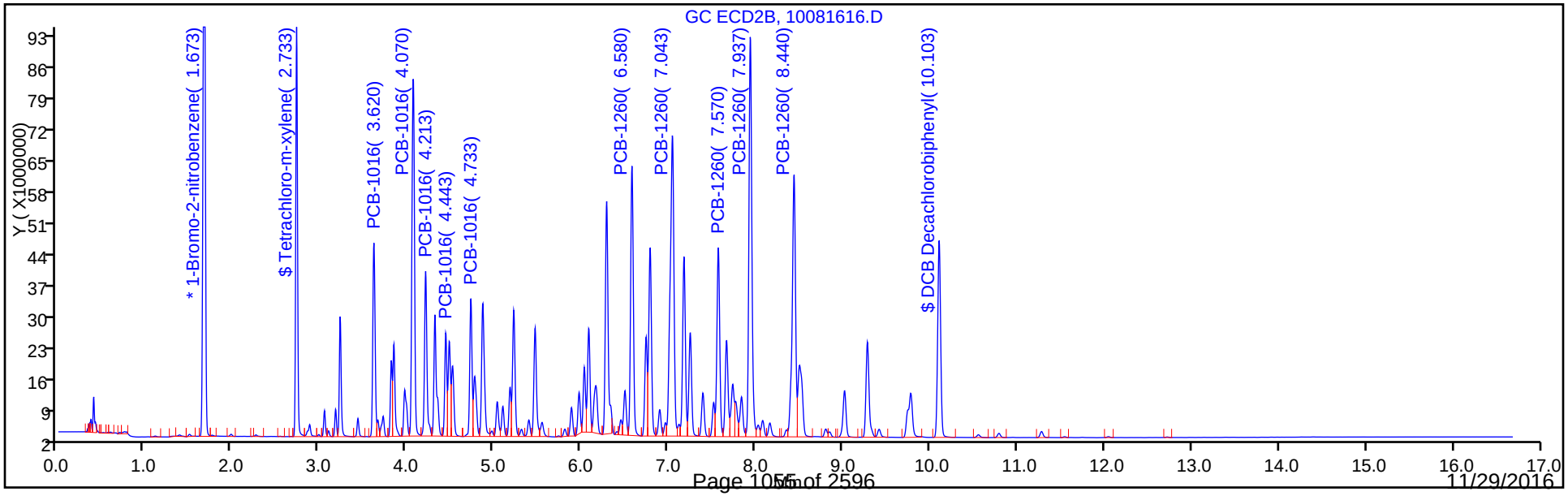
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081616.D

Injection Date:	08-Oct-2016 17:04:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL61660			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081617.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 08-Oct-2016 17:26:17 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0051591-017
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:51 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 08:59:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.847	0.000	278602349	1000.0	1000.0	
2	1.674	1.674	0.000	263936559	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	94134005	25.0	25.9	
2	2.734	2.734	0.000	95978795	25.0	25.6	
						RPD = 1.07	
1 PCB-1016							
1	3.193	3.193	0.000	30681611	500.0	515.5	
1	3.547	3.547	0.000	58084143	500.0	523.5	
1	4.020	4.020	0.000	127440814	500.0	515.7	
1	4.163	4.163	0.000	56798187	500.0	516.3	
1	4.620	4.620	0.000	55853071	500.0	504.1	
		Average of Peak Amounts =				515.0	
2	3.620	3.620	0.000	59028778	500.0	523.7	
2	4.070	4.070	0.000	121652212	500.0	517.9	
2	4.214	4.214	0.000	51961220	500.0	516.2	
2	4.444	4.444	0.000	28344022	500.0	506.0	
2	4.734	4.734	0.000	40574882	500.0	508.1	
		Average of Peak Amounts =				514.4	
						RPD = 0.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.110	6.110	0.000	87905559	500.0	523.9	
1	6.847	6.847	0.000	163032185	500.0	520.4	
1	7.340	7.340	0.000	79068724	500.0	515.9	
1	7.777	7.777	0.000	170845932	500.0	513.3	
1	8.163	8.163	0.000	96156099	500.0	519.0	
		Average of Peak Amounts =				518.5	
2	6.580	6.580	0.000	94702932	500.0	513.1	
2	7.044	7.044	0.000	144780015	500.0	513.2	
2	7.570	7.570	0.000	65072064	500.0	489.1	
2	7.940	7.940	0.000	147875936	500.0	502.3	
2	8.440	8.440	0.000	112943857	500.0	512.3	
		Average of Peak Amounts =				506.0	
						RPD = 2.44	
$ 15 DCB Decachlorobiphenyl							
1	9.750	9.750	0.000	91408864	25.0	25.9	
2	10.104	10.104	0.000	75707503	25.0	25.8	
						RPD = 0.62	

Reagents:

AR_1660_L5_00060	Amount Added: 1.00	Units: mL	
BNB IS_00008	Amount Added: 1.00	Units: mL	Run Reagent

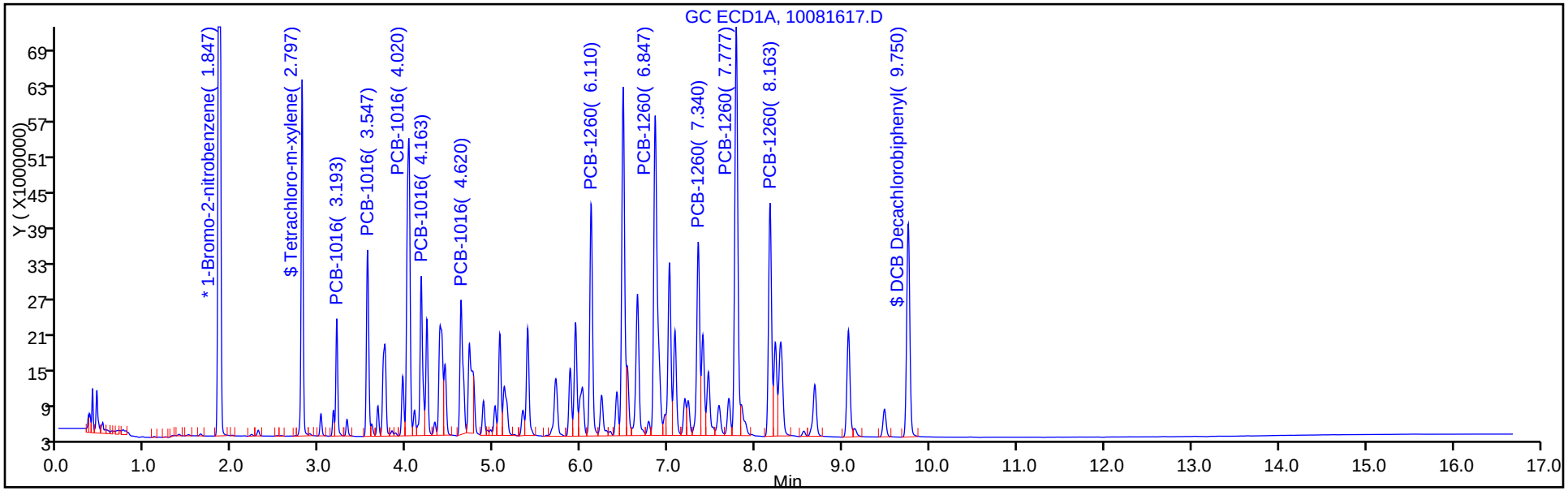
Report Date: 09-Oct-2016 09:27:52 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

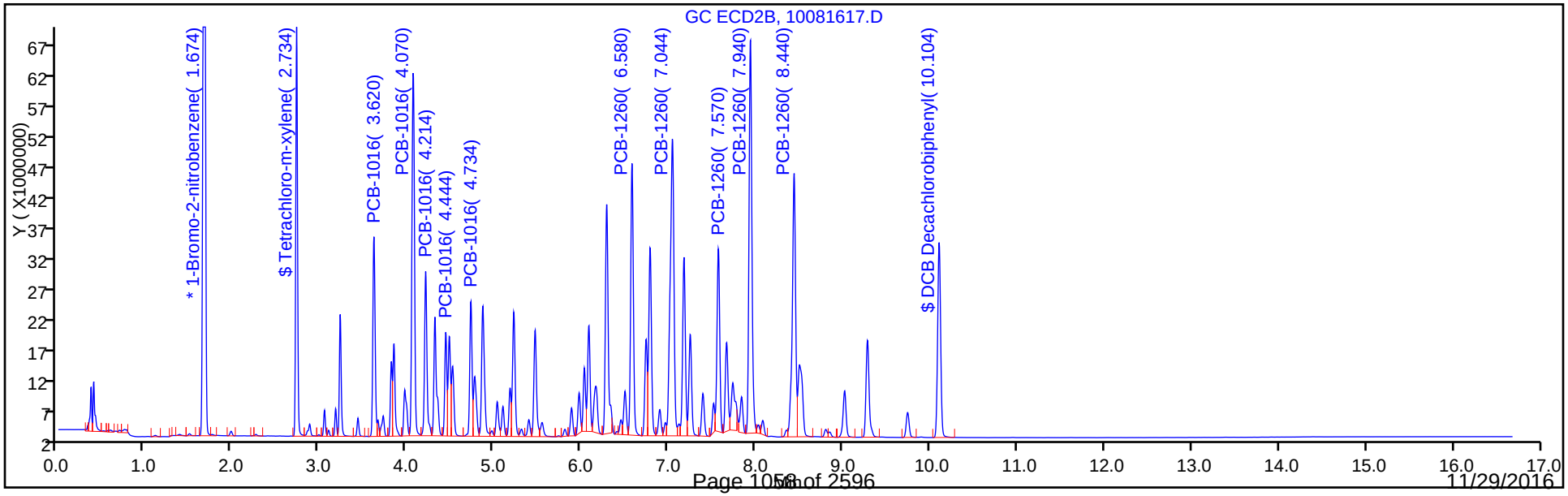
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081617.D

Injection Date:	08-Oct-2016 17:26:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL51660			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081618.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 17:47:58 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0051591-018
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:53 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.847	0.004	281308235	1000.0	1000.0	
2	1.674	1.674	0.000	266493345	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	48094725	12.5	12.8	
2	2.734	2.734	0.000	48076336	12.5	12.5	
						RPD = 2.32	
1 PCB-1016							
1	3.194	3.193	0.001	15929332	250.0	258.0	
1	3.547	3.547	0.000	30291915	250.0	262.4	
1	4.021	4.020	0.001	64822500	250.0	254.3	
1	4.164	4.163	0.001	29078133	250.0	255.6	
1	4.621	4.620	0.001	28022370	250.0	244.9	
		Average of Peak Amounts =				255.0	
2	3.621	3.620	0.001	30373439	250.0	259.0	
2	4.071	4.070	0.001	61921742	250.0	255.9	
2	4.214	4.214	0.000	26268815	250.0	253.3	
2	4.444	4.444	0.000	14493841	250.0	251.1	
2	4.734	4.734	0.000	20476139	250.0	249.4	
		Average of Peak Amounts =				253.7	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.111	6.110	0.001	42891675	250.0	247.3	
1	6.847	6.847	0.000	77912763	250.0	241.8	
1	7.341	7.340	0.001	37357200	250.0	237.6	
1	7.774	7.777	-0.003	91276632	250.0	265.4	
1	8.164	8.163	0.001	48110482	250.0	252.8	
		Average of Peak Amounts =				249.0	
2	6.581	6.580	0.001	48908567	250.0	257.7	
2	7.044	7.044	0.000	73427627	250.0	253.1	
2	7.571	7.570	0.001	34815751	250.0	255.2	
2	7.937	7.940	-0.003	76723593	250.0	254.3	
2	8.441	8.440	0.001	56606842	250.0	250.6	
		Average of Peak Amounts =				254.2	
						RPD = 2.07	
$ 15 DCB Decachlorobiphenyl							
1	9.751	9.750	0.001	46167799	12.5	12.7	
2	10.104	10.104	0.000	38012109	12.5	12.6	
						RPD = 0.85	
S 8 Polychlorinated biphenyls, Total							
1						504.0	
2						507.9	
						RPD = 0.78	

Reagents:

AR_1660_L4_00063	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

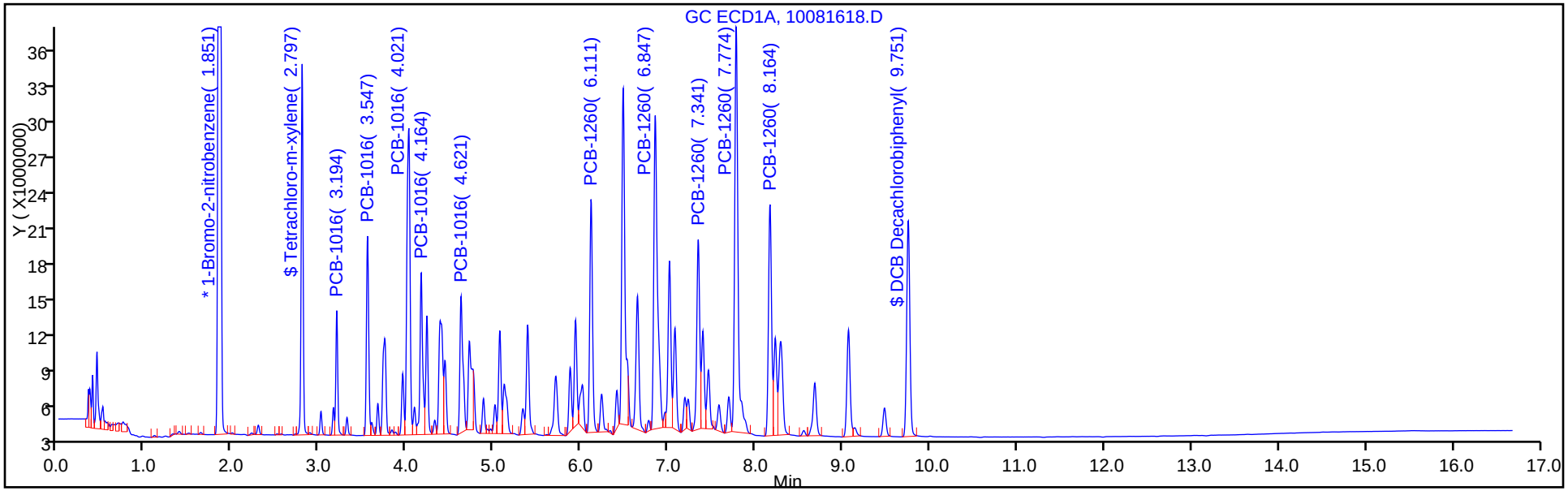
Report Date: 09-Oct-2016 09:27:54 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

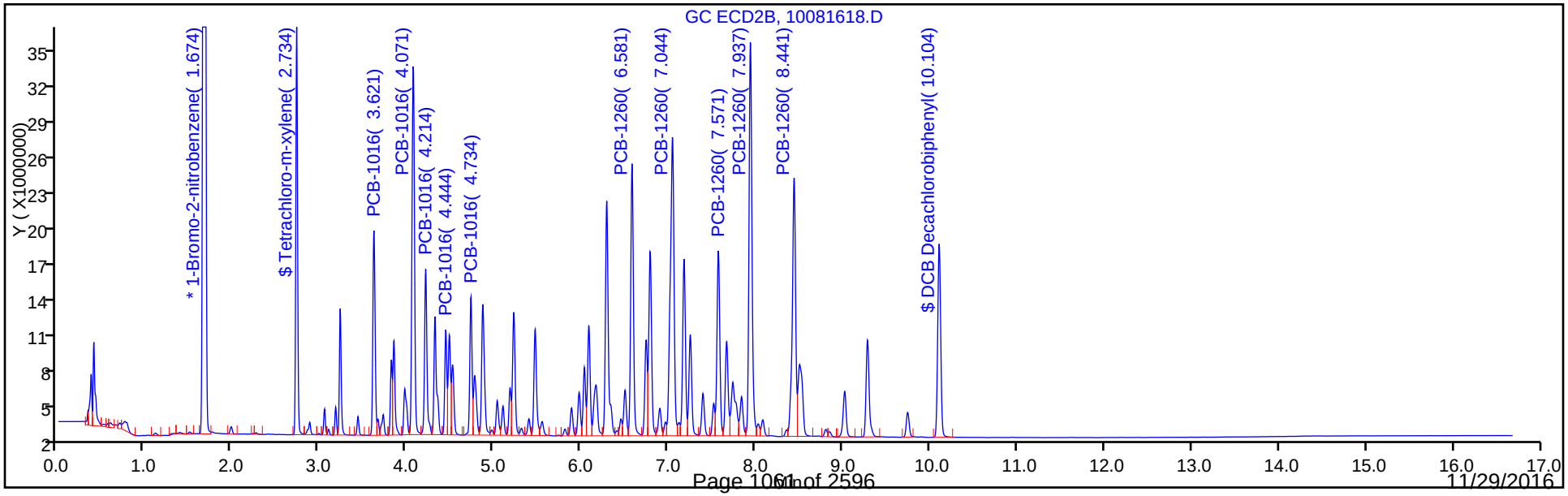
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081618.D

Injection Date:	08-Oct-2016 17:47:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL41660			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081619.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 18:09:37 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0051591-019
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:55 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.851	1.847	0.004	281194735	1000.0	1000.0	
2	1.674	1.674	0.000	267390777	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	21127413	5.00	5.30	
2	2.734	2.734	0.000	20865105	5.00	5.20	
						RPD = 1.93	
1 PCB-1016							
1	3.194	3.193	0.001	7229394	100.0	109.2	
1	3.547	3.547	0.000	13785568	100.0	110.5	
1	4.021	4.020	0.001	28461655	100.0	105.5	
1	4.161	4.163	-0.002	13019160	100.0	107.6	
1	4.621	4.620	0.001	13067394	100.0	108.3	
		Average of Peak Amounts =				108.2	
2	3.621	3.620	0.001	13632279	100.0	107.0	
2	4.071	4.070	0.001	27232682	100.0	106.3	
2	4.214	4.214	0.000	11696309	100.0	106.7	
2	4.444	4.444	0.000	6483390	100.0	106.1	
2	4.731	4.734	-0.003	8922467	100.0	103.2	
		Average of Peak Amounts =				105.8	
						RPD = 2.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.111	6.110	0.001	19274263	100.0	104.9	
1	6.847	6.847	0.000	34994844	100.0	103.9	
1	7.341	7.340	0.001	16551860	100.0	101.3	
1	7.777	7.777	0.000	39981555	100.0	108.9	
1	8.164	8.163	0.001	20718344	100.0	103.9	
		Average of Peak Amounts =				104.6	
2	6.581	6.580	0.001	21200527	100.0	105.8	
2	7.044	7.044	0.000	31709422	100.0	103.6	
2	7.571	7.570	0.001	15166854	100.0	106.0	
2	7.938	7.940	-0.002	33160631	100.0	105.1	
2	8.441	8.440	0.001	24444863	100.0	103.7	
		Average of Peak Amounts =				104.8	
						RPD = 0.22	
$ 15 DCB Decachlorobiphenyl							
1	9.751	9.750	0.001	20275699	5.00	5.25	
2	10.104	10.104	0.000	16640965	5.00	5.22	
						RPD = 0.59	
S 8 Polychlorinated biphenyls, Total							
1						212.8	
2						210.7	
						RPD = 1.00	

Reagents:

AR_1660_L3_00026	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

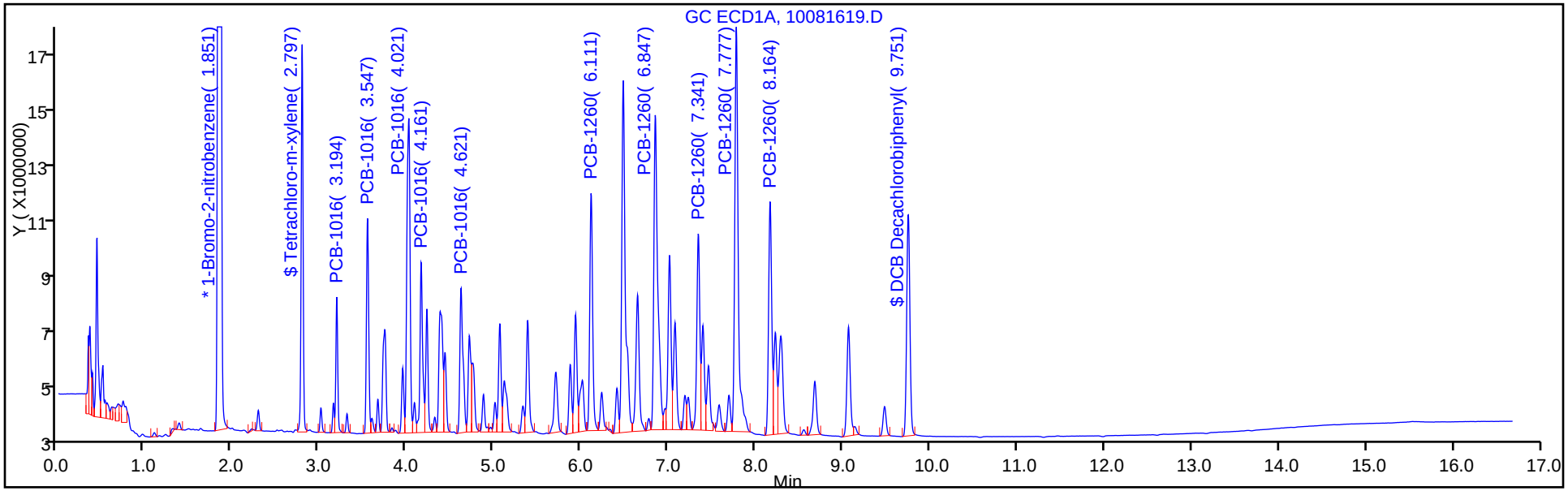
Report Date: 09-Oct-2016 09:27:56 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

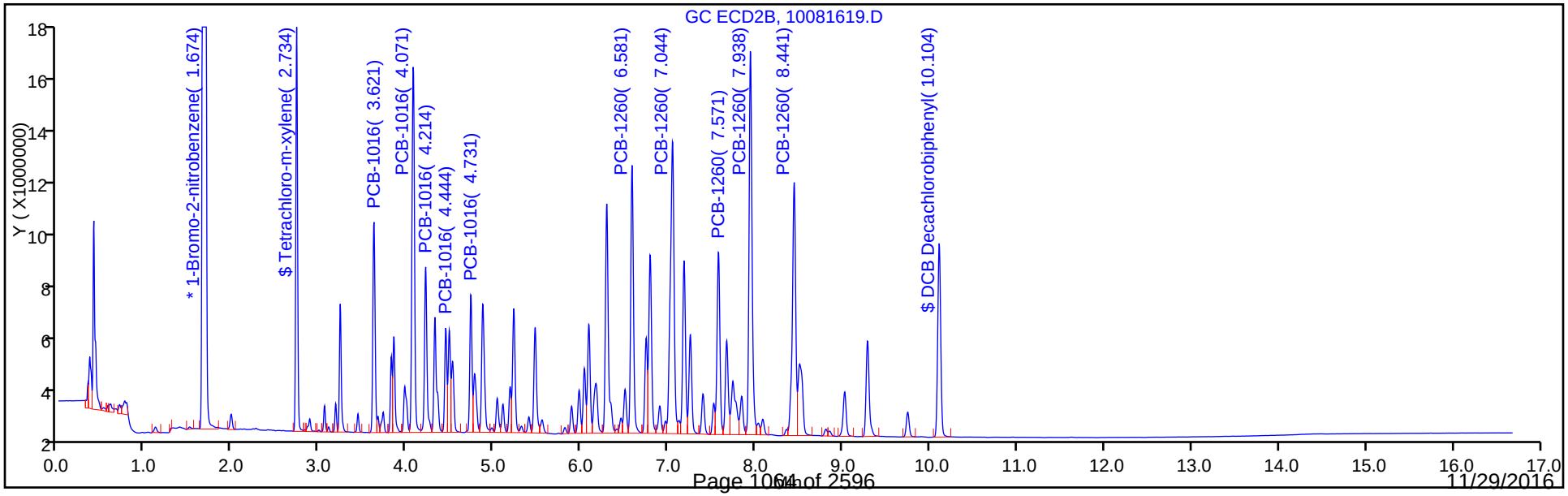
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081619.D

Injection Date:	08-Oct-2016 18:09:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL31660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081620.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 18:31:17 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0051591-020
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:57 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.847	0.001	269819481	1000.0	1000.0	
2	1.672	1.674	-0.002	256792124	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.795	2.797	-0.002	10785571	2.50	2.55	
2	2.732	2.734	-0.002	10422018	2.50	2.53	
						RPD = 0.90	
1 PCB-1016							
1	3.195	3.193	0.002	3704299	50.0	51.5	
1	3.545	3.547	-0.002	7190201	50.0	52.5	
1	4.022	4.020	0.002	14526378	50.0	50.9	
1	4.162	4.163	-0.001	6675916	50.0	51.6	
1	4.618	4.620	-0.002	6564298	50.0	51.4	
		Average of Peak Amounts =				51.6	
2	3.619	3.620	-0.001	7053543	50.0	50.2	
2	4.072	4.070	0.002	13679130	50.0	50.6	
2	4.212	4.214	-0.002	5886484	50.0	51.0	
2	4.445	4.444	0.001	3327251	50.0	51.7	
2	4.732	4.734	-0.002	4571082	50.0	50.9	
		Average of Peak Amounts =				50.9	
						RPD = 1.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.112	6.110	0.002	9911386	50.0	50.9	
1	6.848	6.847	0.001	17810078	50.0	51.1	
1	7.342	7.340	0.002	8506323	50.0	50.9	
1	7.778	7.777	0.001	20222696	50.0	51.2	
1	8.165	8.163	0.002	10511237	50.0	50.8	
		Average of Peak Amounts =				51.0	
2	6.582	6.580	0.002	10585540	50.0	50.3	
2	7.045	7.044	0.001	16234443	50.0	50.8	
2	7.572	7.570	0.002	7604224	50.0	51.2	
2	7.938	7.940	-0.002	16562215	50.0	50.9	
2	8.438	8.440	-0.002	12328783	50.0	51.0	
		Average of Peak Amounts =				50.9	
						RPD = 0.26	
$ 15 DCB Decachlorobiphenyl							
1	9.748	9.750	-0.002	10440662	2.50	2.55	
2	10.105	10.104	0.001	8507239	2.50	2.55	
						RPD = 0.21	
S 8 Polychlorinated biphenyls, Total							
1						102.6	
2						101.7	
						RPD = 0.81	

Reagents:

AR_1660_L2_00025	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

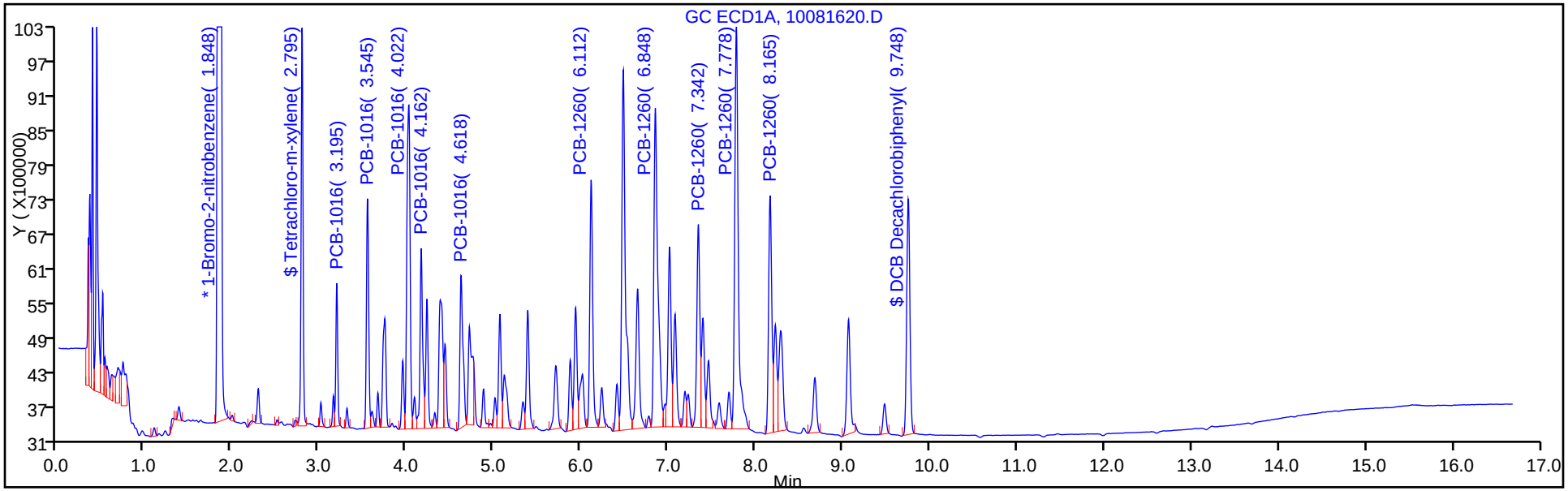
Report Date: 09-Oct-2016 09:27:58 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

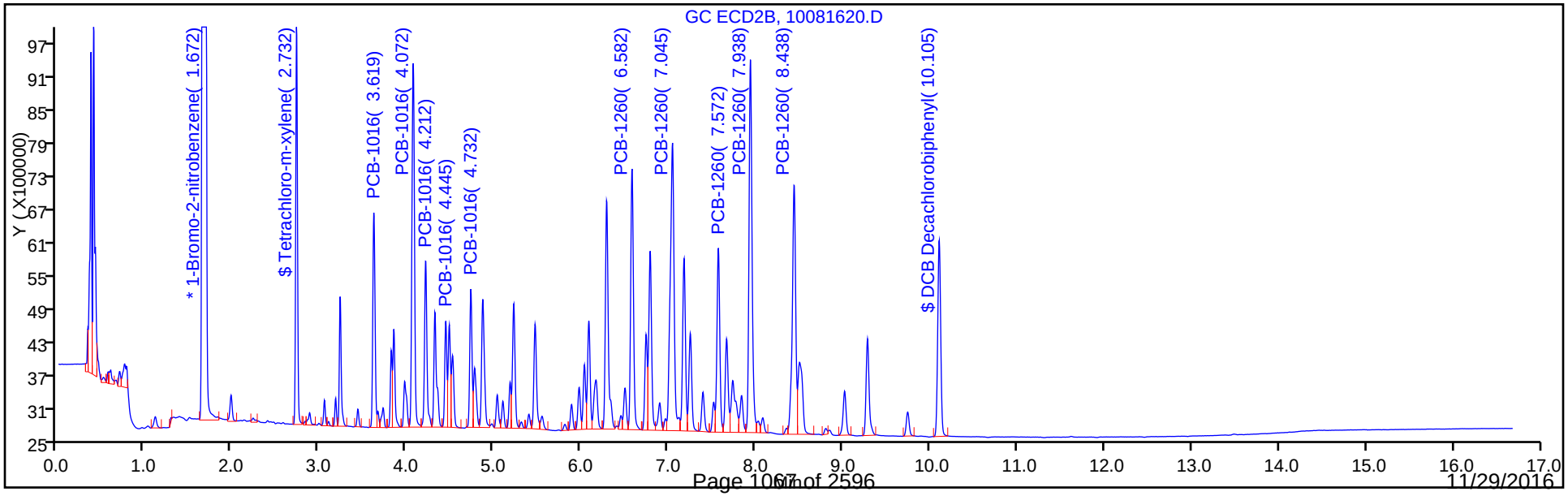
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081620.D

Injection Date:	08-Oct-2016 18:31:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL21660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081621.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 18:52:58 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0051591-021
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:27:59 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.847	0.002	278525441	1000.0	1000.0	
2	1.676	1.674	0.002	265035398	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.796	2.797	-0.001	6025618	1.25	1.11	
2	2.733	2.734	-0.001	5743872	1.25	1.17	
						RPD = 5.47	
1 PCB-1016							
1	3.193	3.193	0.000	2068792	25.0	21.2	
1	3.546	3.547	-0.001	3911568	25.0	19.9	
1	4.019	4.020	-0.001	8150652	25.0	22.6	
1	4.163	4.163	0.000	3665410	25.0	21.6	
1	4.619	4.620	-0.001	3652312	25.0	22.6	
		Average of Peak Amounts =				21.6	
2	3.619	3.620	-0.001	4180376	25.0	22.0	
2	4.073	4.070	0.003	7572879	25.0	22.3	
2	4.213	4.214	-0.001	3233906	25.0	22.3	
2	4.446	4.444	0.002	1833115	25.0	22.7	
2	4.733	4.734	-0.001	2580475	25.0	23.7	
		Average of Peak Amounts =				22.6	
						RPD = 4.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.113	6.110	0.003	5657078	25.0	23.1	
1	6.849	6.847	0.002	9924750	25.0	23.6	
1	7.343	7.340	0.003	4838426	25.0	24.8	
1	7.776	7.777	-0.001	11032629	25.0	20.9	
1	8.166	8.163	0.003	5794670	25.0	23.1	
		Average of Peak Amounts =				23.1	
2	6.583	6.580	0.003	5892668	25.0	22.6	
2	7.046	7.044	0.002	9070327	25.0	23.2	
2	7.573	7.570	0.003	4120910	25.0	22.8	
2	7.939	7.940	-0.001	8968208	25.0	23.0	
2	8.439	8.440	-0.001	6659442	25.0	23.3	
		Average of Peak Amounts =				23.0	
						RPD = 0.46	
$ 15 DCB Decachlorobiphenyl							
1	9.749	9.750	-0.001	5906808	1.25	1.13	
2	10.103	10.104	-0.001	4726924	1.25	1.15	
						RPD = 1.63	
S 8 Polychlorinated biphenyls, Total							
1						44.6	
2						45.6	
						RPD = 2.09	

Reagents:

AR_1660_L1_00026	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

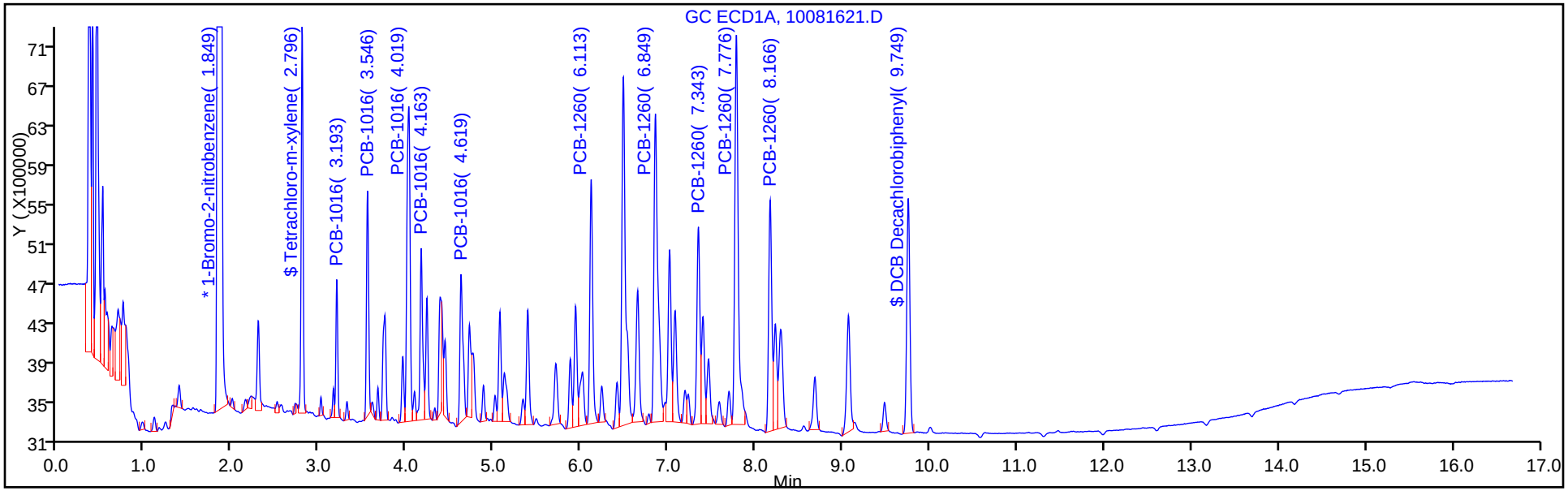
Report Date: 09-Oct-2016 09:27:59 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

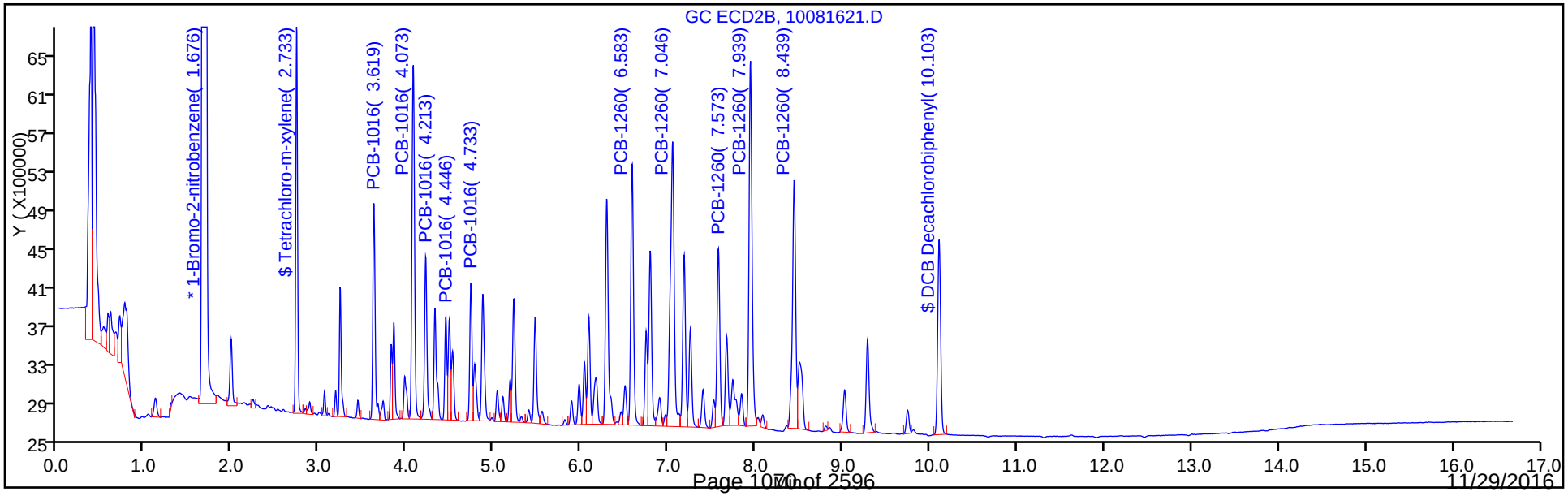
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081621.D

Injection Date:	08-Oct-2016 18:52:58	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL11660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 19:14 Calibration End Date: 10/08/2016 21:24 Calibration ID: 27251

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-345281/28	10081628.D
Level 2	STDL23262 280-345281/27	10081627.D
Level 3	STDL33262 280-345281/26	10081626.D
Level 4	STDL43262 280-345281/25	10081625.D
Level 5	STDL53262 280-345281/24	10081624.D
Level 6	STDL63262 280-345281/23	10081623.D
Level 7	STDL73262 280-345281/22	10081622.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 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.4046 0.2472	0.3217 0.2391	0.2962	0.2680	0.2538	Lin1	4.4371	0.2404							0.9990		0.9900
PCB-1232 Peak 2	0.3165 0.2035	0.2688 0.1978	0.2394	0.2209	0.2079	Lin1	3.3784	0.1986							0.9990		0.9900
PCB-1232 Peak 3	0.6440 0.4386	0.5299 0.4288	0.4853	0.4551	0.4386	Lin1	5.4538	0.4276							1.0000		0.9900
PCB-1232 Peak 4	0.2883 0.1946	0.2394 0.1891	0.2186	0.2060	0.1961	Lin1	2.6083	0.1897							1.0000		0.9900
PCB-1232 Peak 5	0.2674 0.1803	0.2393 0.1793	0.2105	0.1885	0.1819	Lin1	2.6468	0.1771							1.0000		0.9900
PCB-1262 Peak 1	0.9077 0.6292	0.7244 0.6147	0.7033	0.6516	0.6246	Lin1	7.1706	0.6134							1.0000		0.9900
PCB-1262 Peak 2	1.1317 0.7963	0.9519 0.7822	0.8959	0.8376	0.7874	Lin1	9.3640	0.7785							1.0000		0.9900
PCB-1262 Peak 3	1.0762 0.7441	0.8568 0.7285	0.8308	0.7705	0.7442	Lin1	8.4447	0.7271							1.0000		0.9900
PCB-1262 Peak 4	2.2673 1.4885	1.8610 1.4592	1.7755	1.6607	1.4809	Lin1	22.874	1.4573							0.9990		0.9900
PCB-1262 Peak 5	0.7330 0.5363	0.6043 0.5241	0.5776	0.5371	0.5305	Lin1	4.9196	0.5225							1.0000		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 19:14 Calibration End Date: 10/08/2016 21:24 Calibration ID: 27251

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-345281/28	10081628.D
Level 2	STDL23262 280-345281/27	10081627.D
Level 3	STDL33262 280-345281/26	10081626.D
Level 4	STDL43262 280-345281/25	10081625.D
Level 5	STDL53262 280-345281/24	10081624.D
Level 6	STDL63262 280-345281/23	10081623.D
Level 7	STDL73262 280-345281/22	10081622.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	2817230 50324255	4514804 63604910	8357089	18817472	35069974	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	2203842 41425367	3772596 52630720	6756348	15511590	28729661	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	4484149 89308038	7437738 114075819	13694115	31954033	60614935	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	2007425 39632997	3360132 50309848	6168038	14467012	27096754	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	1861828 36721446	3357952 47696216	5939777	13236440	25138078	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	6320811 128107508	10166496 163520103	19843913	45752046	86330587	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	7880525 162130160	13359442 208094891	25279589	58809961	108828491	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	7494329 151502950	12025270 193794788	23443670	54103020	102847278	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	15788378 303086439	26119552 388183198	50098554	116605749	204663838	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	5104184 109206733	8481202 139415636	16299092	37715896	73320764	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081622.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 19:14:36 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0051591-022
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:00 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.847	0.002	266024286	1000.0	1000.0	
2	1.672	1.674	-0.002	253550306	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.192	3.193	-0.001	63604910	1000.0	976.1	
1	3.546	3.547	-0.001	52630720	1000.0	979.2	
1	4.019	4.020	-0.001	114075819	1000.0	990.1	
1	4.162	4.163	-0.001	50309848	1000.0	983.2	
1	4.619	4.620	-0.001	47696216	1000.0	997.3	
		Average of Peak Amounts =				985.2	
2	3.232	3.234	-0.002	62711924	1000.0	974.4	
2	3.619	3.620	-0.001	56169557	1000.0	982.8	
2	4.072	4.070	0.002	109559652	1000.0	990.3	
2	4.212	4.214	-0.002	46915910	1000.0	999.9	
2	4.869	4.870	-0.001	39545717	1000.0	1029.1	
		Average of Peak Amounts =				995.3	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.480	-0.001	163520103	1000.0	990.4	
1	7.009	7.010	-0.001	208094891	1000.0	992.8	
1	7.339	7.340	-0.001	193794788	1000.0	990.3	
1	7.776	7.777	-0.001	388183198	1000.0	985.6	
1	8.162	8.163	-0.001	139415636	1000.0	993.6	
		Average of Peak Amounts =				990.5	
2	6.579	6.580	-0.001	131773087	1000.0	991.2	
2	7.176	7.177	-0.001	183994504	1000.0	988.3	
2	7.572	7.570	0.002	177348389	1000.0	991.0	
2	7.939	7.937	0.002	337510692	1000.0	989.7	
2	8.439	8.437	0.002	246596790	1000.0	989.0	
		Average of Peak Amounts =				989.9	
						RPD = 0.07	
S 8 Polychlorinated biphenyls, Total							
1						1975.7	
2						1985.1	
						RPD = 0.48	

Reagents:

AR_3262_L7_00012	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

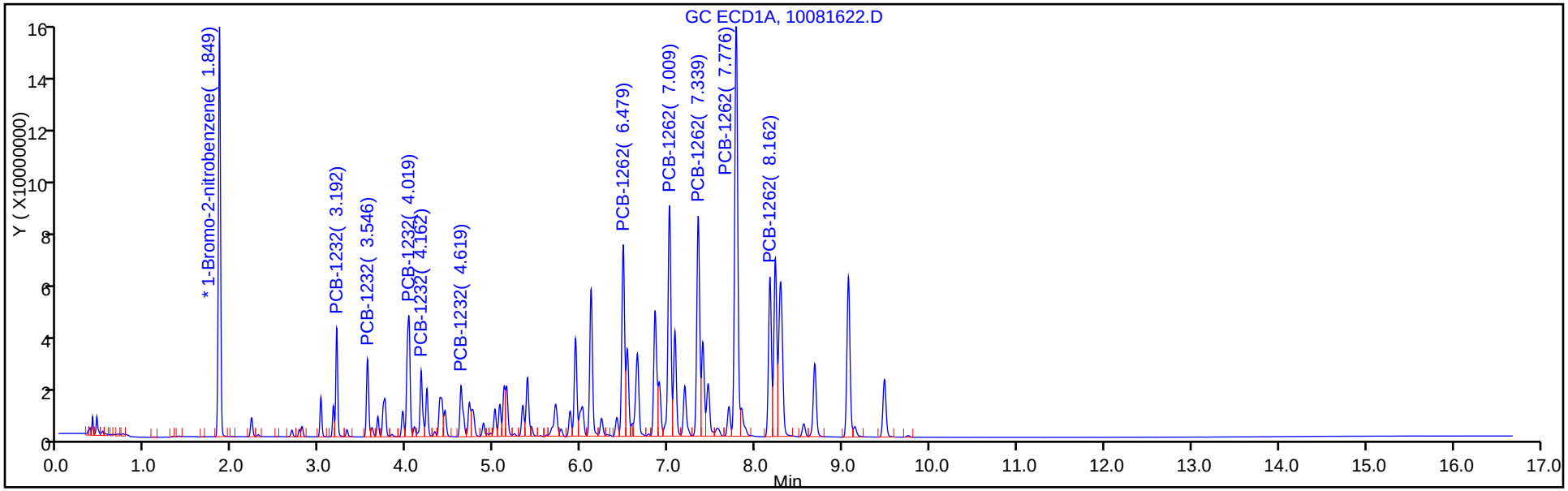
Report Date: 09-Oct-2016 09:28:01 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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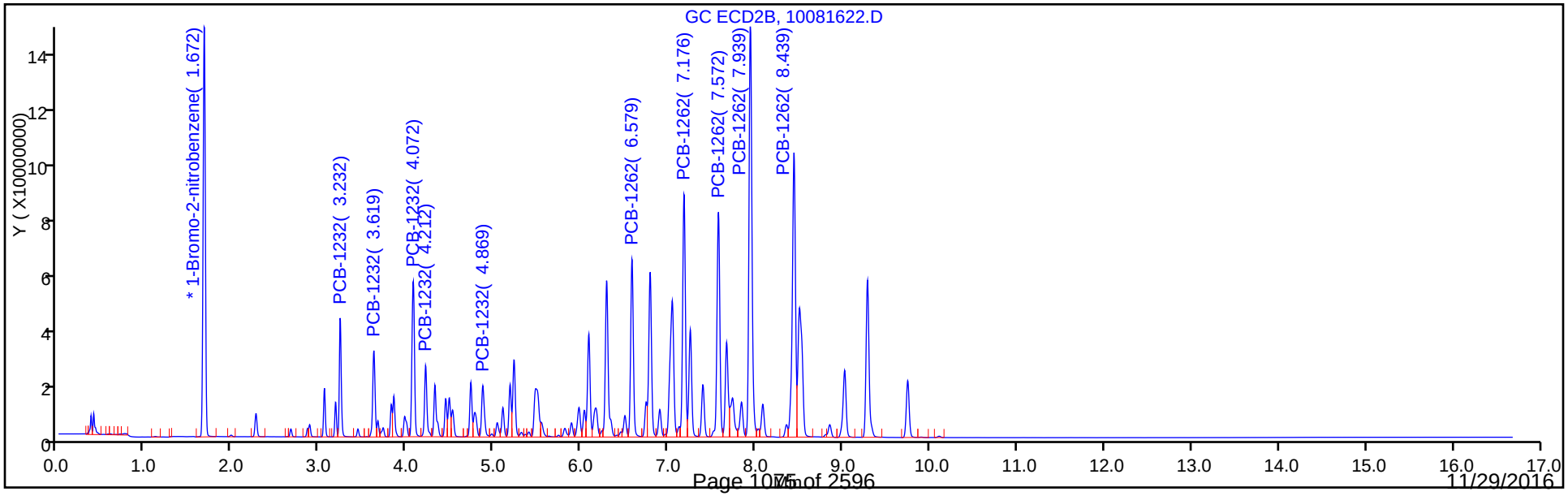
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081622.D

Injection Date:	08-Oct-2016 19:14:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL73262			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081623.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 19:36:16 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0051591-023
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:03 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.847	0.003	271484452	1000.0	1000.0	
2	1.673	1.674	-0.001	259541500	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	50324255	750.0	752.6	
1	3.546	3.547	-0.001	41425367	750.0	751.3	
1	4.020	4.020	0.000	89308038	750.0	756.6	
1	4.163	4.163	0.000	39632997	750.0	755.9	
1	4.620	4.620	0.000	36721446	750.0	748.7	
		Average of Peak Amounts =				753.0	
2	3.233	3.234	-0.001	49994012	750.0	754.7	
2	3.620	3.620	0.000	44389994	750.0	755.5	
2	4.073	4.070	0.003	85847101	750.0	755.5	
2	4.213	4.214	-0.001	36033014	750.0	747.5	
2	4.870	4.870	0.000	28828115	750.0	730.6	
		Average of Peak Amounts =				748.8	
						RPD = 0.57	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.480	6.480	0.000	128107508	750.0	757.6	
1	7.010	7.010	0.000	162130160	750.0	755.1	
1	7.340	7.340	0.000	151502950	750.0	755.9	
1	7.776	7.777	-0.001	303086439	750.0	750.4	
1	8.163	8.163	0.000	109206733	750.0	760.4	
		Average of Peak Amounts =				755.9	
2	6.580	6.580	0.000	103314405	750.0	756.9	
2	7.176	7.177	-0.001	144573517	750.0	756.1	
2	7.570	7.570	0.000	138823800	750.0	755.4	
2	7.936	7.937	-0.001	264231749	750.0	754.4	
2	8.436	8.437	-0.001	193468130	750.0	755.7	
		Average of Peak Amounts =				755.7	
						RPD = 0.03	
S 8 Polychlorinated biphenyls, Total							
1						1508.9	
2						1504.4	
						RPD = 0.30	

Reagents:

AR_3262_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

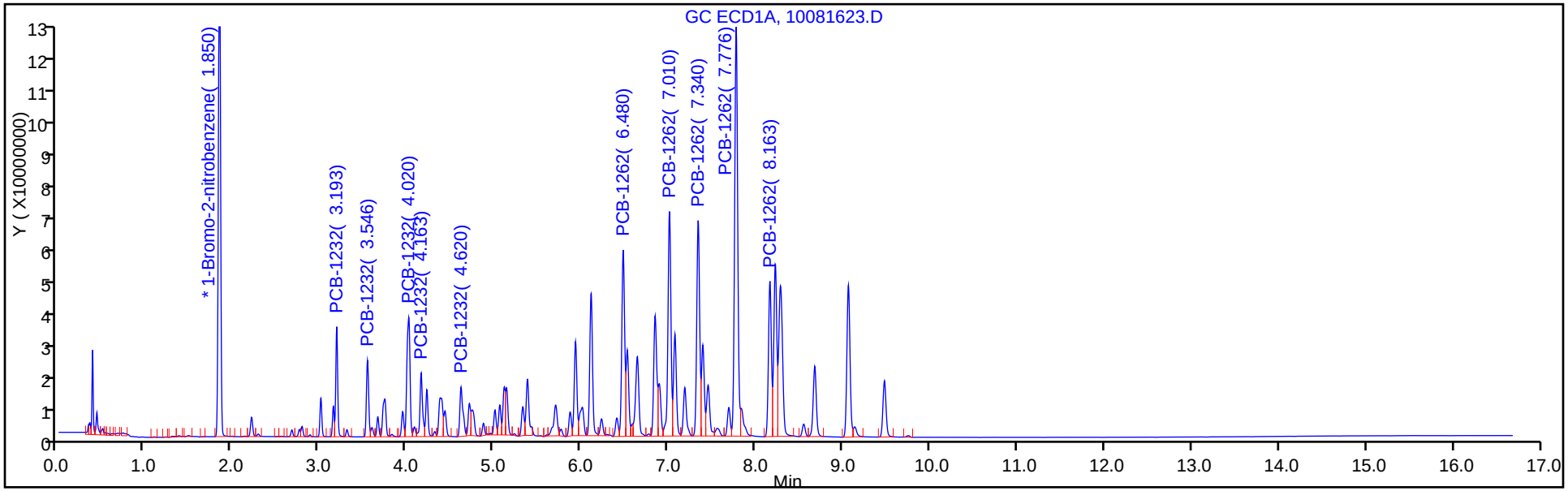
Report Date: 09-Oct-2016 09:28:03 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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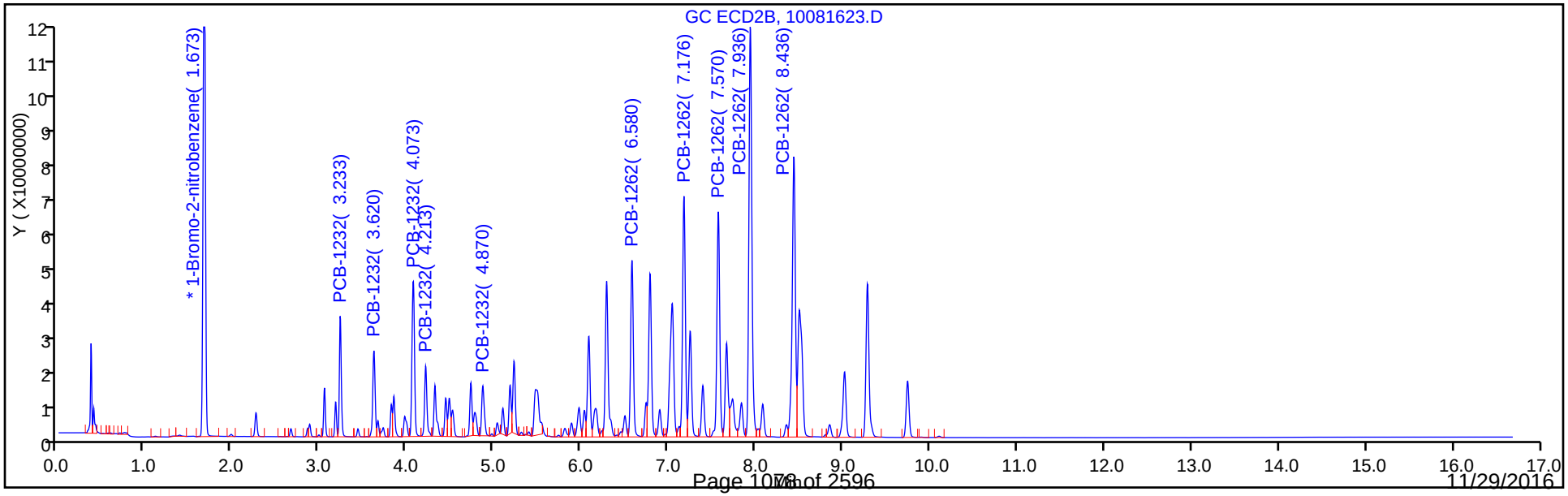
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081623.D

Injection Date:	08-Oct-2016 19:36:16	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL63262			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081624.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 19:57:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0051591-024
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:05 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:00:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.850	0.000	276413561	1000.0	1000.0	
2	1.674	1.674	0.000	263376155	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	35069974	500.0	509.3	
1	3.547	3.547	0.000	28729661	500.0	506.3	
1	4.020	4.020	0.000	60614935	500.0	500.1	
1	4.163	4.163	0.000	27096754	500.0	503.0	
1	4.620	4.620	0.000	25138078	500.0	498.5	
		Average of Peak Amounts =				503.5	
2	3.234	3.234	0.000	34576978	500.0	508.4	
2	3.620	3.620	0.000	30253218	500.0	502.6	
2	4.070	4.070	0.000	58228070	500.0	501.4	
2	4.214	4.214	0.000	24493576	500.0	497.1	
2	4.870	4.870	0.000	19428897	500.0	482.6	
		Average of Peak Amounts =				498.4	
						RPD = 1.01	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.480	6.480	0.000	86330587	500.0	497.5	
1	7.010	7.010	0.000	108828491	500.0	493.7	
1	7.340	7.340	0.000	102847278	500.0	500.1	
1	7.777	7.777	0.000	204663838	500.0	492.4	
1	8.163	8.163	0.000	73320764	500.0	498.2	
		Average of Peak Amounts =				496.4	
2	6.580	6.580	0.000	69764477	500.0	500.3	
2	7.177	7.177	0.000	97929532	500.0	501.0	
2	7.570	7.570	0.000	93951034	500.0	500.4	
2	7.937	7.937	0.000	179206887	500.0	500.7	
2	8.437	8.437	0.000	130995925	500.0	500.8	
		Average of Peak Amounts =				500.6	
						RPD = 0.85	

Reagents:

AR_3262_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

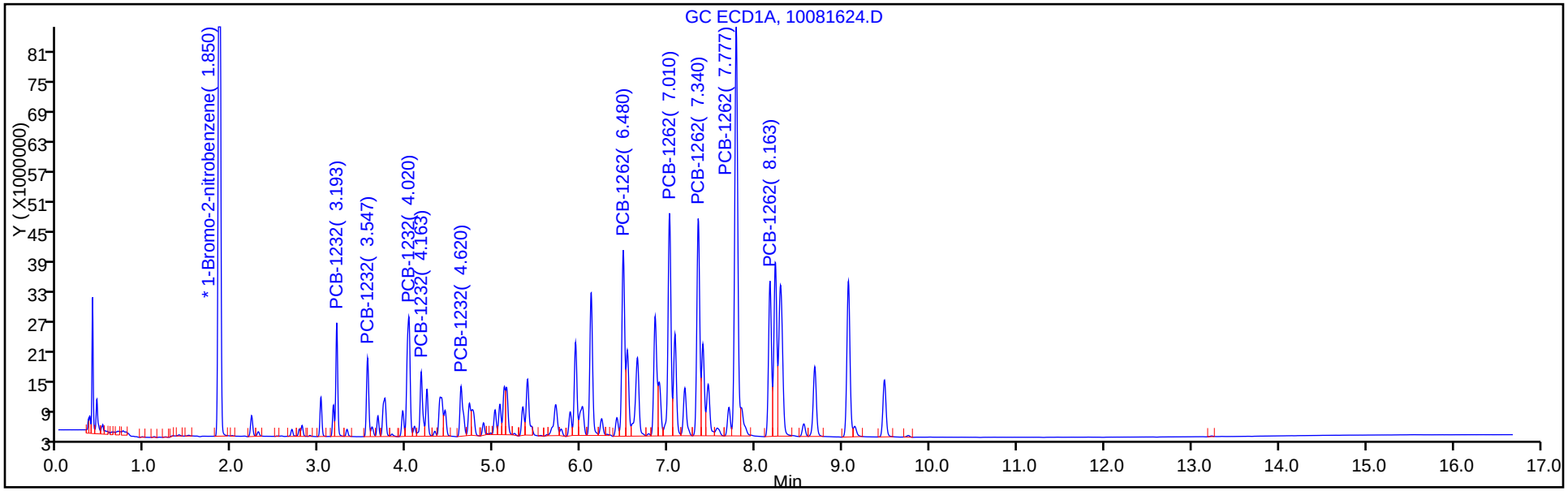
Report Date: 09-Oct-2016 09:28:05 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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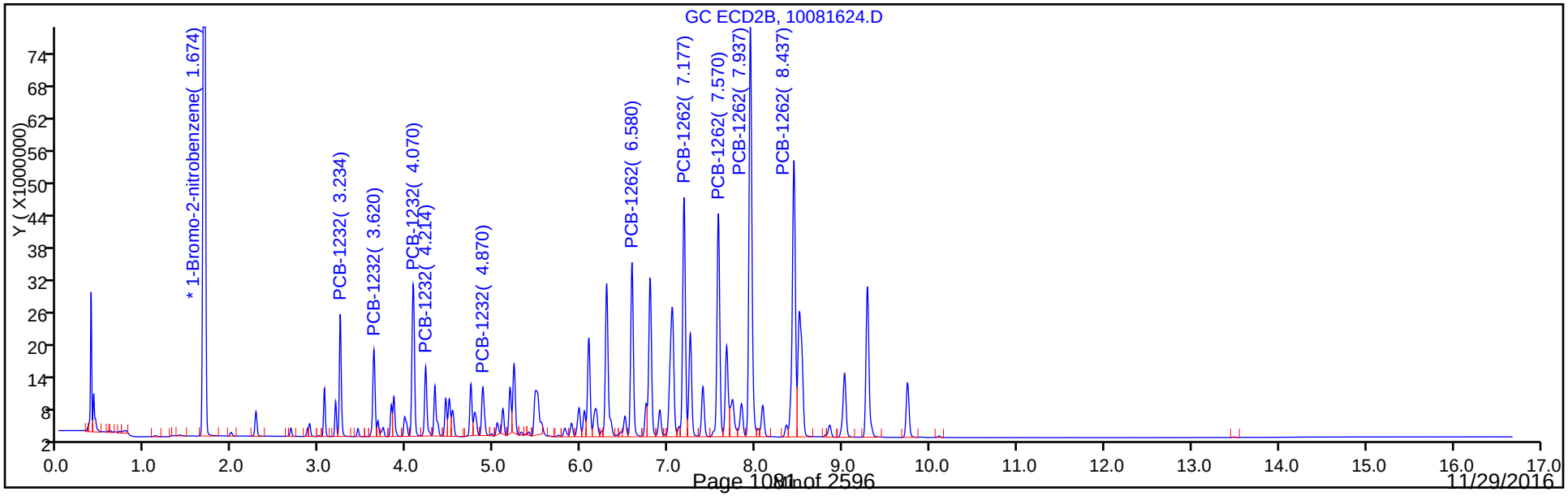
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081624.D

Injection Date:	08-Oct-2016 19:57:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL53262			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081625.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 20:19:37 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0051591-025
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:06 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.850	-0.003	280860640	1000.0	1000.0	
2	1.674	1.674	0.000	267575496	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.194	3.193	0.001	18817472	250.0	260.2	
1	3.547	3.547	0.000	15511590	250.0	261.1	
1	4.021	4.020	0.001	31954033	250.0	253.3	
1	4.164	4.163	0.001	14467012	250.0	257.8	
1	4.621	4.620	0.001	13236440	250.0	251.1	
		Average of Peak Amounts =				256.7	
2	3.234	3.234	0.000	18635454	250.0	260.9	
2	3.621	3.620	0.001	16170888	250.0	257.6	
2	4.071	4.070	0.001	30501851	250.0	253.3	
2	4.214	4.214	0.000	13065214	250.0	255.7	
2	4.871	4.870	0.001	10684806	250.0	257.7	
		Average of Peak Amounts =				257.0	
						RPD = 0.13	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.481	6.480	0.001	45752046	250.0	253.9	
1	7.011	7.010	0.001	58809961	250.0	256.9	
1	7.341	7.340	0.001	54103020	250.0	253.3	
1	7.777	7.777	0.000	116605749	250.0	269.2	
1	8.164	8.163	0.001	37715896	250.0	247.6	
		Average of Peak Amounts =				256.2	
2	6.581	6.580	0.001	36276494	250.0	251.2	
2	7.178	7.177	0.001	51540669	250.0	254.2	
2	7.571	7.570	0.001	49193016	250.0	252.9	
2	7.938	7.937	0.001	94416115	250.0	254.6	
2	8.438	8.437	0.001	68940286	250.0	254.5	
		Average of Peak Amounts =				253.5	
						RPD = 1.06	
S 8 Polychlorinated biphenyls, Total							
1						512.9	
2						510.5	
						RPD = 0.46	

Reagents:

AR_3262_L4_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

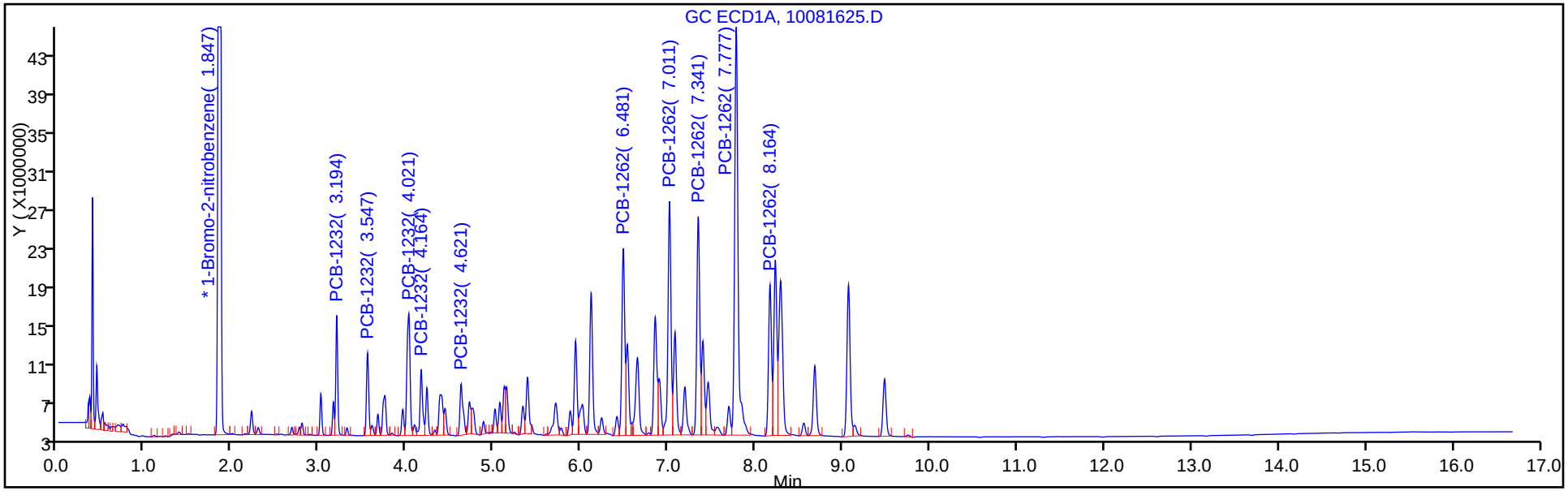
Report Date: 09-Oct-2016 09:28:07 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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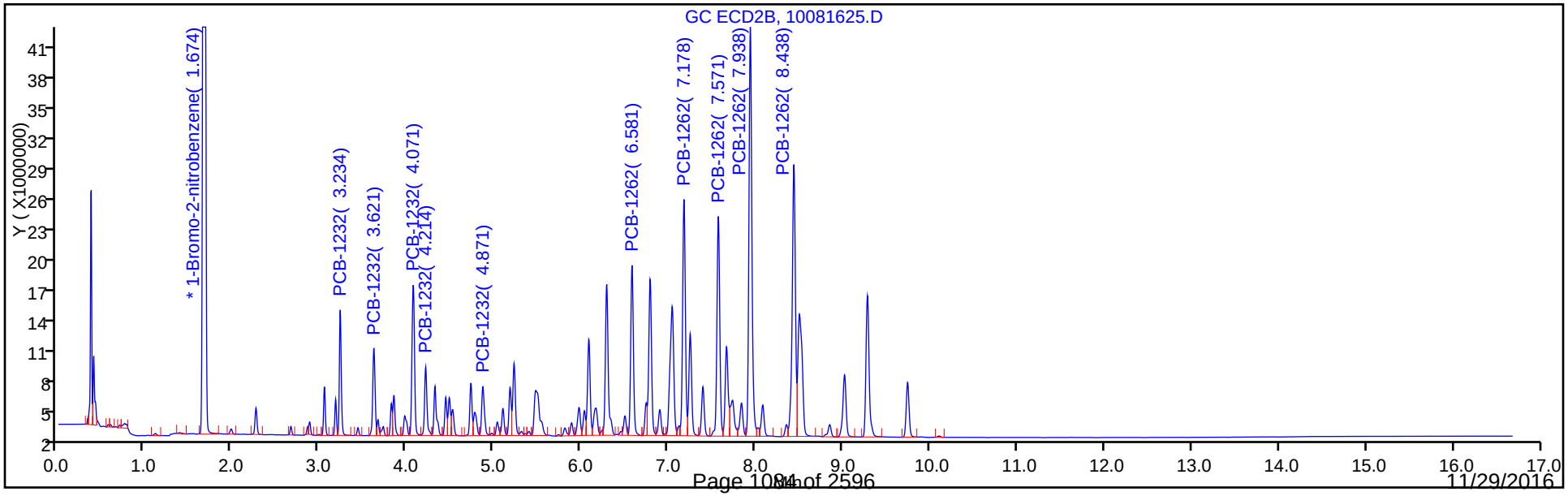
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081625.D

Injection Date:	08-Oct-2016 20:19:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL43262			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081626.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 20:41:17 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0051591-026
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:08 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	282170429	1000.0	1000.0	
2	1.675	1.674	0.001	269585509	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.195	3.193	0.002	8357089	100.0	104.7	
1	3.548	3.547	0.001	6756348	100.0	103.6	
1	4.021	4.020	0.001	13694115	100.0	100.7	
1	4.161	4.163	-0.002	6168038	100.0	101.5	
1	4.621	4.620	0.001	5939777	100.0	103.9	
		Average of Peak Amounts =				102.9	
2	3.235	3.234	0.001	8224909	100.0	103.7	
2	3.618	3.620	-0.002	7029479	100.0	103.0	
2	4.071	4.070	0.001	12972497	100.0	100.7	
2	4.215	4.214	0.001	5518782	100.0	100.8	
2	4.868	4.870	-0.002	4382387	100.0	100.3	
		Average of Peak Amounts =				101.7	
						RPD = 1.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.481	6.480	0.001	19843913	100.0	103.0	
1	7.011	7.010	0.001	25279589	100.0	103.1	
1	7.341	7.340	0.001	23443670	100.0	102.7	
1	7.778	7.777	0.001	50098554	100.0	106.1	
1	8.165	8.163	0.002	16299092	100.0	101.1	
		Average of Peak Amounts =				103.2	
2	6.581	6.580	0.001	15557155	100.0	101.2	
2	7.178	7.177	0.001	22102495	100.0	101.8	
2	7.571	7.570	0.001	21028236	100.0	101.4	
2	7.938	7.937	0.001	40221570	100.0	101.5	
2	8.438	8.437	0.001	29394619	100.0	101.8	
		Average of Peak Amounts =				101.6	
						RPD = 1.59	
S 8 Polychlorinated biphenyls, Total							
1						206.1	
2						203.3	
						RPD = 1.38	

Reagents:

AR_3262_L3_00016	Amount Added: 1.00	Units: mL		
BNB IS_00008	Amount Added: 1.00	Units: mL	Run Reagent	

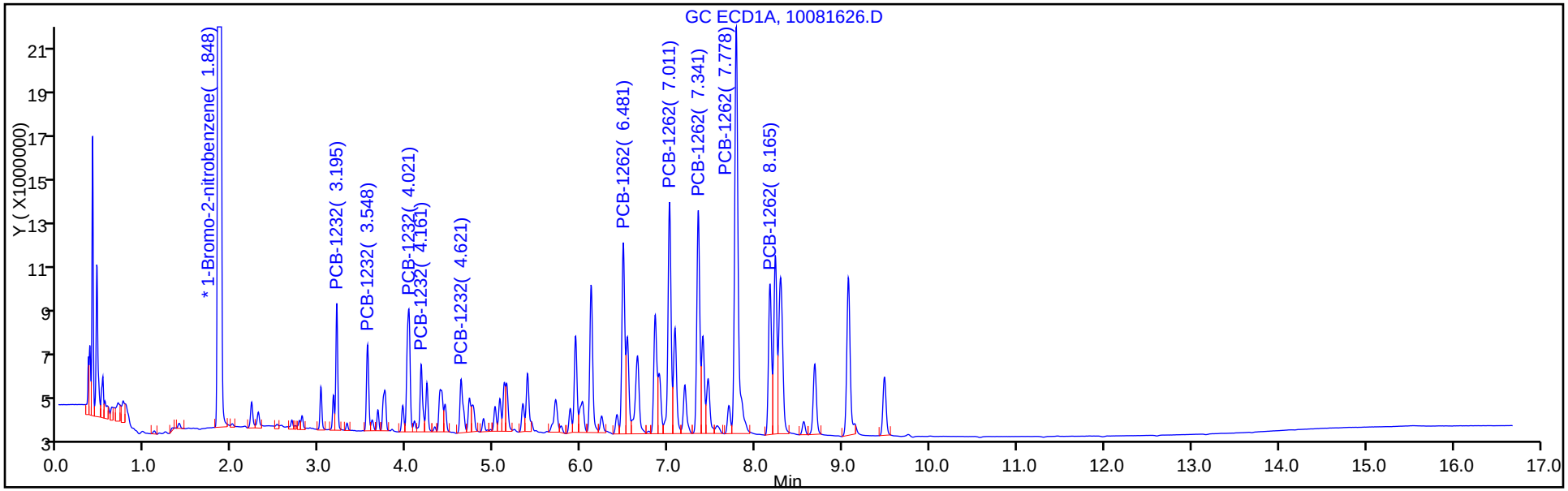
Report Date: 09-Oct-2016 09:28:09 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

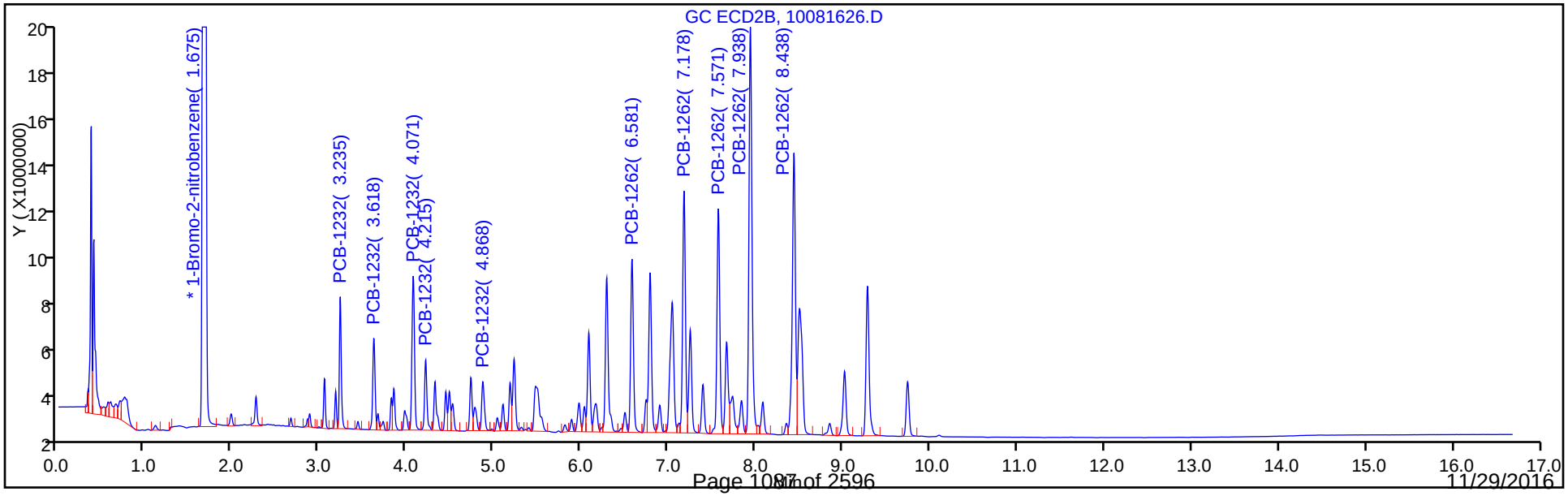
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081626.D

Injection Date:	08-Oct-2016 20:41:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL33262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081627.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 21:02:56 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0051591-027
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:10 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:14:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	280699303	1000.0	1000.0	
2	1.675	1.674	0.001	266339539	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.195	3.193	0.002	4514804	50.0	48.4	
1	3.545	3.547	-0.002	3772596	50.0	50.7	
1	4.018	4.020	-0.002	7437738	50.0	49.2	M
1	4.162	4.163	-0.001	3360132	50.0	49.4	M
1	4.618	4.620	-0.002	3357952	50.0	52.6	M
		Average of Peak Amounts =				50.1	
2	3.235	3.234	0.001	4540833	50.0	49.7	
2	3.619	3.620	-0.001	3798355	50.0	49.8	
2	4.072	4.070	0.002	6833016	50.0	48.6	
2	4.215	4.214	0.001	2935109	50.0	49.2	
2	4.869	4.870	-0.001	2297380	50.0	49.5	
		Average of Peak Amounts =				49.4	
						RPD = 1.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.482	6.480	0.002	10166496	50.0	47.4	
1	7.012	7.010	0.002	13359442	50.0	49.1	
1	7.342	7.340	0.002	12025270	50.0	47.3	
1	7.775	7.777	-0.002	26119552	50.0	48.2	
1	8.165	8.163	0.002	8481202	50.0	48.4	
		Average of Peak Amounts =				48.1	
2	6.582	6.580	0.002	8212292	50.0	49.4	
2	7.179	7.177	0.002	11598442	50.0	48.9	
2	7.572	7.570	0.002	11028381	50.0	49.1	
2	7.939	7.937	0.002	21317934	50.0	49.6	
2	8.439	8.437	0.002	15107803	50.0	48.1	
		Average of Peak Amounts =				49.0	
						RPD = 1.91	
S 8 Polychlorinated biphenyls, Total							
1						98.1	
2						98.4	
						RPD = 0.25	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L2_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

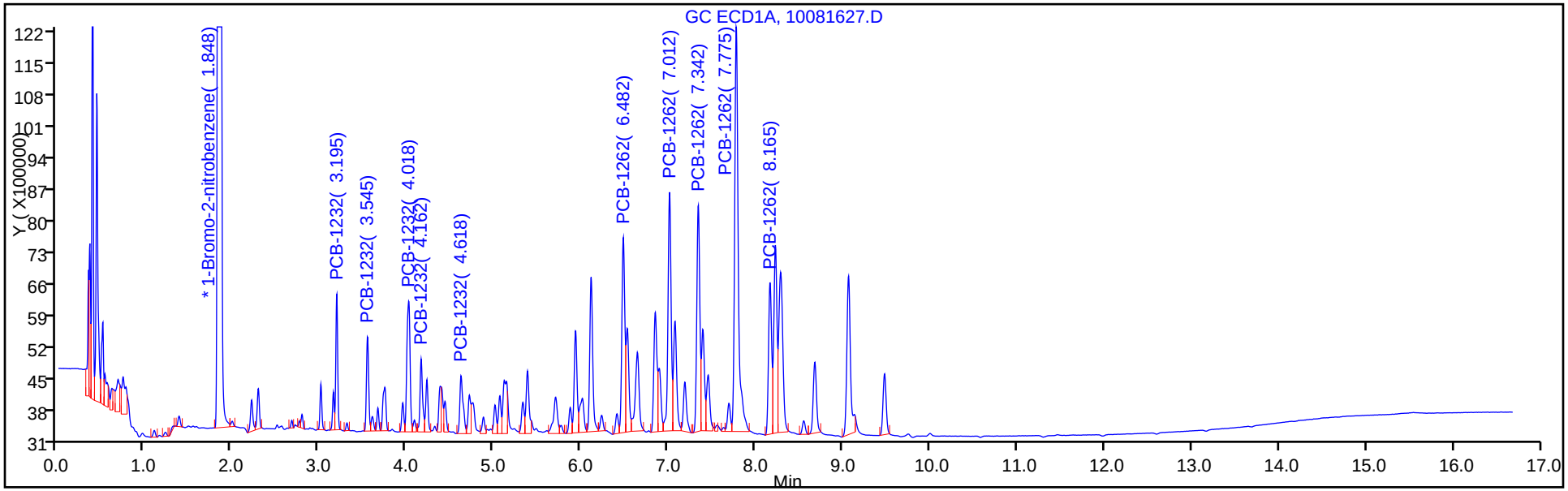
Report Date: 09-Oct-2016 09:28:10 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

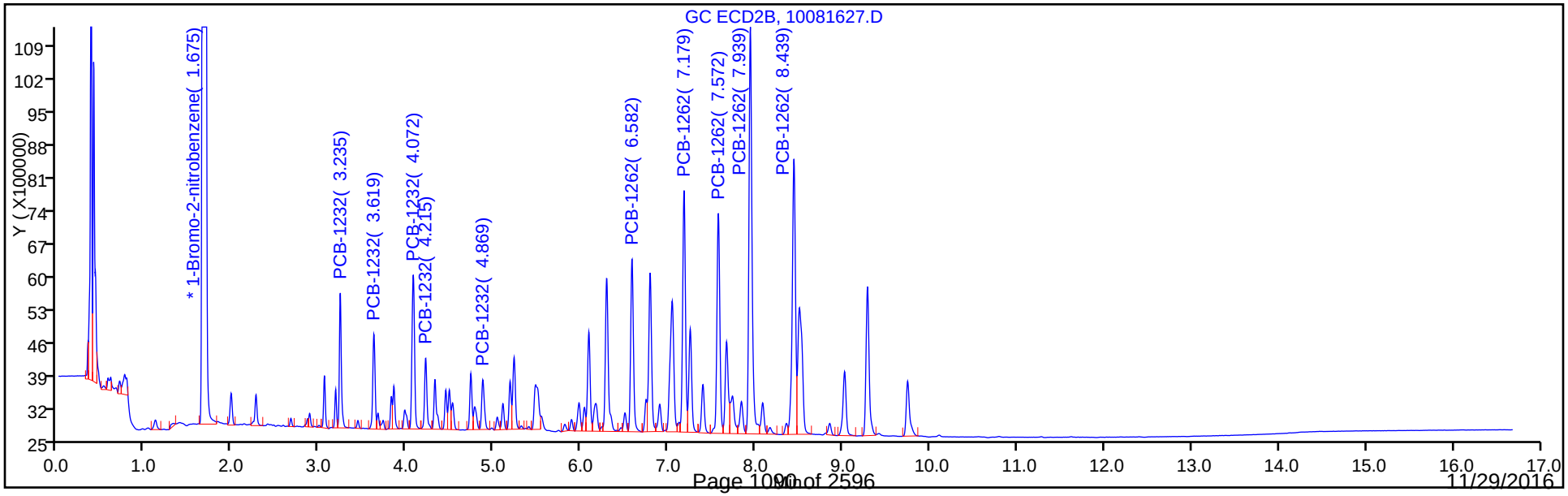
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081627.D

Injection Date:	08-Oct-2016 21:02:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL23262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:28:10 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081627.D

Injection Date: 08-Oct-2016 21:02:56 Instrument ID: SGC_P3

Lims ID: STDL23262

Client ID:

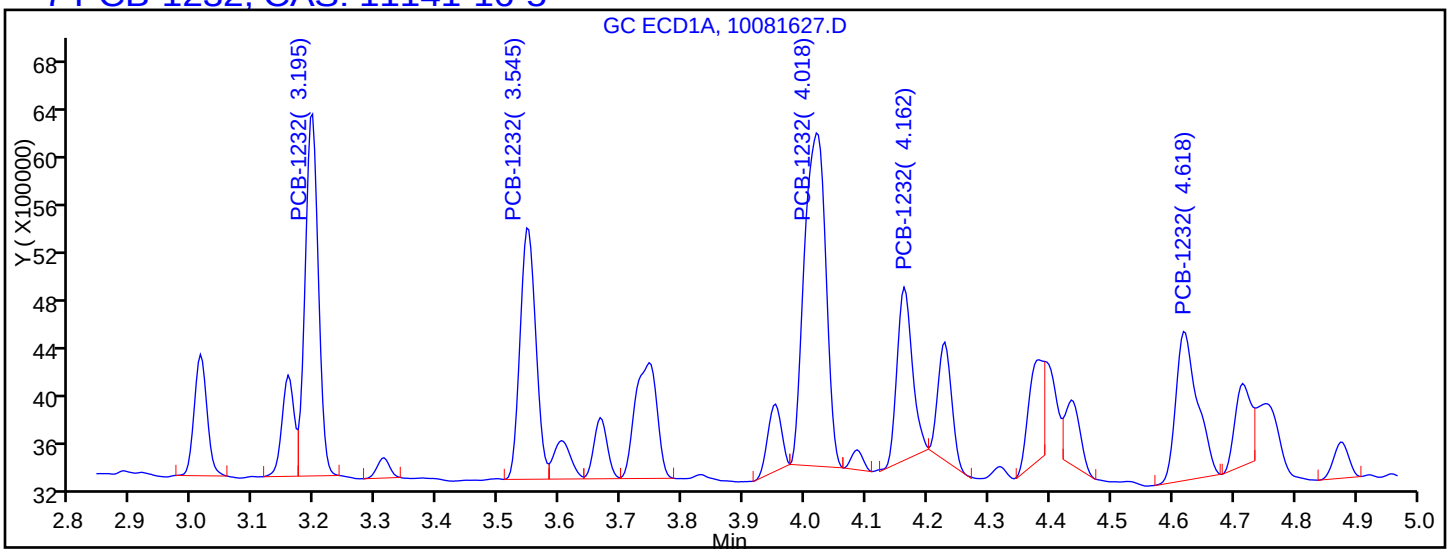
Operator ID: jax ALS Bottle#: 27 Worklist Smp#: 27

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

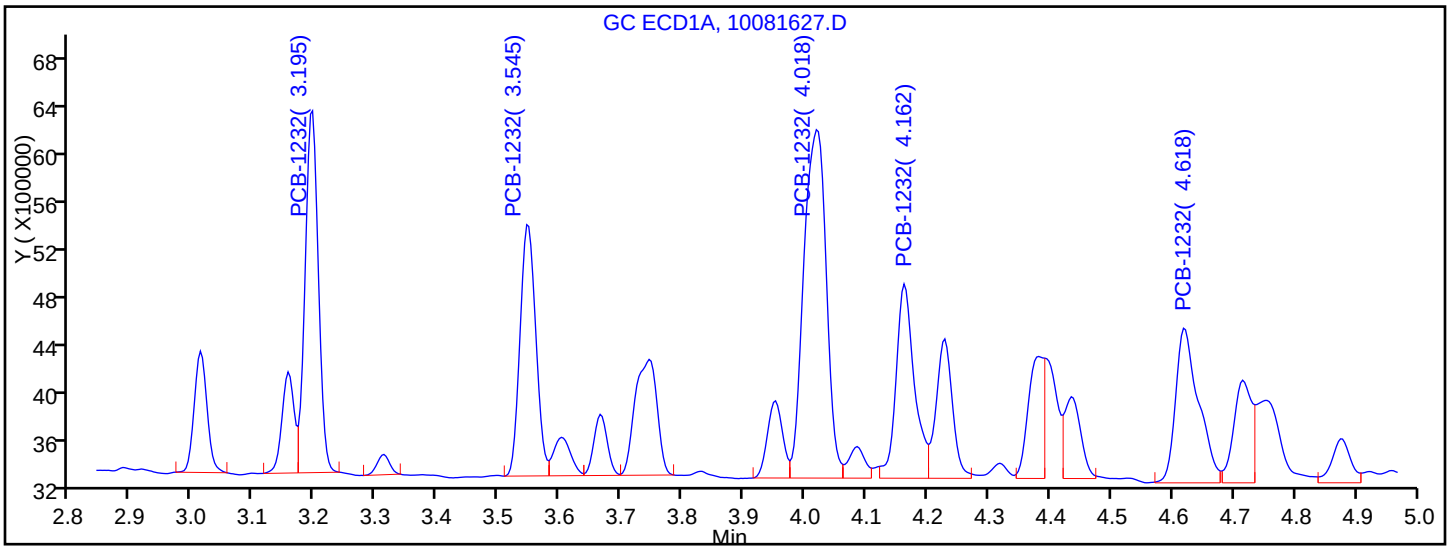
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.195	Response = 4514804
3.545	Response = 3772596
4.018	Response = 6779855
4.162	Response = 2516913
4.618	Response = 3031507



Manual Integration Results

3.195	Response = 4514804	
3.545	Response = 3772596	
4.018	Response = 7437738	M
4.162	Response = 3360132	M
4.618	Response = 3357952	M

Reviewer: jacksonto, 09-Oct-2016 09:14:32

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081628.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 21:24:36 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0051591-028
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:12 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.850	-0.001	278535625	1000.0	1000.0	
2	1.673	1.674	-0.001	264943055	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	2817230	25.0	23.6	
1	3.546	3.547	-0.001	2203842	25.0	22.8	
1	4.019	4.020	-0.001	4484149	25.0	24.9	
1	4.163	4.163	0.000	2007425	25.0	24.2	
1	4.619	4.620	-0.001	1861828	25.0	22.8	
		Average of Peak Amounts =				23.7	
2	3.233	3.234	-0.001	2769710	25.0	23.2	
2	3.619	3.620	-0.001	2242846	25.0	23.7	
2	4.073	4.070	0.003	4112077	25.0	25.2	
2	4.213	4.214	-0.001	1739493	25.0	24.9	
2	4.869	4.870	-0.001	1314864	25.0	25.2	
		Average of Peak Amounts =				24.4	
						RPD = 3.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.483	6.480	0.003	6320811	25.0	25.3	
1	7.013	7.010	0.003	7880525	25.0	24.3	
1	7.339	7.340	-0.001	7494329	25.0	25.4	
1	7.776	7.777	-0.001	15788378	25.0	23.2	
1	8.163	8.163	0.000	5104184	25.0	25.7	
		Average of Peak Amounts =				24.8	
2	6.579	6.580	-0.001	4798307	25.0	24.9	
2	7.176	7.177	-0.001	6890855	25.0	24.7	
2	7.569	7.570	-0.001	6486857	25.0	24.8	
2	7.939	7.937	0.002	12346872	25.0	24.4	
2	8.439	8.437	0.002	9110551	25.0	25.1	
		Average of Peak Amounts =				24.8	
						RPD = 0.11	
S 8 Polychlorinated biphenyls, Total							
1						48.4	
2						49.2	
						RPD = 1.58	

Reagents:

AR_3262_L1_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

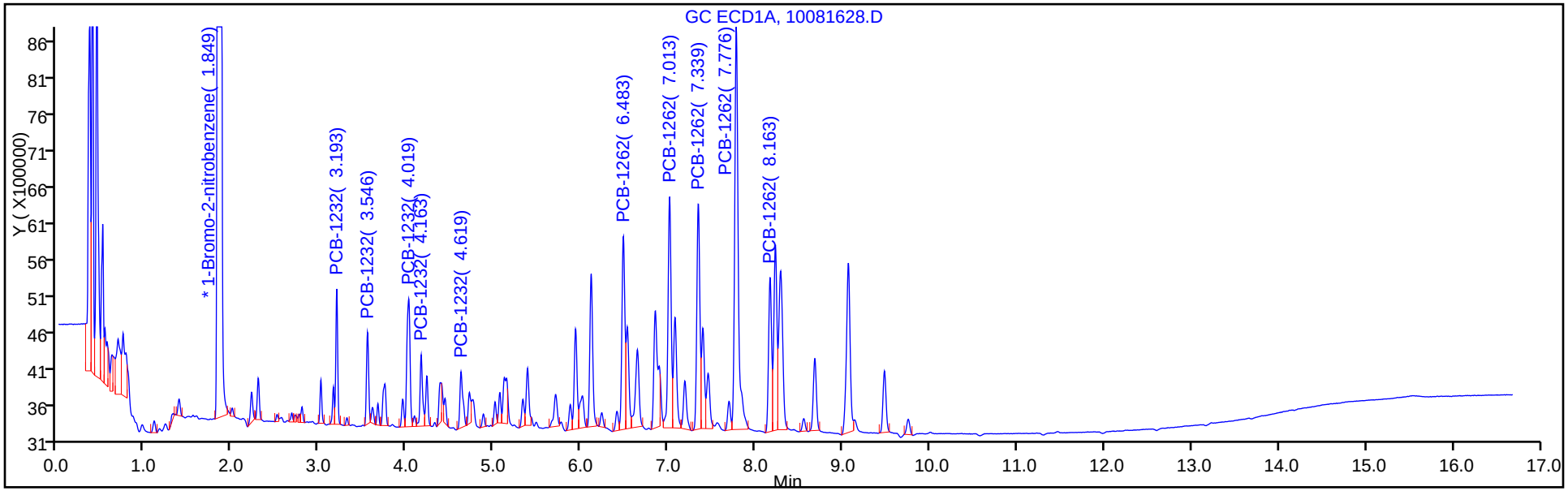
Report Date: 09-Oct-2016 09:28:12 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

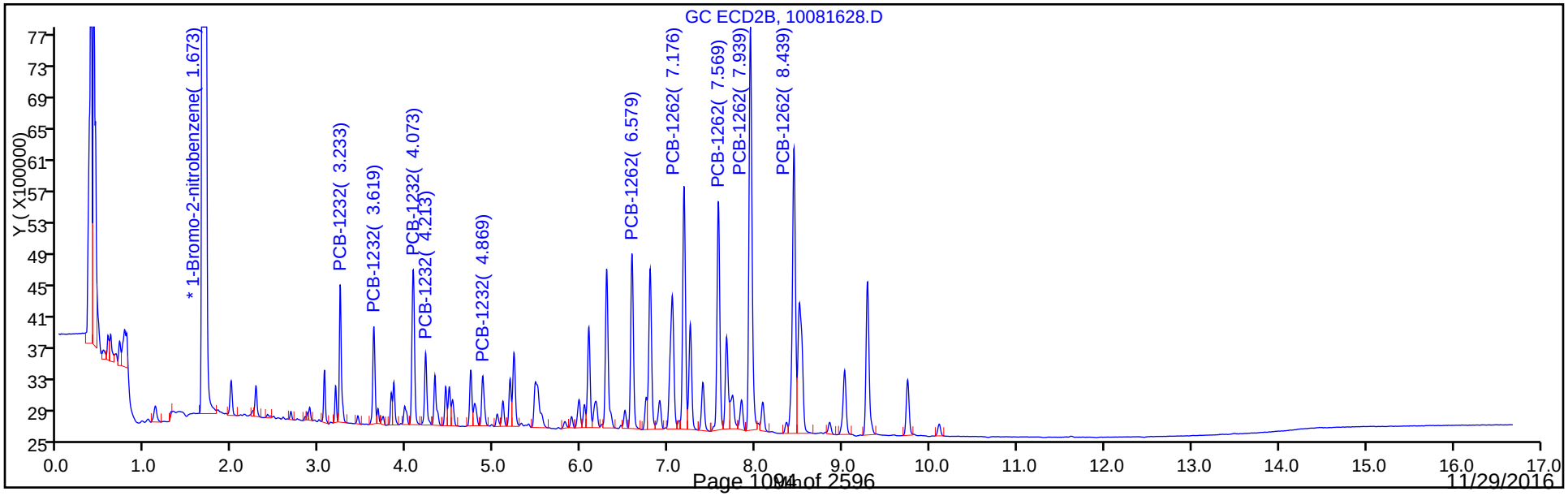
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081628.D

Injection Date:	08-Oct-2016 21:24:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL13262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 19:14 Calibration End Date: 10/08/2016 21:24 Calibration ID: 27252

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-345281/28	10081628.D
Level 2	STDL23262 280-345281/27	10081627.D
Level 3	STDL33262 280-345281/26	10081626.D
Level 4	STDL43262 280-345281/25	10081625.D
Level 5	STDL53262 280-345281/24	10081624.D
Level 6	STDL63262 280-345281/23	10081623.D
Level 7	STDL73262 280-345281/22	10081622.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 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.4182 0.2568	0.3410 0.2473	0.3051	0.2786	0.2626	Lin1	4.6763	0.2490							0.9990		0.9900
PCB-1232 Peak 2	0.3386 0.2280	0.2852 0.2215	0.2608	0.2417	0.2297	Lin1	3.1980	0.2222							1.0000		0.9900
PCB-1232 Peak 3	0.6208 0.4410	0.5131 0.4321	0.4812	0.4560	0.4422	Lin1	4.6588	0.4316							1.0000		0.9900
PCB-1232 Peak 4	0.2626 0.1851	0.2204 0.1850	0.2047	0.1953	0.1860	Lin1	2.0155	0.1830							1.0000		0.9900
PCB-1232 Peak 5	0.1985 0.1481	0.1725 0.1560	0.1626	0.1597	0.1475	Lin1	1.1745	0.1504							0.9990		0.9900
PCB-1262 Peak 1	0.7244 0.5308	0.6167 0.5197	0.5771	0.5423	0.5298	Lin1	5.1993	0.5191							1.0000		0.9900
PCB-1262 Peak 2	1.0404 0.7427	0.8710 0.7257	0.8199	0.7705	0.7436	Lin1	8.0556	0.7261							1.0000		0.9900
PCB-1262 Peak 3	0.9794 0.7132	0.8281 0.6995	0.7800	0.7354	0.7134	Lin1	7.1286	0.6987							1.0000		0.9900
PCB-1262 Peak 4	1.8641 1.3574	1.6008 1.3311	1.4920	1.4114	1.3608	Lin1	14.071	1.3308							1.0000		0.9900
PCB-1262 Peak 5	1.3755 0.9939	1.1345 0.9726	1.0904	1.0306	0.9947	Lin1	9.9461	0.9733							1.0000		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 19:14 Calibration End Date: 10/08/2016 21:24 Calibration ID: 27252

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-345281/28	10081628.D
Level 2	STDL23262 280-345281/27	10081627.D
Level 3	STDL33262 280-345281/26	10081626.D
Level 4	STDL43262 280-345281/25	10081625.D
Level 5	STDL53262 280-345281/24	10081624.D
Level 6	STDL63262 280-345281/23	10081623.D
Level 7	STDL73262 280-345281/22	10081622.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	2769710 49994012	4540833 62711924	8224909	18635454	34576978	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	2242846 44389994	3798355 56169557	7029479	16170888	30253218	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	4112077 85847101	6833016 109559652	12972497	30501851	58228070	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	1739493 36033014	2935109 46915910	5518782	13065214	24493576	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	1314864 28828115	2297380 39545717	4382387	10684806	19428897	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	4798307 103314405	8212292 131773087	15557155	36276494	69764477	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	6890855 144573517	11598442 183994504	22102495	51540669	97929532	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	6486857 138823800	11028381 177348389	21028236	49193016	93951034	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	12346872 264231749	21317934 337510692	40221570	94416115	179206887	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	9110551 193468130	15107803 246596790	29394619	68940286	130995925	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081622.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 19:14:36 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0051591-022
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:00 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.847	0.002	266024286	1000.0	1000.0	
2	1.672	1.674	-0.002	253550306	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.192	3.193	-0.001	63604910	1000.0	976.1	
1	3.546	3.547	-0.001	52630720	1000.0	979.2	
1	4.019	4.020	-0.001	114075819	1000.0	990.1	
1	4.162	4.163	-0.001	50309848	1000.0	983.2	
1	4.619	4.620	-0.001	47696216	1000.0	997.3	
		Average of Peak Amounts =				985.2	
2	3.232	3.234	-0.002	62711924	1000.0	974.4	
2	3.619	3.620	-0.001	56169557	1000.0	982.8	
2	4.072	4.070	0.002	109559652	1000.0	990.3	
2	4.212	4.214	-0.002	46915910	1000.0	999.9	
2	4.869	4.870	-0.001	39545717	1000.0	1029.1	
		Average of Peak Amounts =				995.3	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.480	-0.001	163520103	1000.0	990.4	
1	7.009	7.010	-0.001	208094891	1000.0	992.8	
1	7.339	7.340	-0.001	193794788	1000.0	990.3	
1	7.776	7.777	-0.001	388183198	1000.0	985.6	
1	8.162	8.163	-0.001	139415636	1000.0	993.6	
		Average of Peak Amounts =				990.5	
2	6.579	6.580	-0.001	131773087	1000.0	991.2	
2	7.176	7.177	-0.001	183994504	1000.0	988.3	
2	7.572	7.570	0.002	177348389	1000.0	991.0	
2	7.939	7.937	0.002	337510692	1000.0	989.7	
2	8.439	8.437	0.002	246596790	1000.0	989.0	
		Average of Peak Amounts =				989.9	
						RPD = 0.07	
S 8 Polychlorinated biphenyls, Total							
1						1975.7	
2						1985.1	
						RPD = 0.48	

Reagents:

AR_3262_L7_00012	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

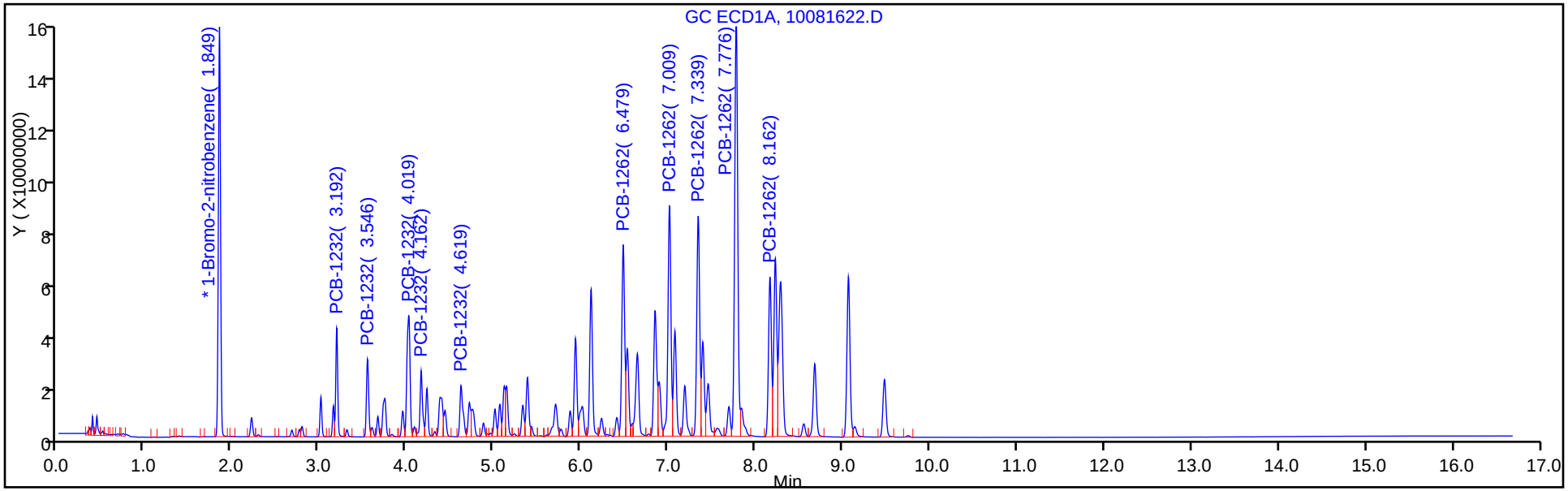
Report Date: 09-Oct-2016 09:28:01 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

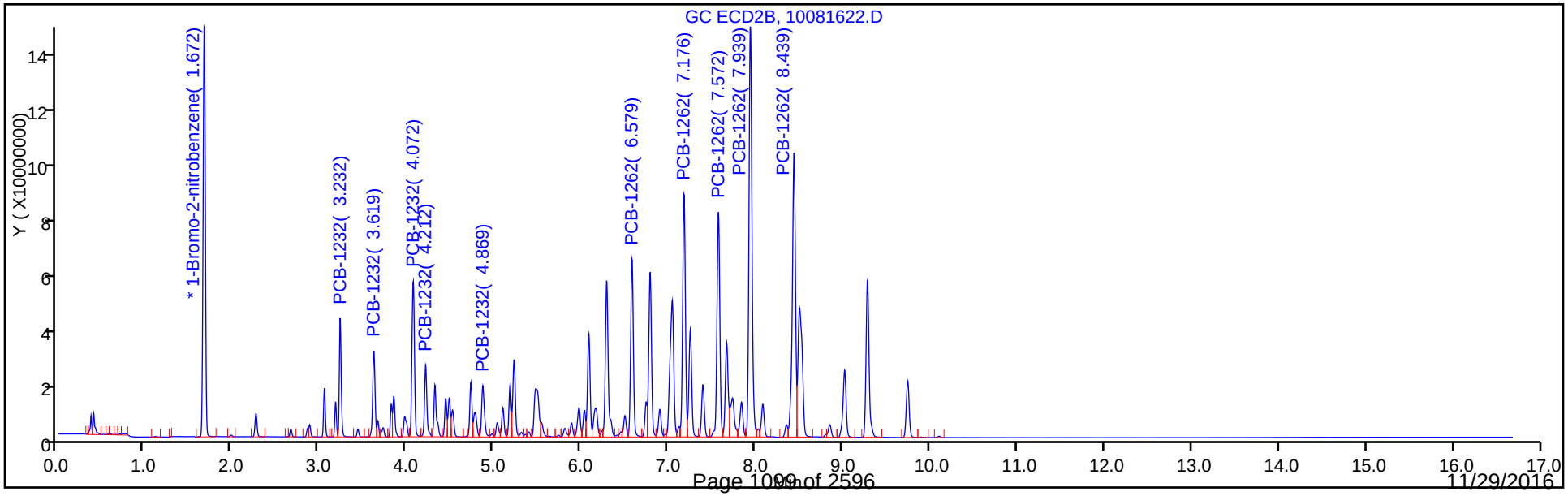
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081622.D

Injection Date:	08-Oct-2016 19:14:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL73262			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081623.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 19:36:16 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0051591-023
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:03 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.847	0.003	271484452	1000.0	1000.0	
2	1.673	1.674	-0.001	259541500	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	50324255	750.0	752.6	
1	3.546	3.547	-0.001	41425367	750.0	751.3	
1	4.020	4.020	0.000	89308038	750.0	756.6	
1	4.163	4.163	0.000	39632997	750.0	755.9	
1	4.620	4.620	0.000	36721446	750.0	748.7	
		Average of Peak Amounts =				753.0	
2	3.233	3.234	-0.001	49994012	750.0	754.7	
2	3.620	3.620	0.000	44389994	750.0	755.5	
2	4.073	4.070	0.003	85847101	750.0	755.5	
2	4.213	4.214	-0.001	36033014	750.0	747.5	
2	4.870	4.870	0.000	28828115	750.0	730.6	
		Average of Peak Amounts =				748.8	
						RPD = 0.57	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.480	6.480	0.000	128107508	750.0	757.6	
1	7.010	7.010	0.000	162130160	750.0	755.1	
1	7.340	7.340	0.000	151502950	750.0	755.9	
1	7.776	7.777	-0.001	303086439	750.0	750.4	
1	8.163	8.163	0.000	109206733	750.0	760.4	
		Average of Peak Amounts =				755.9	
2	6.580	6.580	0.000	103314405	750.0	756.9	
2	7.176	7.177	-0.001	144573517	750.0	756.1	
2	7.570	7.570	0.000	138823800	750.0	755.4	
2	7.936	7.937	-0.001	264231749	750.0	754.4	
2	8.436	8.437	-0.001	193468130	750.0	755.7	
		Average of Peak Amounts =				755.7	
						RPD = 0.03	
S 8 Polychlorinated biphenyls, Total							
1						1508.9	
2						1504.4	
						RPD = 0.30	

Reagents:

AR_3262_L6_00014	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

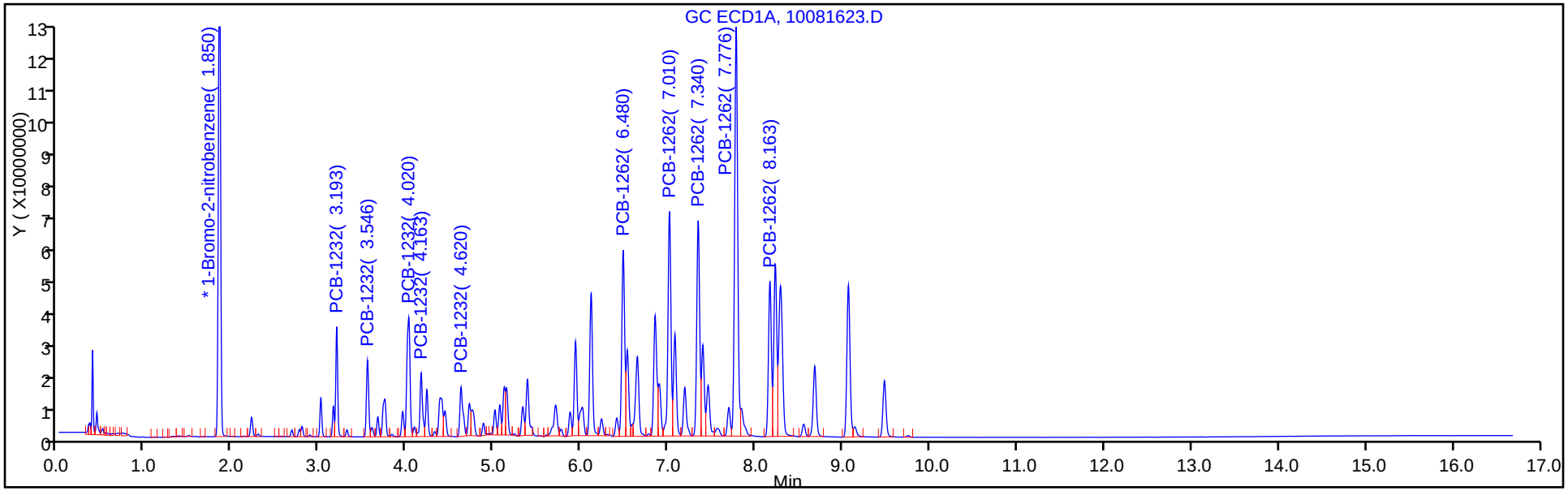
Report Date: 09-Oct-2016 09:28:03 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

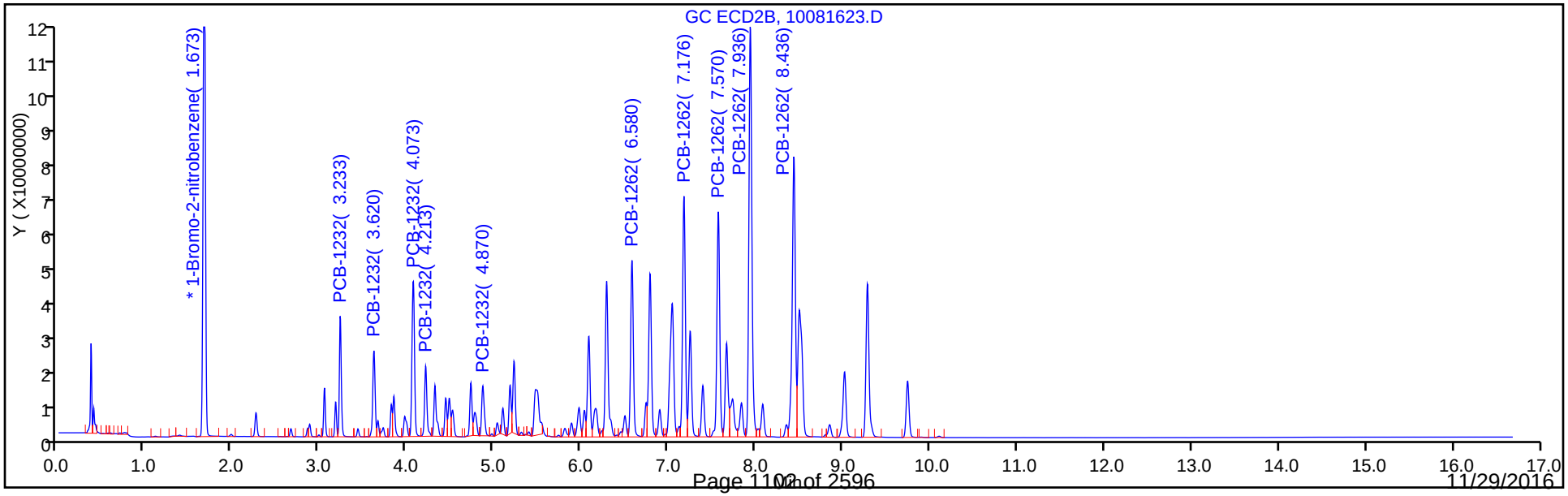
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081623.D

Injection Date:	08-Oct-2016 19:36:16	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL63262			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081624.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 19:57:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0051591-024
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:05 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:00:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.850	0.000	276413561	1000.0	1000.0	
2	1.674	1.674	0.000	263376155	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	35069974	500.0	509.3	
1	3.547	3.547	0.000	28729661	500.0	506.3	
1	4.020	4.020	0.000	60614935	500.0	500.1	
1	4.163	4.163	0.000	27096754	500.0	503.0	
1	4.620	4.620	0.000	25138078	500.0	498.5	
		Average of Peak Amounts =				503.5	
2	3.234	3.234	0.000	34576978	500.0	508.4	
2	3.620	3.620	0.000	30253218	500.0	502.6	
2	4.070	4.070	0.000	58228070	500.0	501.4	
2	4.214	4.214	0.000	24493576	500.0	497.1	
2	4.870	4.870	0.000	19428897	500.0	482.6	
		Average of Peak Amounts =				498.4	
						RPD = 1.01	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.480	6.480	0.000	86330587	500.0	497.5	
1	7.010	7.010	0.000	108828491	500.0	493.7	
1	7.340	7.340	0.000	102847278	500.0	500.1	
1	7.777	7.777	0.000	204663838	500.0	492.4	
1	8.163	8.163	0.000	73320764	500.0	498.2	
		Average of Peak Amounts =				496.4	
2	6.580	6.580	0.000	69764477	500.0	500.3	
2	7.177	7.177	0.000	97929532	500.0	501.0	
2	7.570	7.570	0.000	93951034	500.0	500.4	
2	7.937	7.937	0.000	179206887	500.0	500.7	
2	8.437	8.437	0.000	130995925	500.0	500.8	
		Average of Peak Amounts =				500.6	
						RPD = 0.85	

Reagents:

AR_3262_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

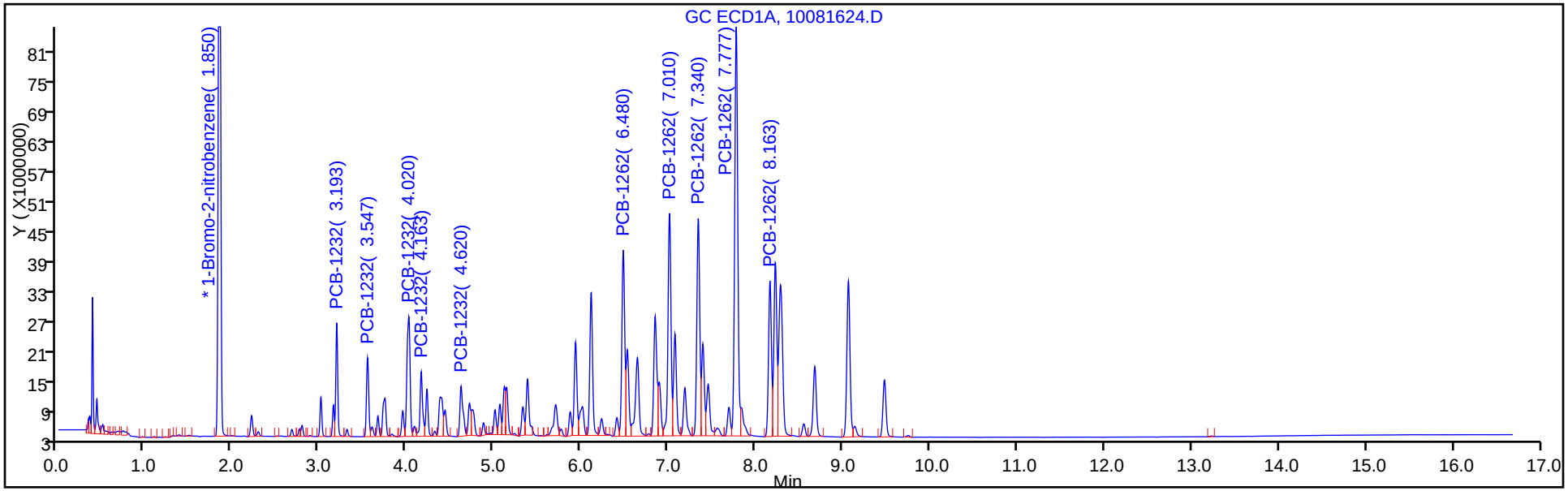
Report Date: 09-Oct-2016 09:28:05 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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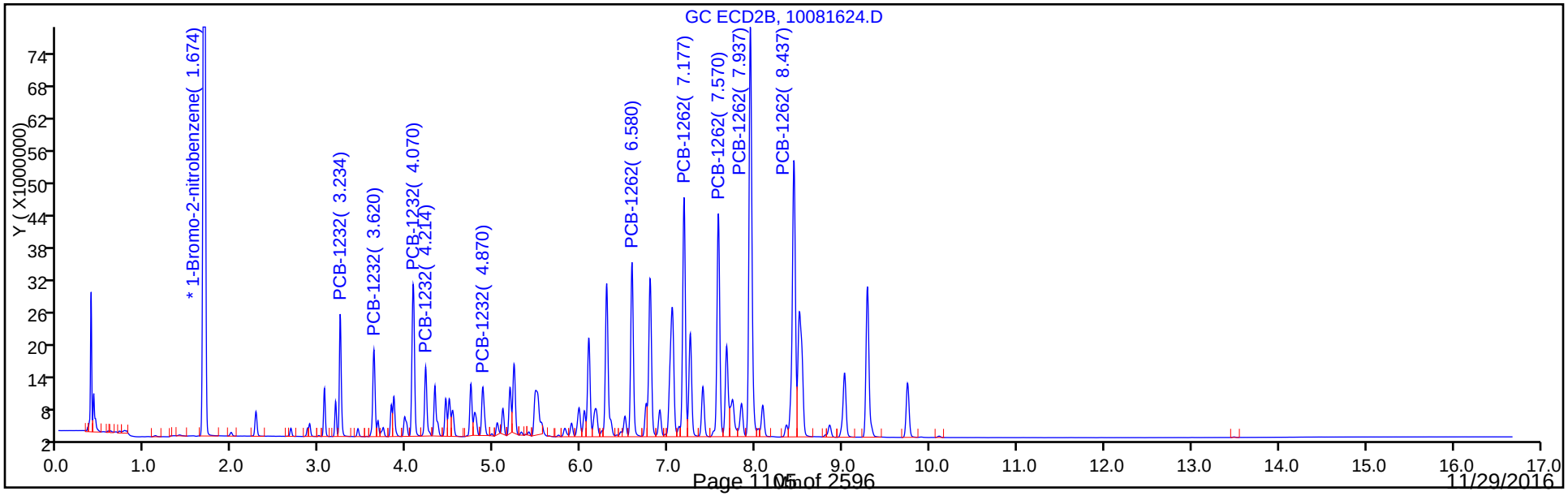
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081624.D

Injection Date:	08-Oct-2016 19:57:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL53262			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081625.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 20:19:37 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0051591-025
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:06 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.847	1.850	-0.003	280860640	1000.0	1000.0	
2	1.674	1.674	0.000	267575496	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.194	3.193	0.001	18817472	250.0	260.2	
1	3.547	3.547	0.000	15511590	250.0	261.1	
1	4.021	4.020	0.001	31954033	250.0	253.3	
1	4.164	4.163	0.001	14467012	250.0	257.8	
1	4.621	4.620	0.001	13236440	250.0	251.1	
		Average of Peak Amounts =				256.7	
2	3.234	3.234	0.000	18635454	250.0	260.9	
2	3.621	3.620	0.001	16170888	250.0	257.6	
2	4.071	4.070	0.001	30501851	250.0	253.3	
2	4.214	4.214	0.000	13065214	250.0	255.7	
2	4.871	4.870	0.001	10684806	250.0	257.7	
		Average of Peak Amounts =				257.0	
						RPD = 0.13	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.481	6.480	0.001	45752046	250.0	253.9	
1	7.011	7.010	0.001	58809961	250.0	256.9	
1	7.341	7.340	0.001	54103020	250.0	253.3	
1	7.777	7.777	0.000	116605749	250.0	269.2	
1	8.164	8.163	0.001	37715896	250.0	247.6	
		Average of Peak Amounts =				256.2	
2	6.581	6.580	0.001	36276494	250.0	251.2	
2	7.178	7.177	0.001	51540669	250.0	254.2	
2	7.571	7.570	0.001	49193016	250.0	252.9	
2	7.938	7.937	0.001	94416115	250.0	254.6	
2	8.438	8.437	0.001	68940286	250.0	254.5	
		Average of Peak Amounts =				253.5	
						RPD = 1.06	
S 8 Polychlorinated biphenyls, Total							
1						512.9	
2						510.5	
						RPD = 0.46	

Reagents:

AR_3262_L4_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

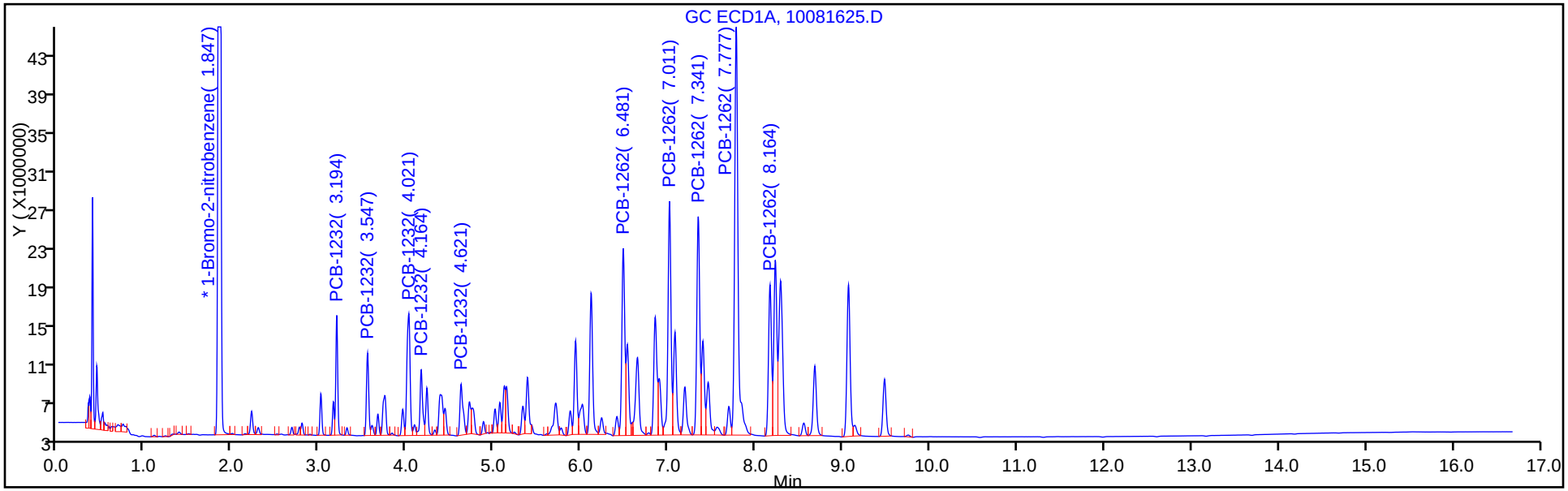
Report Date: 09-Oct-2016 09:28:07 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

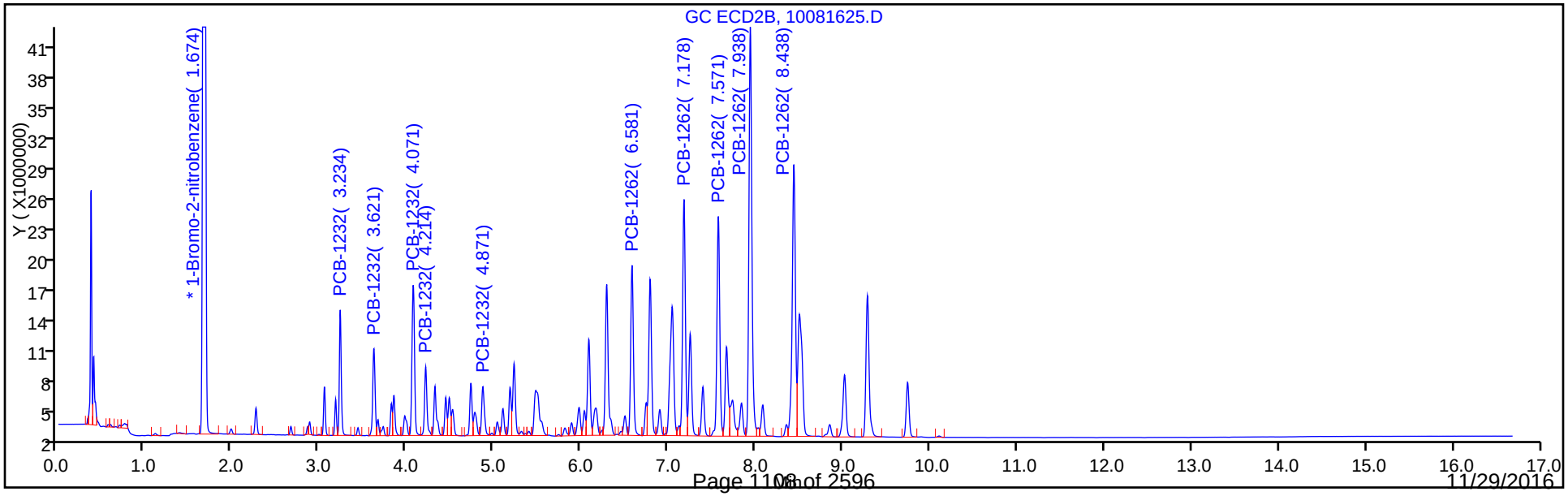
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081625.D

Injection Date:	08-Oct-2016 20:19:37	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL43262			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081626.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 20:41:17 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0051591-026
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:08 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	282170429	1000.0	1000.0	
2	1.675	1.674	0.001	269585509	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.195	3.193	0.002	8357089	100.0	104.7	
1	3.548	3.547	0.001	6756348	100.0	103.6	
1	4.021	4.020	0.001	13694115	100.0	100.7	
1	4.161	4.163	-0.002	6168038	100.0	101.5	
1	4.621	4.620	0.001	5939777	100.0	103.9	
		Average of Peak Amounts =				102.9	
2	3.235	3.234	0.001	8224909	100.0	103.7	
2	3.618	3.620	-0.002	7029479	100.0	103.0	
2	4.071	4.070	0.001	12972497	100.0	100.7	
2	4.215	4.214	0.001	5518782	100.0	100.8	
2	4.868	4.870	-0.002	4382387	100.0	100.3	
		Average of Peak Amounts =				101.7	
						RPD = 1.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.481	6.480	0.001	19843913	100.0	103.0	
1	7.011	7.010	0.001	25279589	100.0	103.1	
1	7.341	7.340	0.001	23443670	100.0	102.7	
1	7.778	7.777	0.001	50098554	100.0	106.1	
1	8.165	8.163	0.002	16299092	100.0	101.1	
		Average of Peak Amounts =				103.2	
2	6.581	6.580	0.001	15557155	100.0	101.2	
2	7.178	7.177	0.001	22102495	100.0	101.8	
2	7.571	7.570	0.001	21028236	100.0	101.4	
2	7.938	7.937	0.001	40221570	100.0	101.5	
2	8.438	8.437	0.001	29394619	100.0	101.8	
		Average of Peak Amounts =				101.6	
						RPD = 1.59	
S 8 Polychlorinated biphenyls, Total							
1						206.1	
2						203.3	
						RPD = 1.38	

Reagents:

AR_3262_L3_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

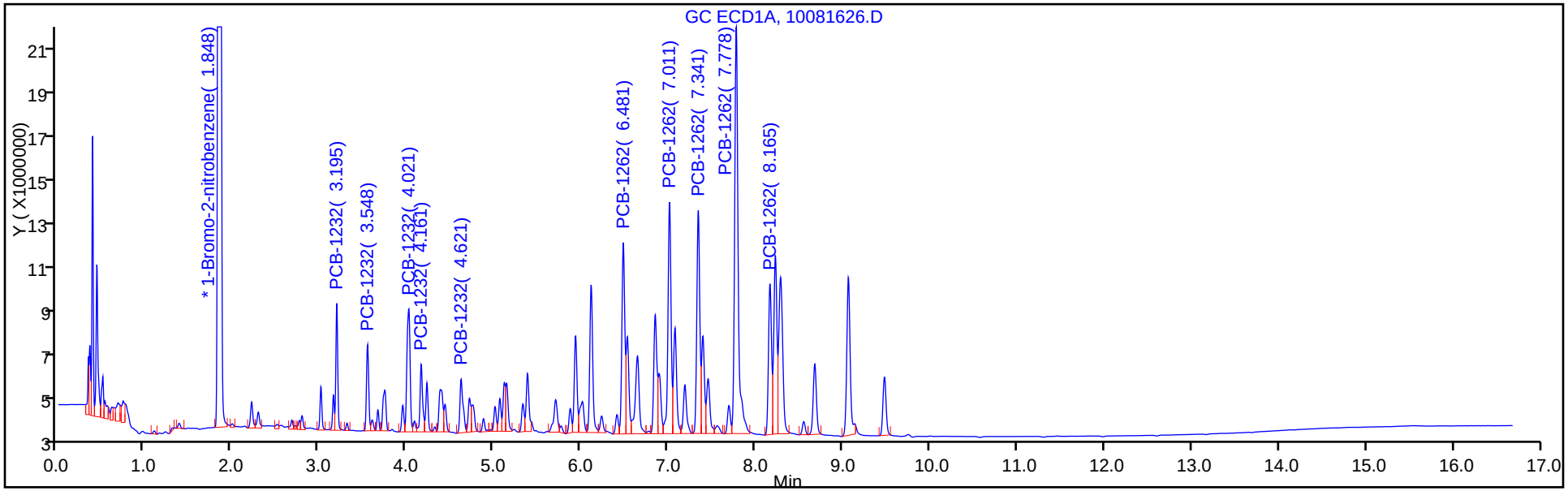
Report Date: 09-Oct-2016 09:28:09 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

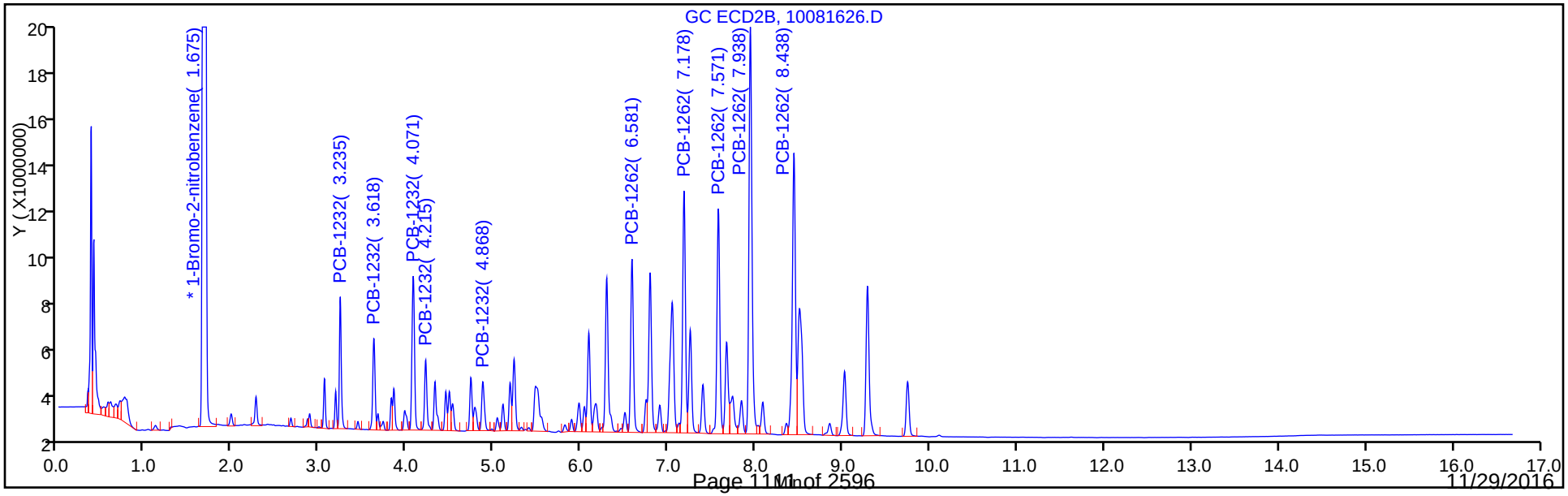
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081626.D

Injection Date:	08-Oct-2016 20:41:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL33262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081627.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 21:02:56 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0051591-027
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:10 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:14:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	280699303	1000.0	1000.0	
2	1.675	1.674	0.001	266339539	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.195	3.193	0.002	4514804	50.0	48.4	
1	3.545	3.547	-0.002	3772596	50.0	50.7	
1	4.018	4.020	-0.002	7437738	50.0	49.2	M
1	4.162	4.163	-0.001	3360132	50.0	49.4	M
1	4.618	4.620	-0.002	3357952	50.0	52.6	M
		Average of Peak Amounts =				50.1	
2	3.235	3.234	0.001	4540833	50.0	49.7	
2	3.619	3.620	-0.001	3798355	50.0	49.8	
2	4.072	4.070	0.002	6833016	50.0	48.6	
2	4.215	4.214	0.001	2935109	50.0	49.2	
2	4.869	4.870	-0.001	2297380	50.0	49.5	
		Average of Peak Amounts =				49.4	
						RPD = 1.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.482	6.480	0.002	10166496	50.0	47.4	
1	7.012	7.010	0.002	13359442	50.0	49.1	
1	7.342	7.340	0.002	12025270	50.0	47.3	
1	7.775	7.777	-0.002	26119552	50.0	48.2	
1	8.165	8.163	0.002	8481202	50.0	48.4	
		Average of Peak Amounts =				48.1	
2	6.582	6.580	0.002	8212292	50.0	49.4	
2	7.179	7.177	0.002	11598442	50.0	48.9	
2	7.572	7.570	0.002	11028381	50.0	49.1	
2	7.939	7.937	0.002	21317934	50.0	49.6	
2	8.439	8.437	0.002	15107803	50.0	48.1	
		Average of Peak Amounts =				49.0	
						RPD = 1.91	
S 8 Polychlorinated biphenyls, Total							
1						98.1	
2						98.4	
						RPD = 0.25	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L2_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

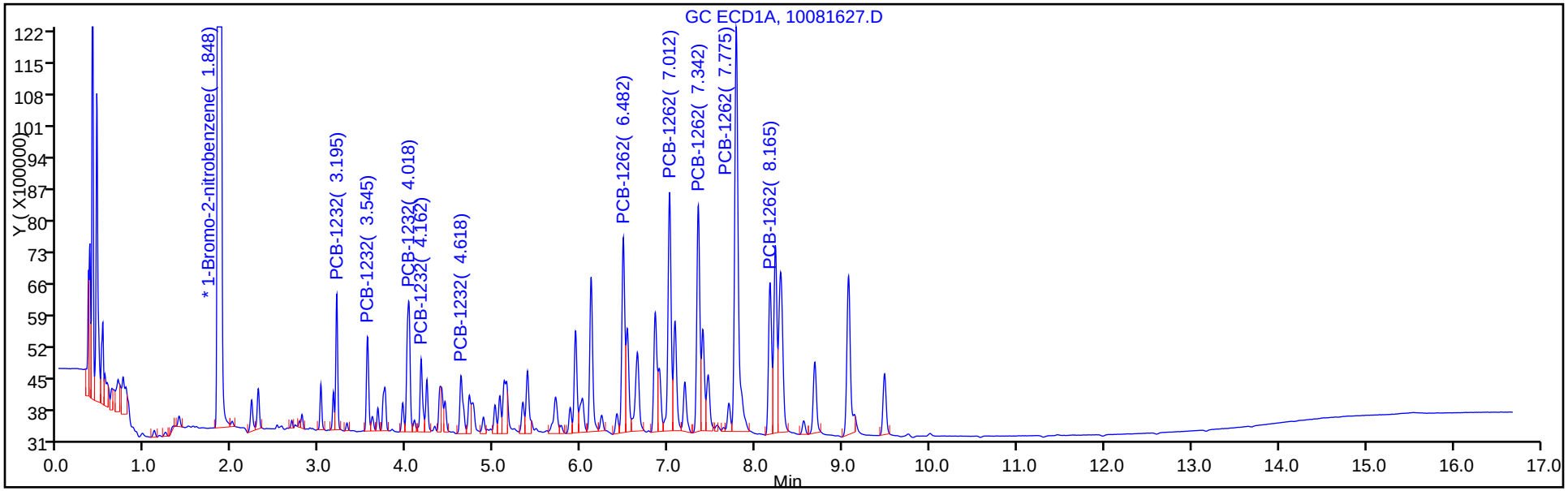
Report Date: 09-Oct-2016 09:28:10 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

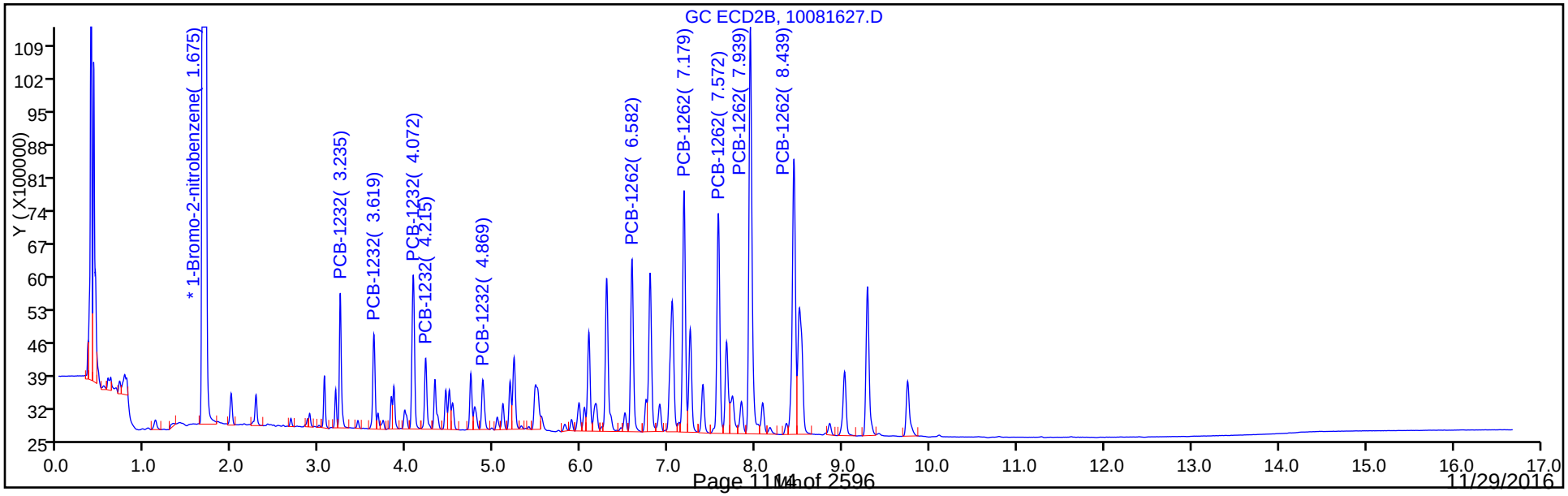
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Injection Date:	08-Oct-2016 21:02:56	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL23262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081628.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 21:24:36 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0051591-028
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub4

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:12 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.850	-0.001	278535625	1000.0	1000.0	
2	1.673	1.674	-0.001	264943055	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	2817230	25.0	23.6	
1	3.546	3.547	-0.001	2203842	25.0	22.8	
1	4.019	4.020	-0.001	4484149	25.0	24.9	
1	4.163	4.163	0.000	2007425	25.0	24.2	
1	4.619	4.620	-0.001	1861828	25.0	22.8	
		Average of Peak Amounts =				23.7	
2	3.233	3.234	-0.001	2769710	25.0	23.2	
2	3.619	3.620	-0.001	2242846	25.0	23.7	
2	4.073	4.070	0.003	4112077	25.0	25.2	
2	4.213	4.214	-0.001	1739493	25.0	24.9	
2	4.869	4.870	-0.001	1314864	25.0	25.2	
		Average of Peak Amounts =				24.4	
						RPD = 3.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.483	6.480	0.003	6320811	25.0	25.3	
1	7.013	7.010	0.003	7880525	25.0	24.3	
1	7.339	7.340	-0.001	7494329	25.0	25.4	
1	7.776	7.777	-0.001	15788378	25.0	23.2	
1	8.163	8.163	0.000	5104184	25.0	25.7	
		Average of Peak Amounts =				24.8	
2	6.579	6.580	-0.001	4798307	25.0	24.9	
2	7.176	7.177	-0.001	6890855	25.0	24.7	
2	7.569	7.570	-0.001	6486857	25.0	24.8	
2	7.939	7.937	0.002	12346872	25.0	24.4	
2	8.439	8.437	0.002	9110551	25.0	25.1	
		Average of Peak Amounts =				24.8	
						RPD = 0.11	
S 8 Polychlorinated biphenyls, Total							
1						48.4	
2						49.2	
						RPD = 1.58	

Reagents:

AR_3262_L1_00017	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

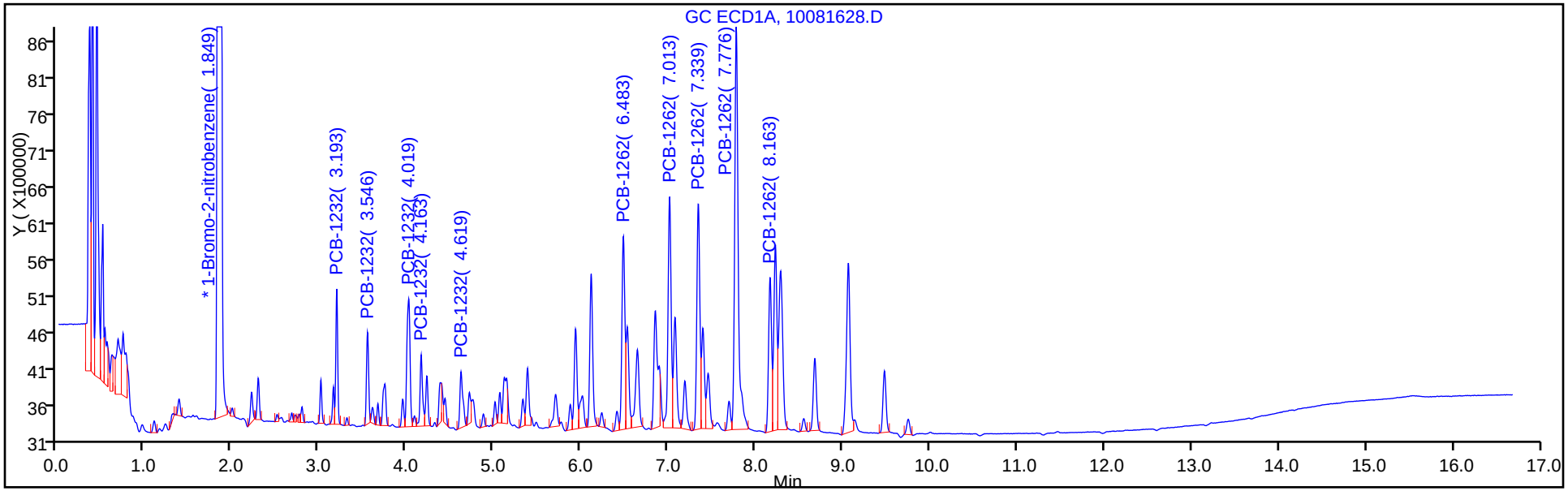
Report Date: 09-Oct-2016 09:28:12 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

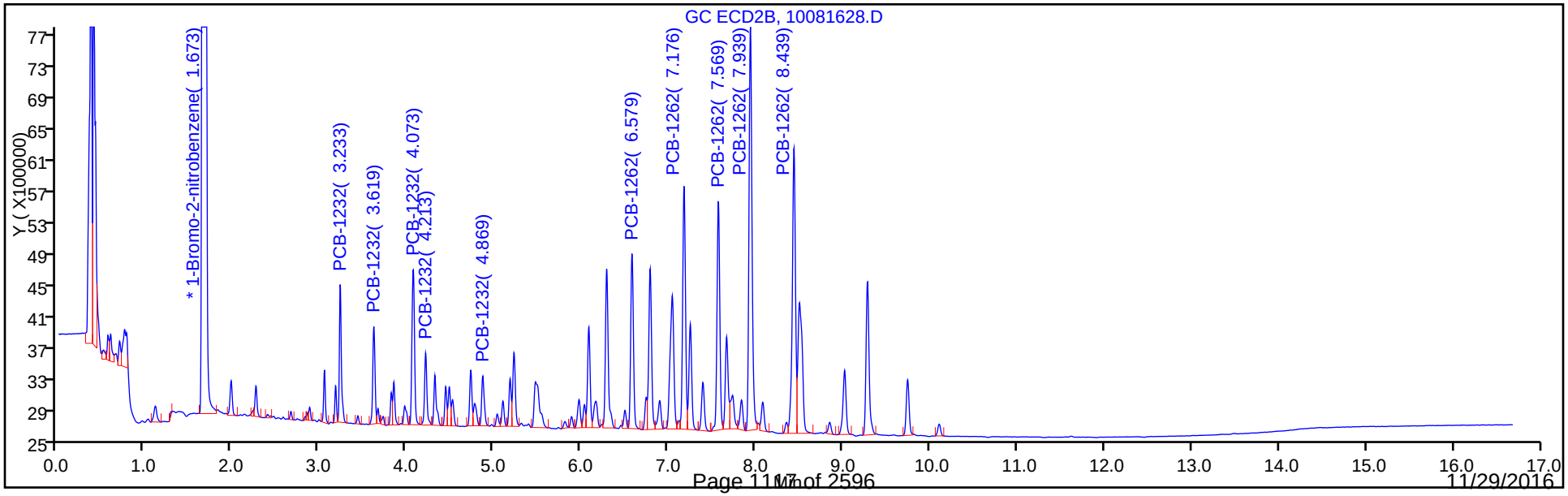
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081628.D

Injection Date:	08-Oct-2016 21:24:36	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL13262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 21:46 Calibration End Date: 10/08/2016 23:55 Calibration ID: 27255

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-345281/35	10081635.D
Level 2	STDL24268 280-345281/34	10081634.D
Level 3	STDL34268 280-345281/33	10081633.D
Level 4	STDL44268 280-345281/32	10081632.D
Level 5	STDL54268 280-345281/31	10081631.D
Level 6	STDL64268 280-345281/30	10081630.D
Level 7	STDL74268 280-345281/29	10081629.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 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	0.5070 0.3355	0.4672 0.3243	0.4129	0.3782	0.3654	Lin1	5.9240	0.3324							0.9970		0.9900
PCB-1242 Peak 2	1.0004 0.7414	0.9349 0.7255	0.8435	0.7968	0.7986	Lin1	8.5452	0.7388							0.9980		0.9900
PCB-1242 Peak 3	0.4503 0.3277	0.4333 0.3229	0.3843	0.3567	0.3540	Lin1	4.2955	0.3275							0.9980		0.9900
PCB-1242 Peak 4	0.3150 0.2509	0.2743 0.2550	0.2656	0.2627	0.2714	Lin1	1.3677	0.2554							0.9990		0.9900
PCB-1242 Peak 5	0.3126 0.2620	0.3340 0.2547	0.3025	0.2810	0.2772	Lin1	2.5557	0.2605							0.9980		0.9900
PCB-1268 Peak 1	2.1377 1.6249	1.9959 1.5943	1.7813	1.7220	1.7747	Lin1	15.896	1.6265							0.9980		0.9900
PCB-1268 Peak 2	2.0856 1.5420	1.9174 1.4776	1.7865	1.6596	1.6466	Lin1	18.783	1.5206							0.9980		0.9900
PCB-1268 Peak 3	1.7621 1.3361	1.6311 1.2980	1.4897	1.4174	1.4410	Lin1	13.751	1.3283							0.9980		0.9900
PCB-1268 Peak 4	0.9321 0.6272	0.9212 0.6096	0.7487	0.6884	0.6821	Lin1	11.046	0.6206							0.9970		0.9900
PCB-1268 Peak 5	5.3547 4.0086	5.0324 3.8487	4.6055	4.3467	4.3220	Lin1	47.776	3.9680							0.9980		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 21:46 Calibration End Date: 10/08/2016 23:55 Calibration ID: 27255

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-345281/35	10081635.D
Level 2	STDL24268 280-345281/34	10081634.D
Level 3	STDL34268 280-345281/33	10081633.D
Level 4	STDL44268 280-345281/32	10081632.D
Level 5	STDL54268 280-345281/31	10081631.D
Level 6	STDL64268 280-345281/30	10081630.D
Level 7	STDL74268 280-345281/29	10081629.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	3580800 69419054	6558220 87356528	11661763	26551198	51450818	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	7065428 153406856	13122587 195399840	23821854	55939284	112452480	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	3180174 67813090	6082088 86971394	10854484	25042229	49846863	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	2224400 51924510	3850975 68690383	7500410	18439990	38221302	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	2207797 54216963	4688162 68607919	8542661	19727832	39028926	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	15097445 336228569	28015758 429391784	50306954	120890328	249880822	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	14729590 319082846	26914135 397972569	50453857	116513744	231844422	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	12444447 276474927	22895628 349588195	42071016	99511065	202901087	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	6583001 129790165	12931307 164181181	21145381	48330101	96049474	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	37817020 829480250	70639126 1036571157	130067066	305165035	608556671	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081629.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 21:46:14 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0051591-029
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:13 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.850	-0.001	269329949	1000.0	1000.0	
2	1.676	1.674	0.002	256392346	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	87356528	1000.0	958.1	
1	4.019	4.018	0.001	195399840	1000.0	970.4	
1	4.162	4.162	0.000	86971394	1000.0	972.8	
1	5.115	5.115	0.000	68690383	1000.0	993.2	
1	5.139	5.142	-0.003	68607919	1000.0	967.9	
		Average of Peak Amounts =				972.5	
2	3.619	3.619	0.000	89264201	1000.0	959.5	
2	4.069	4.072	-0.003	186087835	1000.0	963.2	
2	4.212	4.215	-0.003	79848524	1000.0	979.2	
2	5.179	5.182	-0.003	63118095	1000.0	961.1	
2	5.229	5.229	0.000	75935069	1000.0	986.4	
		Average of Peak Amounts =				969.9	
						RPD = 0.27	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.222	8.225	-0.003	429391784	1000.0	970.4	
1	8.275	8.275	0.000	397972569	1000.0	959.4	
1	8.549	8.548	0.001	349588195	1000.0	966.8	
1	9.062	9.062	0.000	164181181	1000.0	964.5	
1	9.475	9.475	0.000	1036571157	1000.0	957.9	
		Average of Peak Amounts =				963.8	
2	8.436	8.435	0.001	373823171	1000.0	968.6	
2	8.499	8.499	0.000	346676715	1000.0	967.1	
2	8.849	8.849	0.000	303349558	1000.0	970.8	
2	9.282	9.279	0.003	134882163	1000.0	972.6	
2	9.742	9.742	0.000	877060976	1000.0	967.1	
		Average of Peak Amounts =				969.2	
						RPD = 0.56	
S 8 Polychlorinated biphenyls, Total							
1						1936.3	
2						1939.1	
						RPD = 0.15	

Reagents:

AR_4268_L7_00011	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

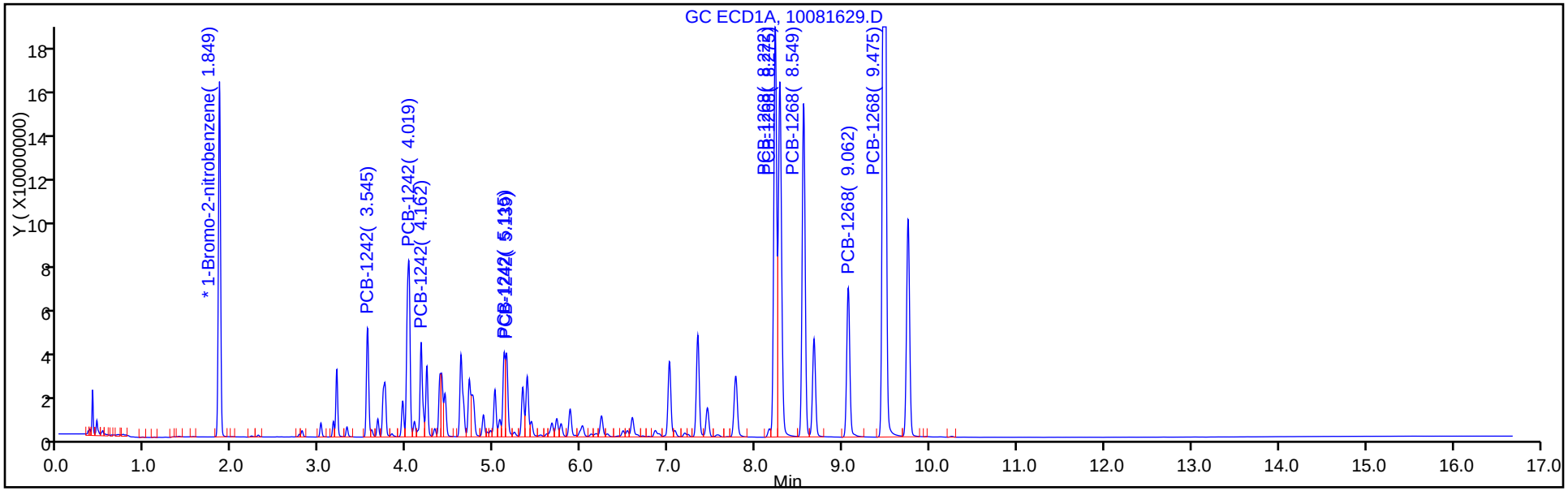
Report Date: 09-Oct-2016 09:28:14 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

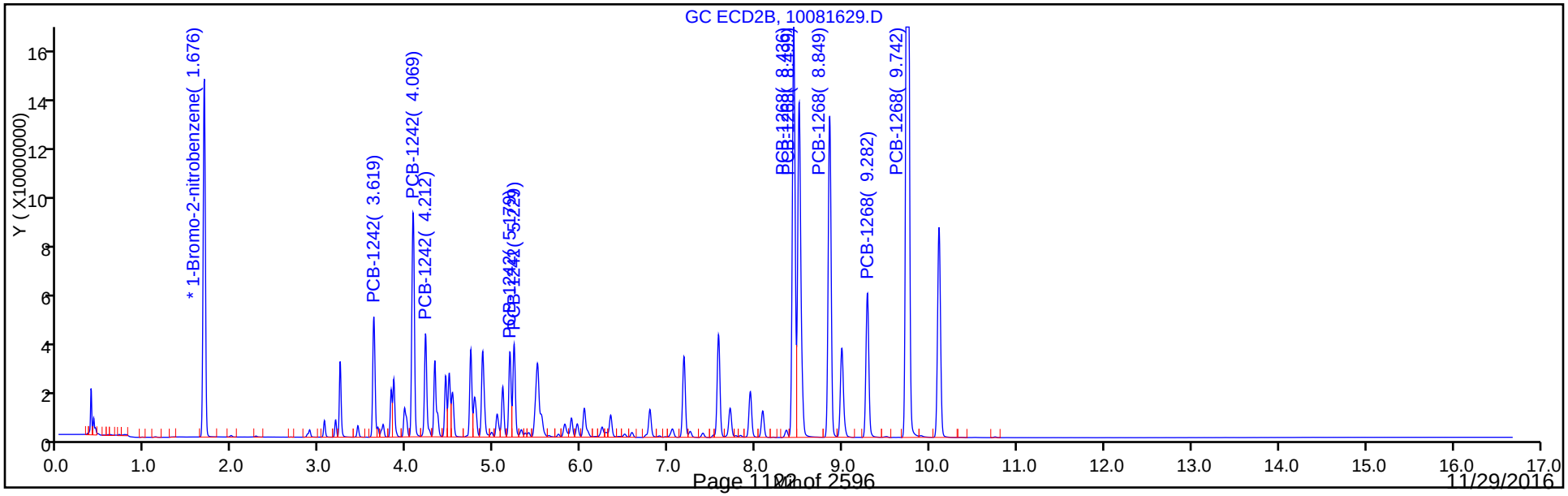
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081629.D

Injection Date:	08-Oct-2016 21:46:14	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL74268			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081630.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 22:07:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0051591-030
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:15 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	275899324	1000.0	1000.0	
2	1.675	1.674	0.001	262013683	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.548	3.545	0.003	69419054	750.0	739.2	
1	4.018	4.018	0.000	153406856	750.0	741.0	
1	4.161	4.162	-0.001	67813090	750.0	737.3	
1	5.115	5.115	0.000	51924510	750.0	731.5	
1	5.141	5.142	-0.001	54216963	750.0	744.4	
		Average of Peak Amounts =				738.7	
2	3.618	3.619	-0.001	70501133	750.0	737.7	
2	4.072	4.072	0.000	146475301	750.0	739.4	
2	4.212	4.215	-0.003	62507152	750.0	747.5	
2	5.182	5.182	0.000	50063531	750.0	744.7	
2	5.228	5.229	-0.001	58056678	750.0	736.0	
		Average of Peak Amounts =				741.0	
						RPD = 0.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	336228569	750.0	739.5	
1	8.278	8.275	0.003	319082846	750.0	748.2	
1	8.548	8.548	0.000	276474927	750.0	744.0	
1	9.061	9.062	-0.001	129790165	750.0	740.2	
1	9.475	9.475	0.000	829480250	750.0	745.6	
		Average of Peak Amounts =				743.5	
2	8.435	8.435	0.000	292430350	750.0	739.3	
2	8.498	8.499	-0.001	272917256	750.0	742.5	
2	8.848	8.849	-0.001	237233644	750.0	740.8	
2	9.278	9.279	-0.001	105234233	750.0	740.6	
2	9.742	9.742	0.000	688341491	750.0	740.0	
		Average of Peak Amounts =				740.6	
						RPD = 0.39	
S 8 Polychlorinated biphenyls, Total							
1						1482.2	
2						1481.7	
						RPD = 0.03	

Reagents:

AR_4268_L6_00013	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

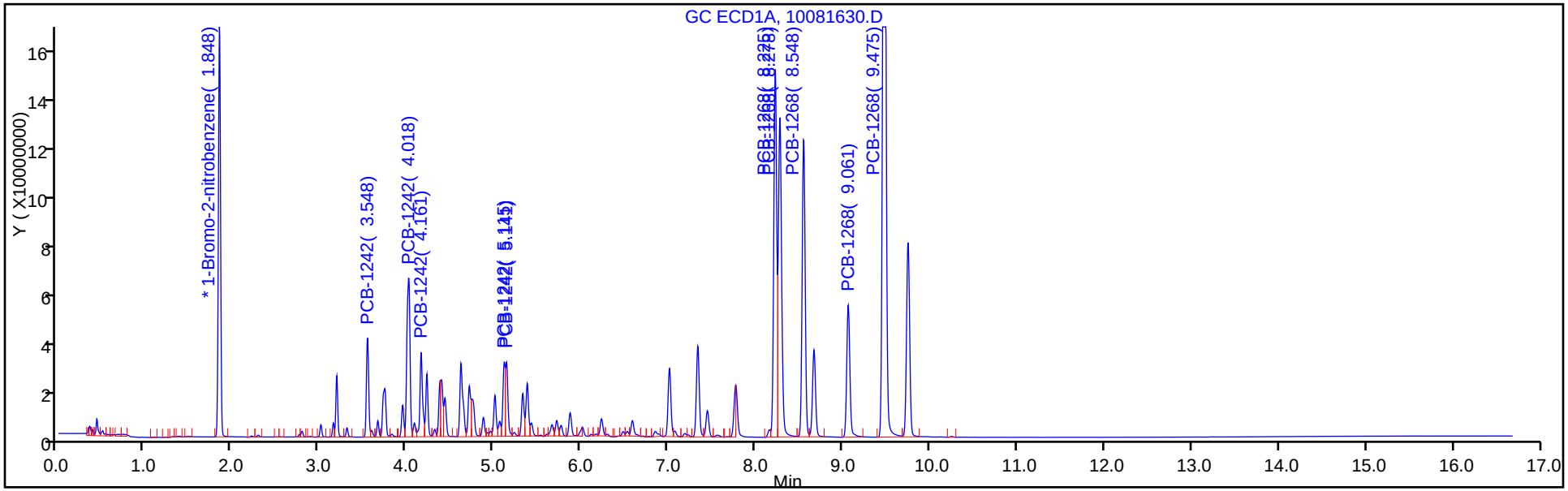
Report Date: 09-Oct-2016 09:28:15 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

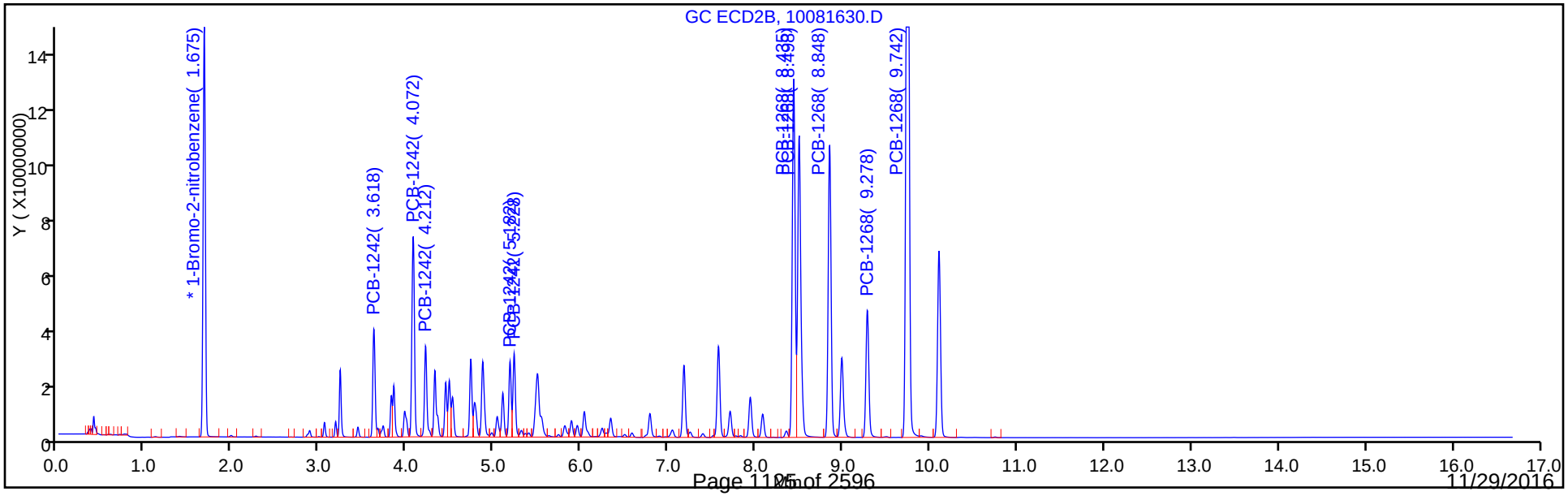
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081630.D

Injection Date:	08-Oct-2016 22:07:51	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL64268			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081631.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 22:29:30 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0051591-031
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:17 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:01:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	281608897	1000.0	1000.0	
2	1.675	1.675	0.000	268125441	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	51450818	500.0	531.9	
1	4.018	4.018	0.000	112452480	500.0	528.9	
1	4.162	4.162	0.000	49846863	500.0	527.3	
1	5.115	5.115	0.000	38221302	500.0	526.1	
1	5.142	5.142	0.000	39028926	500.0	522.1	
		Average of Peak Amounts =				527.3	
2	3.619	3.619	0.000	52870729	500.0	536.1	
2	4.072	4.072	0.000	109307821	500.0	536.3	
2	4.215	4.215	0.000	43846002	500.0	508.8	
2	5.182	5.182	0.000	37078013	500.0	537.4	
2	5.229	5.229	0.000	42203600	500.0	520.5	
		Average of Peak Amounts =				527.8	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	249880822	500.0	535.8	
1	8.275	8.275	0.000	231844422	500.0	529.1	
1	8.548	8.548	0.000	202901087	500.0	532.1	
1	9.062	9.062	0.000	96049474	500.0	531.8	
1	9.475	9.475	0.000	608556671	500.0	532.6	
		Average of Peak Amounts =				532.3	
2	8.435	8.435	0.000	216930005	500.0	533.3	
2	8.499	8.499	0.000	200262369	500.0	529.4	
2	8.849	8.849	0.000	174885272	500.0	531.1	
2	9.279	9.279	0.000	77273759	500.0	529.2	
2	9.742	9.742	0.000	508390166	500.0	530.9	
		Average of Peak Amounts =				530.8	
						RPD = 0.28	

Reagents:

AR_4268_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

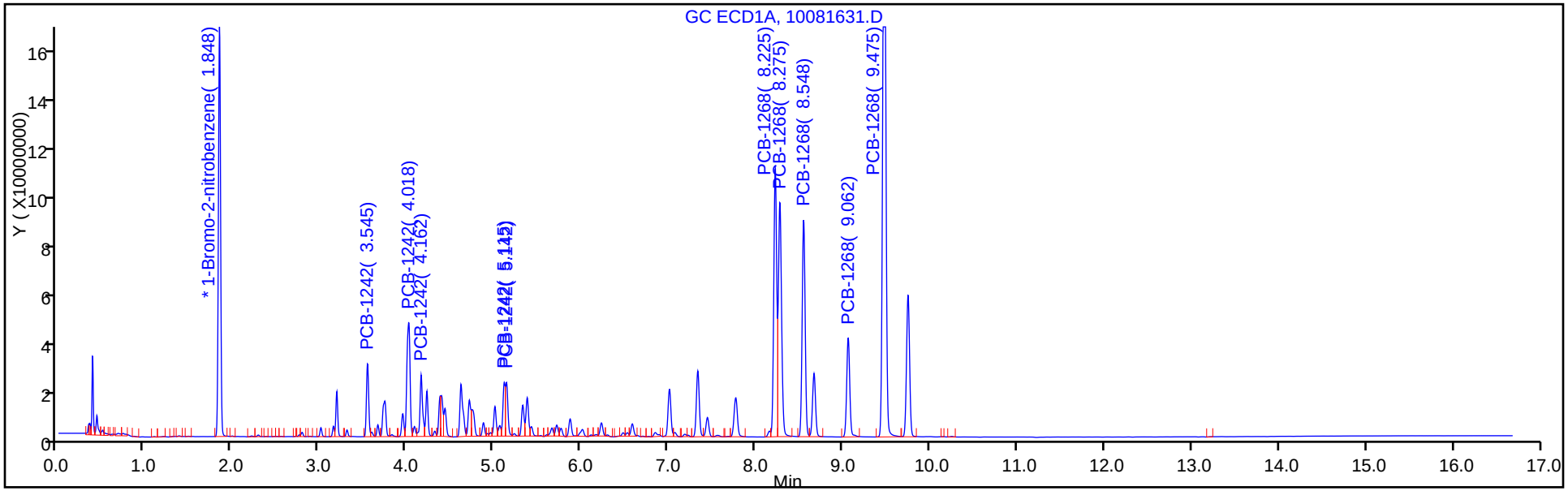
Report Date: 09-Oct-2016 09:28:17 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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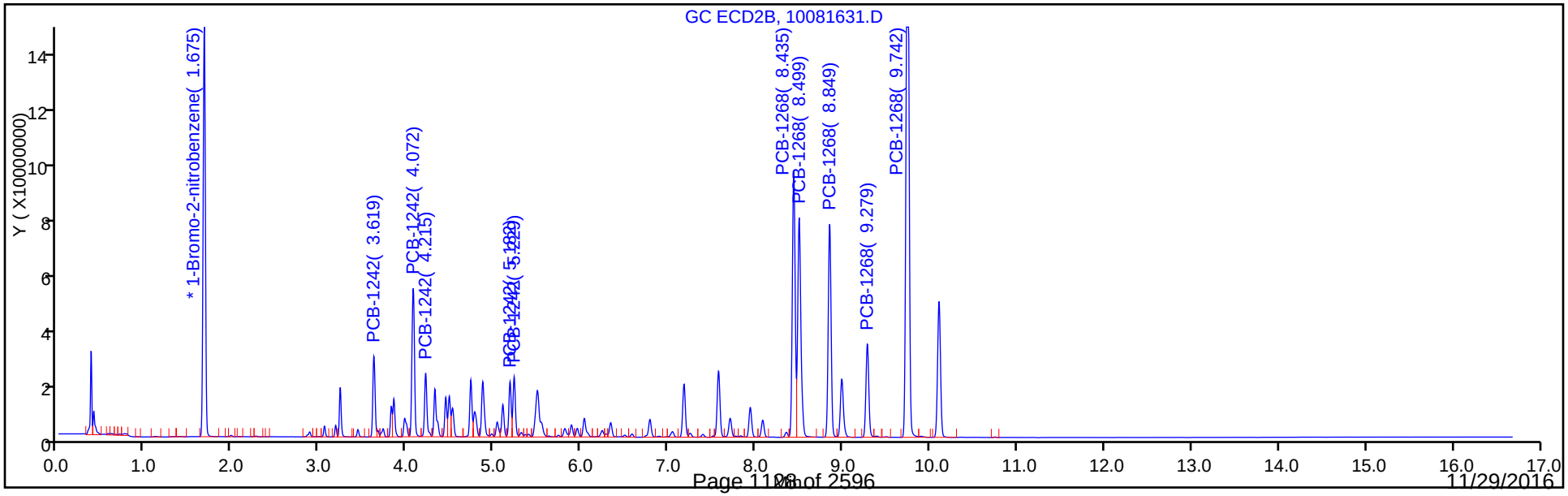
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081631.D

Injection Date:	08-Oct-2016 22:29:30	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL54268			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081632.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 22:51:08 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0051591-032
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:19 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	280821791	1000.0	1000.0	
2	1.675	1.675	0.000	265950856	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	26551198	250.0	266.6	
1	4.018	4.018	0.000	55939284	250.0	258.1	
1	4.162	4.162	0.000	25042229	250.0	259.1	
1	5.115	5.115	0.000	18439990	250.0	251.7	
1	5.138	5.142	-0.004	19727832	250.0	259.8	
		Average of Peak Amounts =				259.1	
2	3.618	3.619	-0.001	26687432	250.0	264.6	
2	4.072	4.072	0.000	53506405	250.0	259.2	
2	4.212	4.215	-0.003	22724012	250.0	260.4	
2	5.182	5.182	0.000	17823536	250.0	257.5	
2	5.228	5.229	-0.001	20901201	250.0	255.9	
		Average of Peak Amounts =				259.5	
						RPD = 0.17	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	120890328	250.0	254.9	
1	8.275	8.275	0.000	116513744	250.0	260.5	
1	8.548	8.548	0.000	99511065	250.0	256.4	
1	9.062	9.062	0.000	48330101	250.0	259.5	
1	9.475	9.475	0.000	305165035	250.0	261.8	
		Average of Peak Amounts =				258.6	
2	8.435	8.435	0.000	105902328	250.0	257.7	
2	8.498	8.499	-0.001	98957700	250.0	258.3	
2	8.848	8.849	-0.001	85189683	250.0	256.1	
2	9.282	9.279	0.003	37641894	250.0	255.8	
2	9.742	9.742	0.000	252075338	250.0	259.6	
		Average of Peak Amounts =				257.5	
						RPD = 0.43	
S 8 Polychlorinated biphenyls, Total							
1						517.7	
2						517.0	
						RPD = 0.13	

Reagents:

AR_4268_L4_00018	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

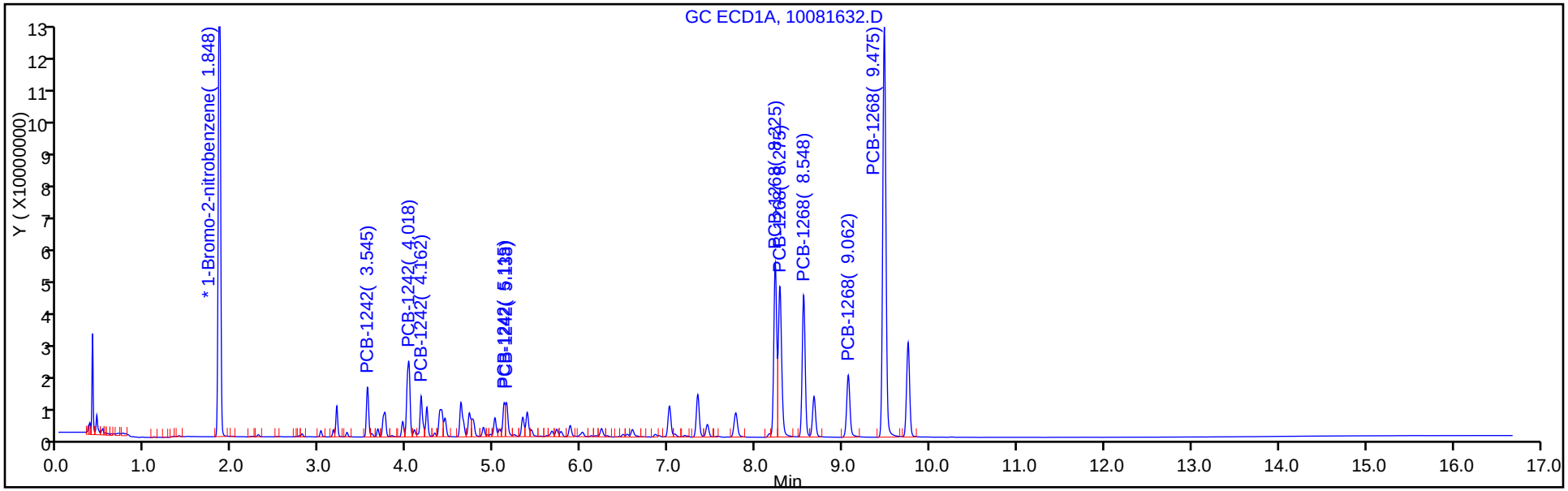
Report Date: 09-Oct-2016 09:28:19 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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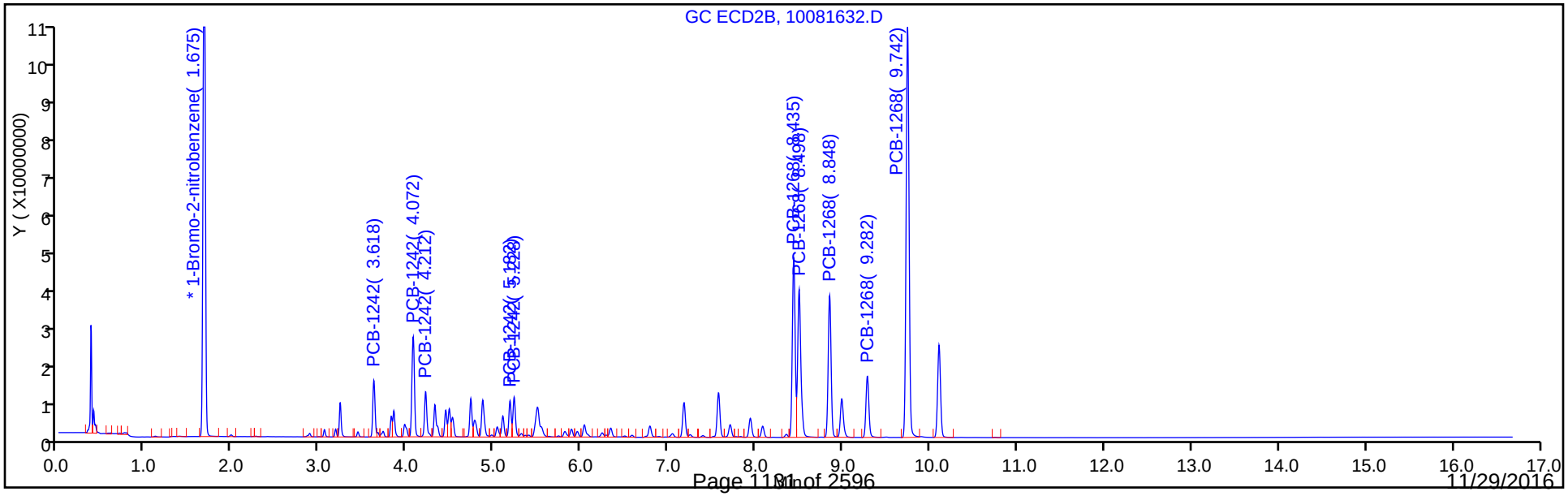
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081632.D

Injection Date:	08-Oct-2016 22:51:08	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL44268			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081633.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 23:12:46 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0051591-033
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:21 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	282419645	1000.0	1000.0	
2	1.675	1.675	0.000	265106753	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.548	3.545	0.003	11661763	100.0	106.4	
1	4.018	4.018	0.000	23821854	100.0	102.6	
1	4.161	4.162	-0.001	10854484	100.0	104.2	
1	5.118	5.115	0.003	7500410	100.0	98.6	
1	5.141	5.142	-0.001	8542661	100.0	106.3	
		Average of Peak Amounts =				103.6	
2	3.618	3.619	-0.001	11499173	100.0	104.8	
2	4.072	4.072	0.000	22656168	100.0	103.9	
2	4.212	4.215	-0.003	9766916	100.0	105.8	
2	5.182	5.182	0.000	7204125	100.0	101.1	
2	5.228	5.229	-0.001	8657905	100.0	101.7	
		Average of Peak Amounts =				103.5	
						RPD = 0.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	50306954	100.0	99.7	
1	8.278	8.275	0.003	50453857	100.0	105.1	
1	8.551	8.548	0.003	42071016	100.0	101.8	
1	9.061	9.062	-0.001	21145381	100.0	102.8	
1	9.475	9.475	0.000	130067066	100.0	104.0	
		Average of Peak Amounts =				102.7	
2	8.435	8.435	0.000	44221888	100.0	102.5	
2	8.498	8.499	-0.001	42105190	100.0	104.1	
2	8.848	8.849	-0.001	35710759	100.0	102.3	
2	9.282	9.279	0.003	15763254	100.0	102.9	
2	9.742	9.742	0.000	107211093	100.0	104.1	
		Average of Peak Amounts =				103.2	
						RPD = 0.47	
S 8 Polychlorinated biphenyls, Total							
1						206.3	
2						206.7	
						RPD = 0.15	

Reagents:

AR_4268_L3_00015	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

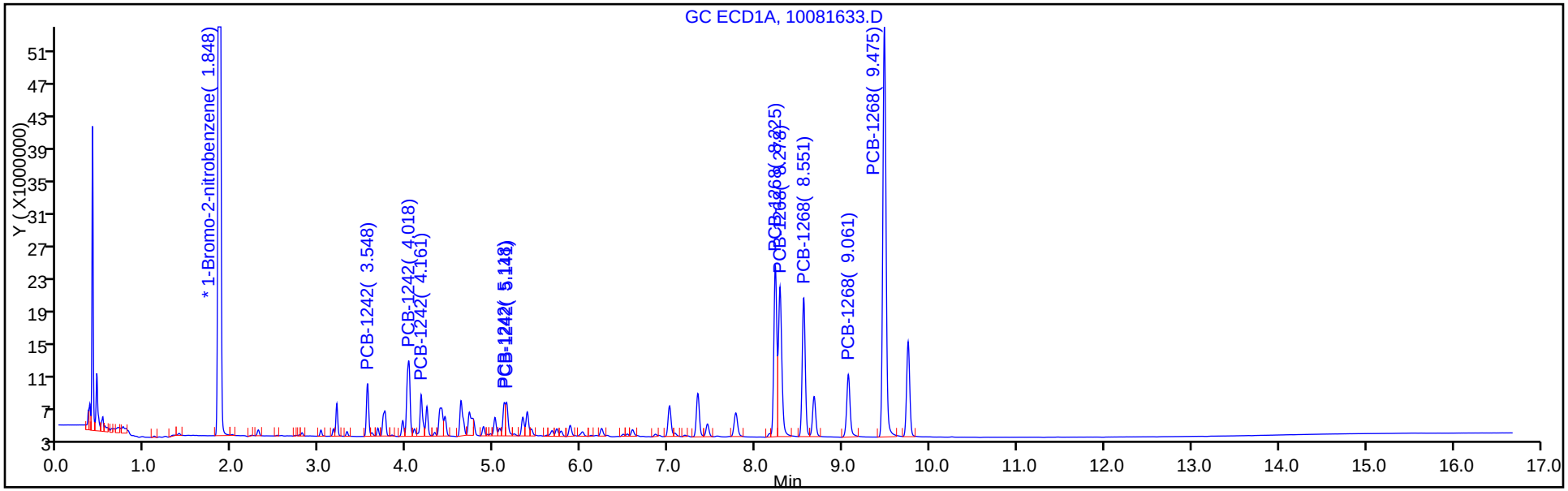
Report Date: 09-Oct-2016 09:28:21 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

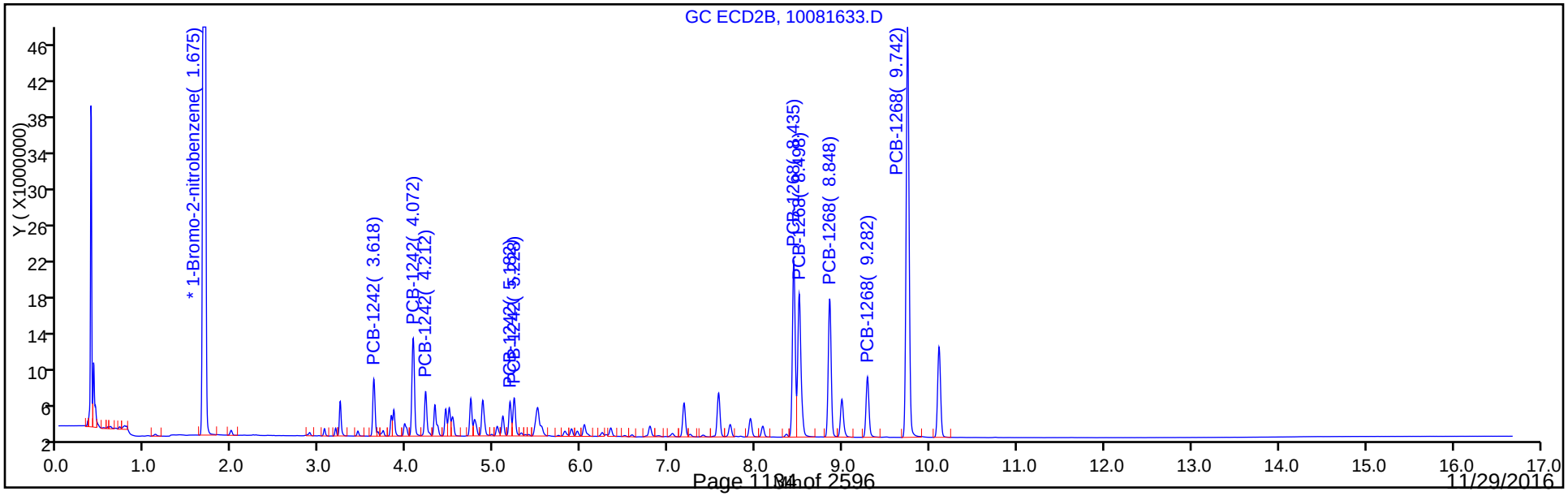
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081633.D

Injection Date:	08-Oct-2016 23:12:46	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL34268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081634.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 23:34:22 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0051591-034
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:22 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	280736237	1000.0	1000.0	
2	1.674	1.675	-0.001	264021785	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.547	3.545	0.002	6558220	50.0	52.5	
1	4.020	4.018	0.002	13122587	50.0	51.7	
1	4.163	4.162	0.001	6082088	50.0	53.0	
1	5.117	5.115	0.002	3850975	50.0	48.4	
1	5.140	5.142	-0.002	4688162	50.0	54.3	
		Average of Peak Amounts =				52.0	
2	3.620	3.619	0.001	6346502	50.0	50.6	
2	4.070	4.072	-0.002	12130601	50.0	50.9	
2	4.214	4.215	-0.001	5190521	50.0	51.2	
2	5.180	5.182	-0.002	3741993	50.0	50.0	
2	5.230	5.229	0.001	4678487	50.0	51.6	
		Average of Peak Amounts =				50.8	
						RPD = 2.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.223	8.225	-0.002	28015758	50.0	51.6	
1	8.277	8.275	0.002	26914135	50.0	50.7	
1	8.550	8.548	0.002	22895628	50.0	51.0	
1	9.060	9.062	-0.002	12931307	50.0	56.4	
1	9.477	9.475	0.002	70639126	50.0	51.4	
		Average of Peak Amounts =				52.2	
2	8.437	8.435	0.002	23784497	50.0	51.0	
2	8.497	8.499	-0.002	22776150	50.0	51.6	
2	8.847	8.849	-0.002	19231999	50.0	51.1	
2	9.280	9.279	0.001	8382456	50.0	51.2	
2	9.740	9.742	-0.002	58089236	50.0	51.4	
		Average of Peak Amounts =				51.3	
						RPD = 1.83	
S 8 Polychlorinated biphenyls, Total							
1						104.2	
2						102.1	
						RPD = 2.01	

Reagents:

AR_4268_L2_00015	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

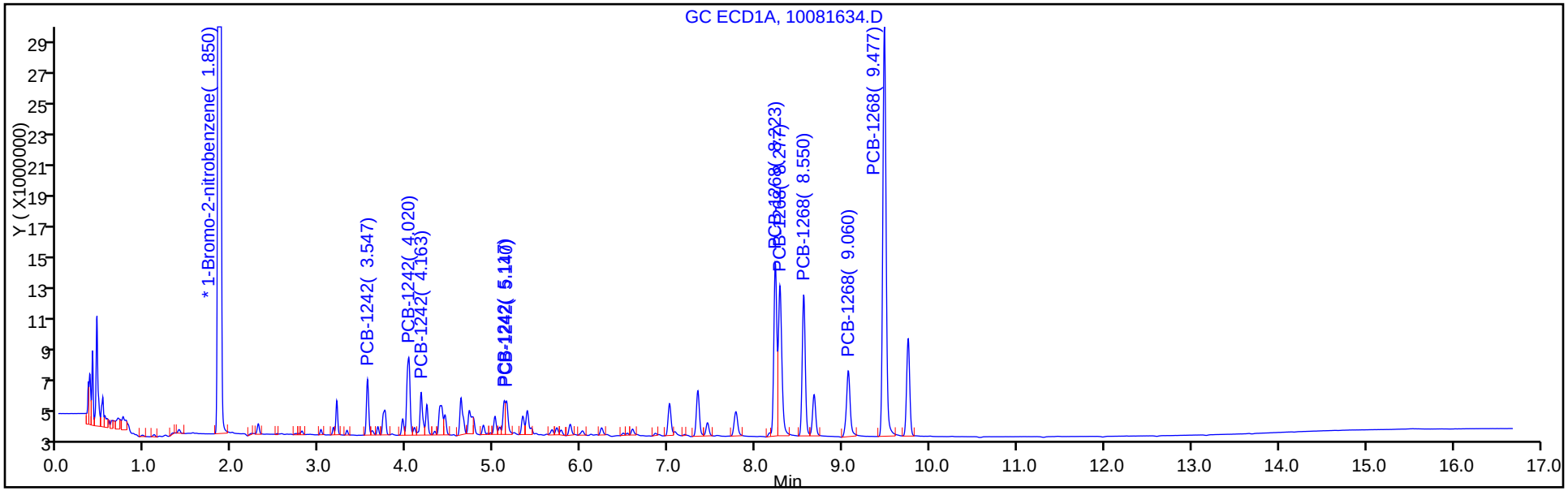
Report Date: 09-Oct-2016 09:28:22 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

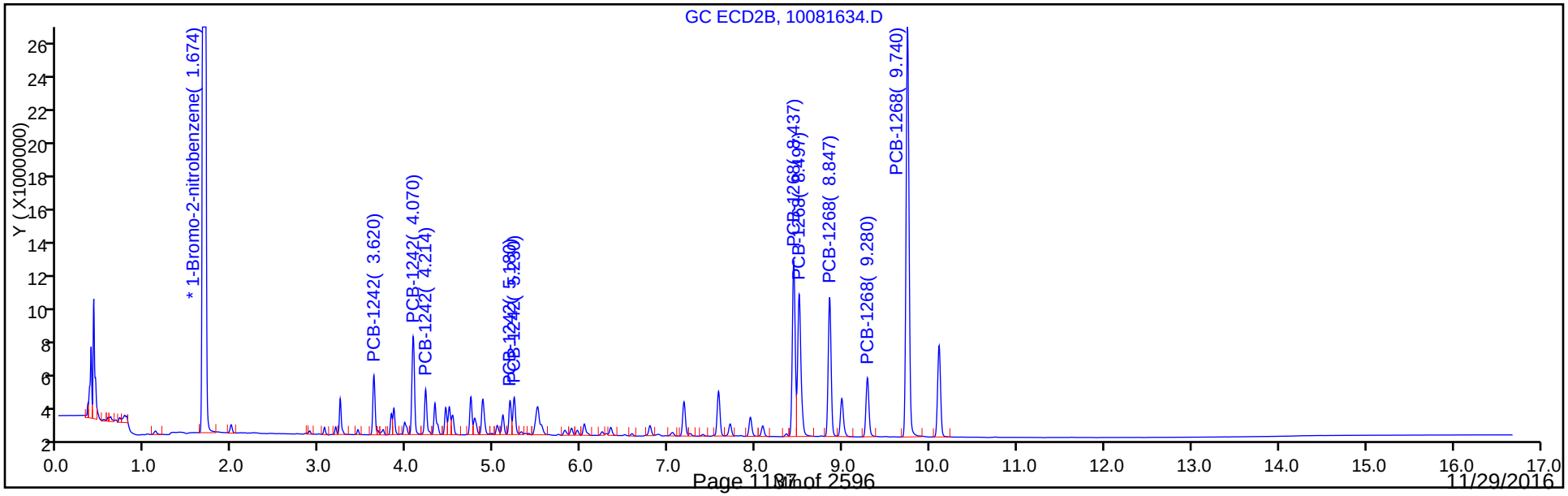
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081634.D

Injection Date:	08-Oct-2016 23:34:22	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL24268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 23:55:59 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0051591-035
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	282497640	1000.0	1000.0	
2	1.673	1.675	-0.002	265966776	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.547	3.545	0.002	3580800	25.0	20.3	
1	4.020	4.018	0.002	7065428	25.0	22.3	
1	4.163	4.162	0.001	3180174	25.0	21.3	
1	5.117	5.115	0.002	2224400	25.0	25.5	
1	5.140	5.142	-0.002	2207797	25.0	20.2	
		Average of Peak Amounts =				21.9	
2	3.620	3.619	0.001	3648920	25.0	21.7	
2	4.070	4.072	-0.002	6528183	25.0	22.1	
2	4.213	4.215	-0.002	2795543	25.0	22.1	
2	5.183	5.182	0.001	1958049	25.0	23.3	
2	5.230	5.229	0.001	2448251	25.0	23.0	
		Average of Peak Amounts =				22.4	
						RPD = 2.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.227	8.225	0.002	15097445	25.0	23.1	
1	8.277	8.275	0.002	14729590	25.0	21.9	
1	8.550	8.548	0.002	12444447	25.0	22.8	
1	9.063	9.062	0.001	6583001	25.0	19.8	
1	9.477	9.475	0.002	37817020	25.0	21.7	
		Average of Peak Amounts =				21.9	
2	8.437	8.435	0.002	12672985	25.0	22.6	
2	8.497	8.499	-0.002	12014734	25.0	21.9	
2	8.847	8.849	-0.002	10264654	25.0	22.7	
2	9.280	9.279	0.001	4363993	25.0	22.6	
2	9.740	9.742	-0.002	31133720	25.0	21.9	
		Average of Peak Amounts =				22.4	
						RPD = 2.26	
S 8 Polychlorinated biphenyls, Total							
1						43.8	
2						44.8	
						RPD = 2.30	

Reagents:

AR_4268_L1_00016	Amount Added: 1.00	Units: mL		
BNB IS_00008	Amount Added: 1.00	Units: mL	Run Reagent	

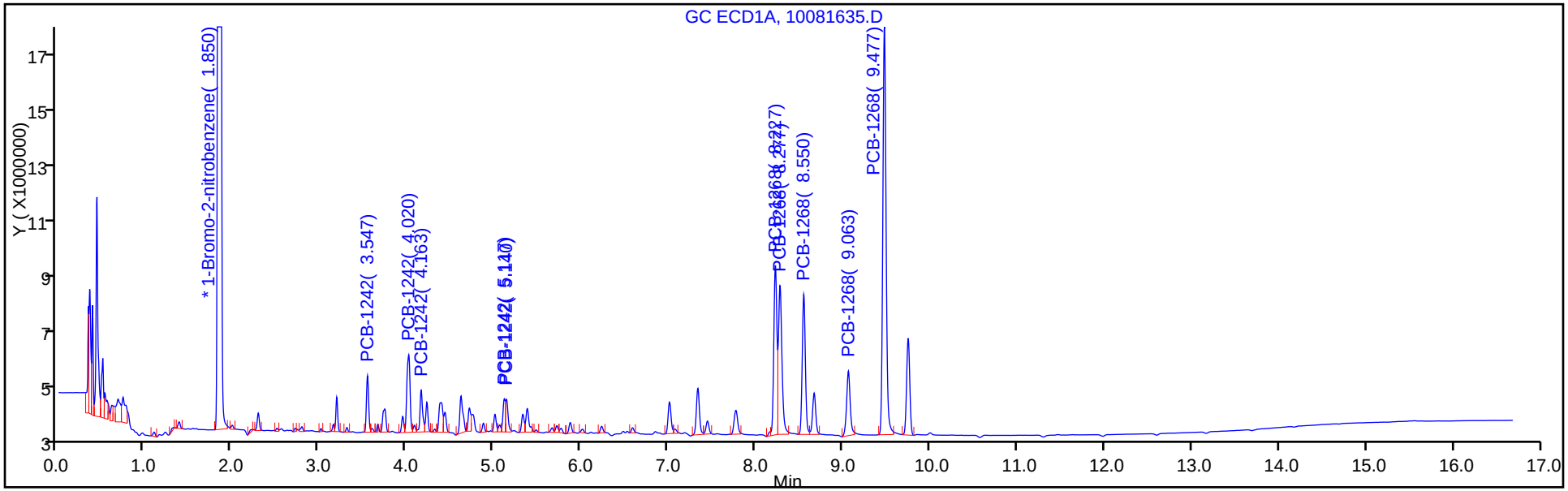
Report Date: 09-Oct-2016 09:28:24 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

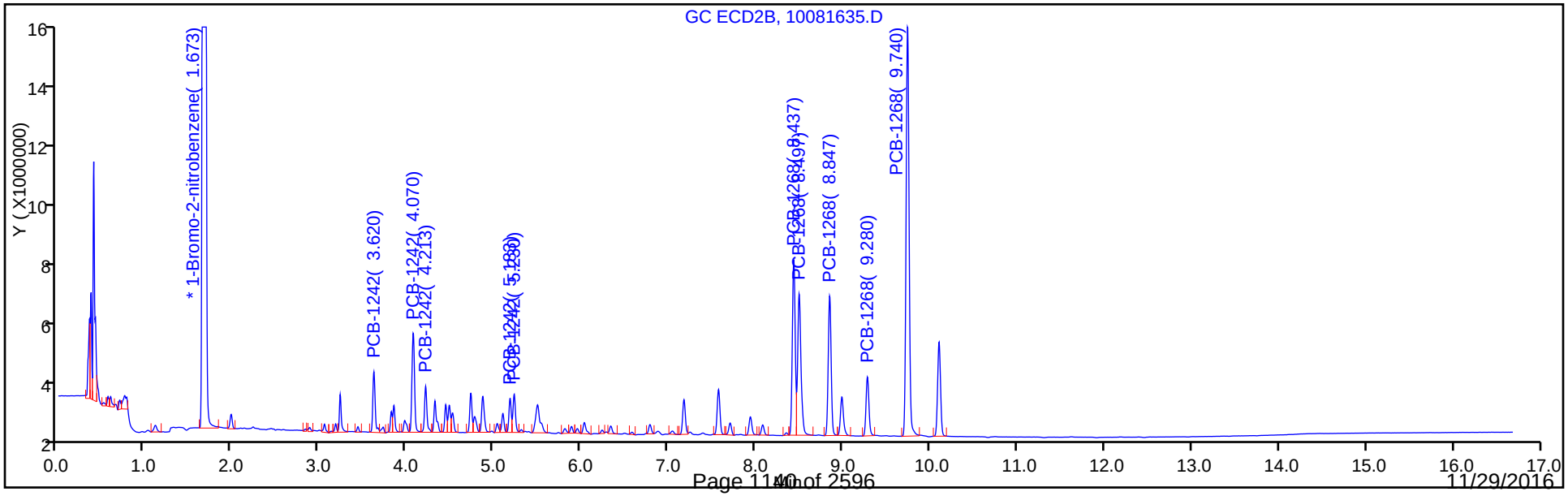
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Injection Date:	08-Oct-2016 23:55:59	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL14268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 21:46 Calibration End Date: 10/08/2016 23:55 Calibration ID: 27256

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-345281/35	10081635.D
Level 2	STDL24268 280-345281/34	10081634.D
Level 3	STDL34268 280-345281/33	10081633.D
Level 4	STDL44268 280-345281/32	10081632.D
Level 5	STDL54268 280-345281/31	10081631.D
Level 6	STDL64268 280-345281/30	10081630.D
Level 7	STDL74268 280-345281/29	10081629.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 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	0.5488 0.3588	0.4808 0.3482	0.4338	0.4014	0.3944	Lin1	5.9966	0.3566							0.9970		0.9900
PCB-1242 Peak 2	0.9818 0.7454	0.9189 0.7258	0.8546	0.8048	0.8153	Lin1	8.0486	0.7452							0.9980		0.9900
PCB-1242 Peak 3	0.4204 0.3181	0.3932 0.3114	0.3684	0.3418	0.3271	Lin1	3.5703	0.3144							0.9990		0.9900
PCB-1242 Peak 4	0.2945 0.2548	0.2835 0.2462	0.2717	0.2681	0.2766	Lin1	1.4389	0.2547							0.9980		0.9900
PCB-1242 Peak 5	0.3682 0.2954	0.3544 0.2962	0.3266	0.3144	0.3148	Lin1	2.3600	0.2979							0.9990		0.9900
PCB-1268 Peak 1	1.9060 1.4881	1.8017 1.4580	1.6681	1.5928	1.6181	Lin1	14.008	1.4908							0.9980		0.9900
PCB-1268 Peak 2	1.8070 1.3888	1.7253 1.3521	1.5882	1.4884	1.4938	Lin1	14.860	1.3828							0.9980		0.9900
PCB-1268 Peak 3	1.5437 1.2072	1.4568 1.1831	1.3470	1.2813	1.3045	Lin1	11.151	1.2072							0.9980		0.9900
PCB-1268 Peak 4	0.6563 0.5355	0.6350 0.5261	0.5946	0.5661	0.5764	Lin1	4.2693	0.5365							0.9990		0.9900
PCB-1268 Peak 5	4.6823 3.5028	4.4003 3.4208	4.0441	3.7913	3.7922	Lin1	40.410	3.4955							0.9980		0.9900

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

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 345281

SDG No.:

Instrument ID: SGC_P3 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/08/2016 21:46 Calibration End Date: 10/08/2016 23:55 Calibration ID: 27256

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-345281/35	10081635.D
Level 2	STDL24268 280-345281/34	10081634.D
Level 3	STDL34268 280-345281/33	10081633.D
Level 4	STDL44268 280-345281/32	10081632.D
Level 5	STDL54268 280-345281/31	10081631.D
Level 6	STDL64268 280-345281/30	10081630.D
Level 7	STDL74268 280-345281/29	10081629.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	3648920 70501133	6346502 89264201	11499173	26687432	52870729	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	6528183 146475301	12130601 186087835	22656168	53506405	109307821	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	2795543 62507152	5190521 79848524	9766916	22724012	43846002	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	1958049 50063531	3741993 63118095	7204125	17823536	37078013	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	2448251 58056678	4678487 75935069	8657905	20901201	42203600	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	12672985 292430350	23784497 373823171	44221888	105902328	216930005	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	12014734 272917256	22776150 346676715	42105190	98957700	200262369	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	10264654 237233644	19231999 303349558	35710759	85189683	174885272	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	4363993 105234233	8382456 134882163	15763254	37641894	77273759	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	31133720 688341491	58089236 877060976	107211093	252075338	508390166	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081629.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 08-Oct-2016 21:46:14 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0051591-029
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:13 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.850	-0.001	269329949	1000.0	1000.0	
2	1.676	1.674	0.002	256392346	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	87356528	1000.0	958.1	
1	4.019	4.018	0.001	195399840	1000.0	970.4	
1	4.162	4.162	0.000	86971394	1000.0	972.8	
1	5.115	5.115	0.000	68690383	1000.0	993.2	
1	5.139	5.142	-0.003	68607919	1000.0	967.9	
		Average of Peak Amounts =				972.5	
2	3.619	3.619	0.000	89264201	1000.0	959.5	
2	4.069	4.072	-0.003	186087835	1000.0	963.2	
2	4.212	4.215	-0.003	79848524	1000.0	979.2	
2	5.179	5.182	-0.003	63118095	1000.0	961.1	
2	5.229	5.229	0.000	75935069	1000.0	986.4	
		Average of Peak Amounts =				969.9	
						RPD = 0.27	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.222	8.225	-0.003	429391784	1000.0	970.4	
1	8.275	8.275	0.000	397972569	1000.0	959.4	
1	8.549	8.548	0.001	349588195	1000.0	966.8	
1	9.062	9.062	0.000	164181181	1000.0	964.5	
1	9.475	9.475	0.000	1036571157	1000.0	957.9	
		Average of Peak Amounts =				963.8	
2	8.436	8.435	0.001	373823171	1000.0	968.6	
2	8.499	8.499	0.000	346676715	1000.0	967.1	
2	8.849	8.849	0.000	303349558	1000.0	970.8	
2	9.282	9.279	0.003	134882163	1000.0	972.6	
2	9.742	9.742	0.000	877060976	1000.0	967.1	
		Average of Peak Amounts =				969.2	
						RPD = 0.56	
S 8 Polychlorinated biphenyls, Total							
1						1936.3	
2						1939.1	
						RPD = 0.15	

Reagents:

AR_4268_L7_00011	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

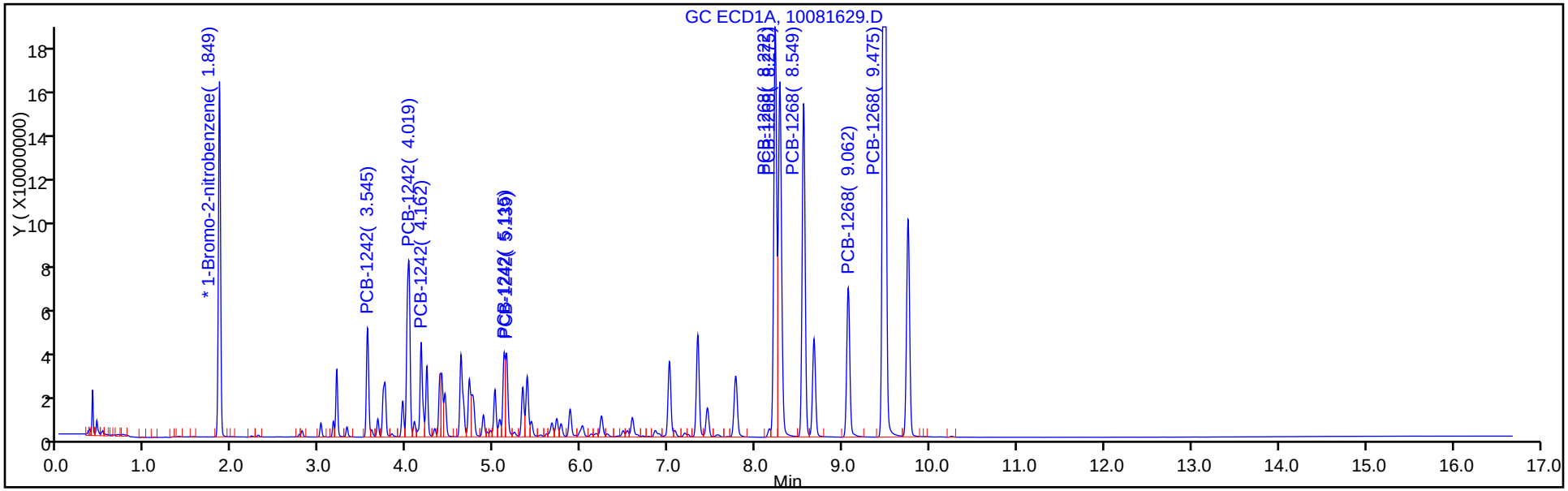
Report Date: 09-Oct-2016 09:28:14 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

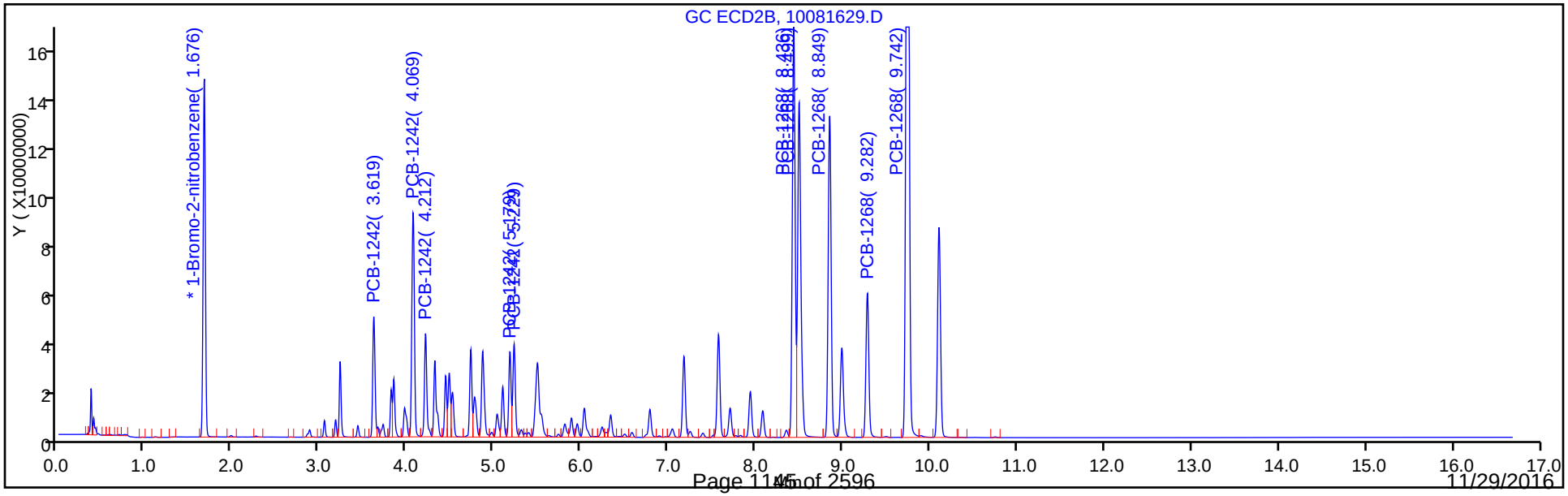
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081629.D

Injection Date:	08-Oct-2016 21:46:14	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL74268			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081630.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Oct-2016 22:07:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0051591-030
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:15 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.850	-0.002	275899324	1000.0	1000.0	
2	1.675	1.674	0.001	262013683	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.548	3.545	0.003	69419054	750.0	739.2	
1	4.018	4.018	0.000	153406856	750.0	741.0	
1	4.161	4.162	-0.001	67813090	750.0	737.3	
1	5.115	5.115	0.000	51924510	750.0	731.5	
1	5.141	5.142	-0.001	54216963	750.0	744.4	
		Average of Peak Amounts =				738.7	
2	3.618	3.619	-0.001	70501133	750.0	737.7	
2	4.072	4.072	0.000	146475301	750.0	739.4	
2	4.212	4.215	-0.003	62507152	750.0	747.5	
2	5.182	5.182	0.000	50063531	750.0	744.7	
2	5.228	5.229	-0.001	58056678	750.0	736.0	
		Average of Peak Amounts =				741.0	
						RPD = 0.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	336228569	750.0	739.5	
1	8.278	8.275	0.003	319082846	750.0	748.2	
1	8.548	8.548	0.000	276474927	750.0	744.0	
1	9.061	9.062	-0.001	129790165	750.0	740.2	
1	9.475	9.475	0.000	829480250	750.0	745.6	
		Average of Peak Amounts =				743.5	
2	8.435	8.435	0.000	292430350	750.0	739.3	
2	8.498	8.499	-0.001	272917256	750.0	742.5	
2	8.848	8.849	-0.001	237233644	750.0	740.8	
2	9.278	9.279	-0.001	105234233	750.0	740.6	
2	9.742	9.742	0.000	688341491	750.0	740.0	
		Average of Peak Amounts =				740.6	
						RPD = 0.39	
S 8 Polychlorinated biphenyls, Total							
1						1482.2	
2						1481.7	
						RPD = 0.03	

Reagents:

AR_4268_L6_00013	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

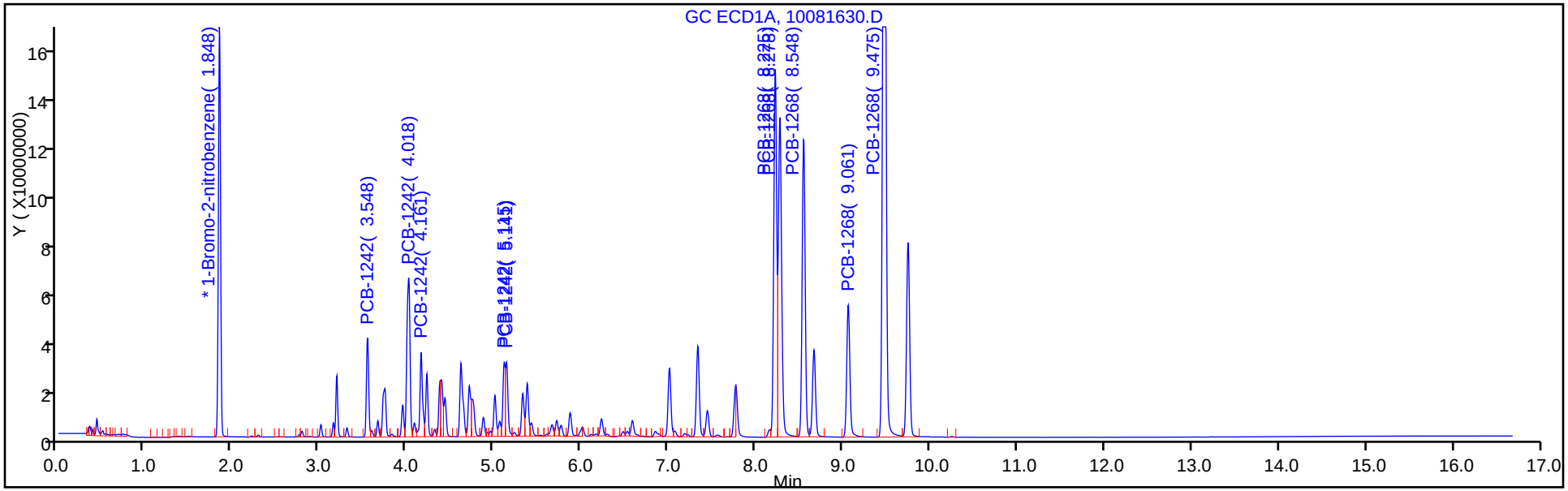
Report Date: 09-Oct-2016 09:28:16 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

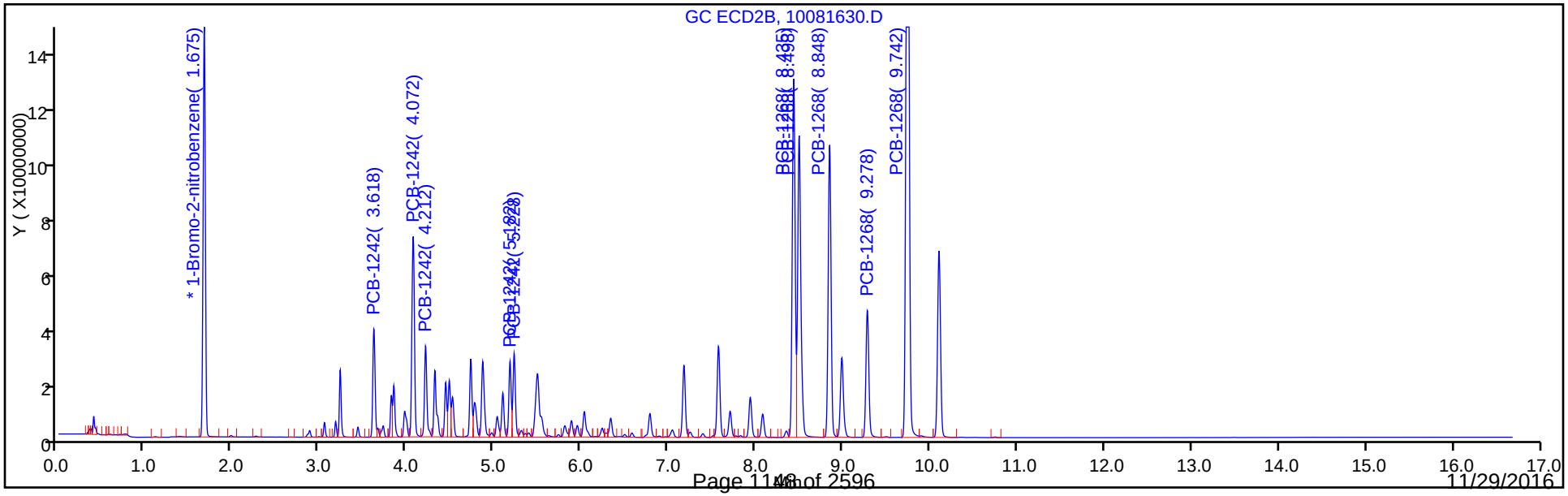
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081630.D

Injection Date:	08-Oct-2016 22:07:51	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL64268			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081631.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Oct-2016 22:29:30 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0051591-031
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:17 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:01:37

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	281608897	1000.0	1000.0	
2	1.675	1.675	0.000	268125441	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	51450818	500.0	531.9	
1	4.018	4.018	0.000	112452480	500.0	528.9	
1	4.162	4.162	0.000	49846863	500.0	527.3	
1	5.115	5.115	0.000	38221302	500.0	526.1	
1	5.142	5.142	0.000	39028926	500.0	522.1	
		Average of Peak Amounts =				527.3	
2	3.619	3.619	0.000	52870729	500.0	536.1	
2	4.072	4.072	0.000	109307821	500.0	536.3	
2	4.215	4.215	0.000	43846002	500.0	508.8	
2	5.182	5.182	0.000	37078013	500.0	537.4	
2	5.229	5.229	0.000	42203600	500.0	520.5	
		Average of Peak Amounts =				527.8	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	249880822	500.0	535.8	
1	8.275	8.275	0.000	231844422	500.0	529.1	
1	8.548	8.548	0.000	202901087	500.0	532.1	
1	9.062	9.062	0.000	96049474	500.0	531.8	
1	9.475	9.475	0.000	608556671	500.0	532.6	
		Average of Peak Amounts =				532.3	
2	8.435	8.435	0.000	216930005	500.0	533.3	
2	8.499	8.499	0.000	200262369	500.0	529.4	
2	8.849	8.849	0.000	174885272	500.0	531.1	
2	9.279	9.279	0.000	77273759	500.0	529.2	
2	9.742	9.742	0.000	508390166	500.0	530.9	
		Average of Peak Amounts =				530.8	
						RPD = 0.28	

Reagents:

AR_4268_L5_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

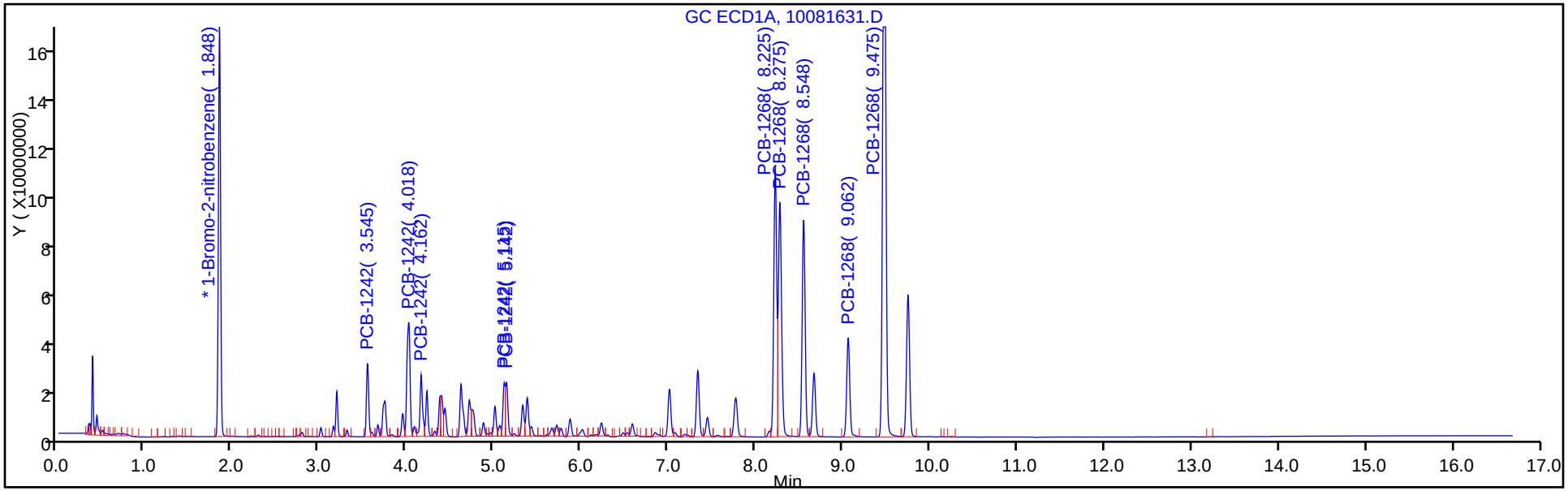
Report Date: 09-Oct-2016 09:28:18 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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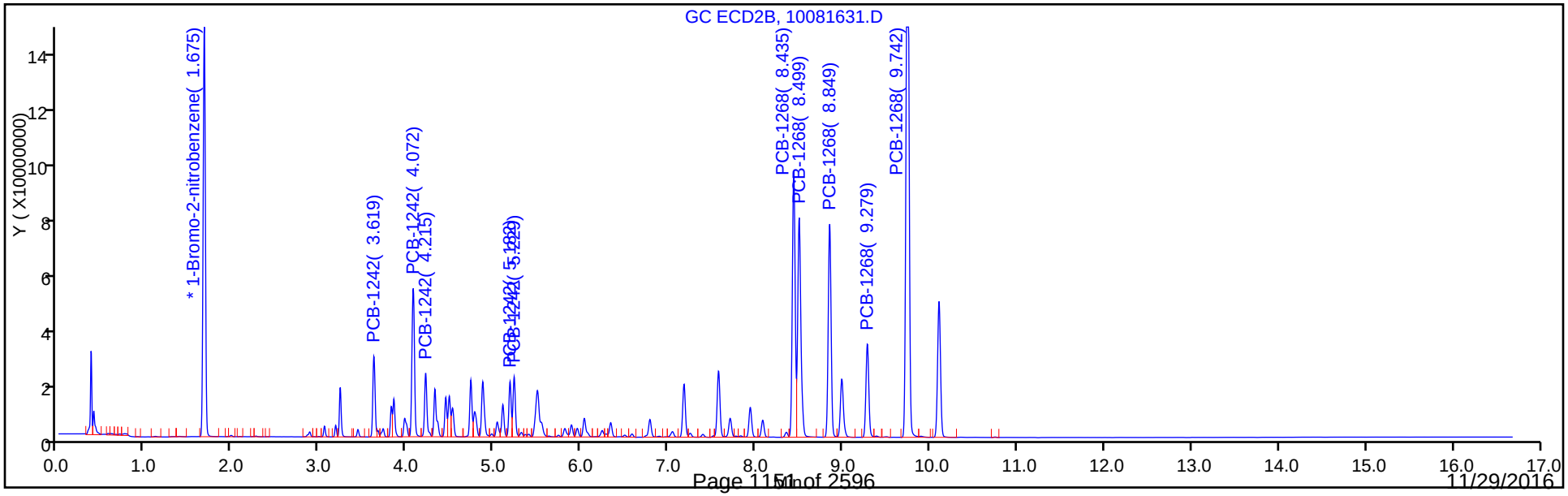
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081631.D

Injection Date:	08-Oct-2016 22:29:30	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL54268			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081632.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Oct-2016 22:51:08 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0051591-032
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:19 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	280821791	1000.0	1000.0	
2	1.675	1.675	0.000	265950856	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.545	3.545	0.000	26551198	250.0	266.6	
1	4.018	4.018	0.000	55939284	250.0	258.1	
1	4.162	4.162	0.000	25042229	250.0	259.1	
1	5.115	5.115	0.000	18439990	250.0	251.7	
1	5.138	5.142	-0.004	19727832	250.0	259.8	
		Average of Peak Amounts =				259.1	
2	3.618	3.619	-0.001	26687432	250.0	264.6	
2	4.072	4.072	0.000	53506405	250.0	259.2	
2	4.212	4.215	-0.003	22724012	250.0	260.4	
2	5.182	5.182	0.000	17823536	250.0	257.5	
2	5.228	5.229	-0.001	20901201	250.0	255.9	
		Average of Peak Amounts =				259.5	
						RPD = 0.17	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	120890328	250.0	254.9	
1	8.275	8.275	0.000	116513744	250.0	260.5	
1	8.548	8.548	0.000	99511065	250.0	256.4	
1	9.062	9.062	0.000	48330101	250.0	259.5	
1	9.475	9.475	0.000	305165035	250.0	261.8	
		Average of Peak Amounts =				258.6	
2	8.435	8.435	0.000	105902328	250.0	257.7	
2	8.498	8.499	-0.001	98957700	250.0	258.3	
2	8.848	8.849	-0.001	85189683	250.0	256.1	
2	9.282	9.279	0.003	37641894	250.0	255.8	
2	9.742	9.742	0.000	252075338	250.0	259.6	
		Average of Peak Amounts =				257.5	
						RPD = 0.43	
S 8 Polychlorinated biphenyls, Total							
1						517.7	
2						517.0	
						RPD = 0.13	

Reagents:

AR_4268_L4_00018	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

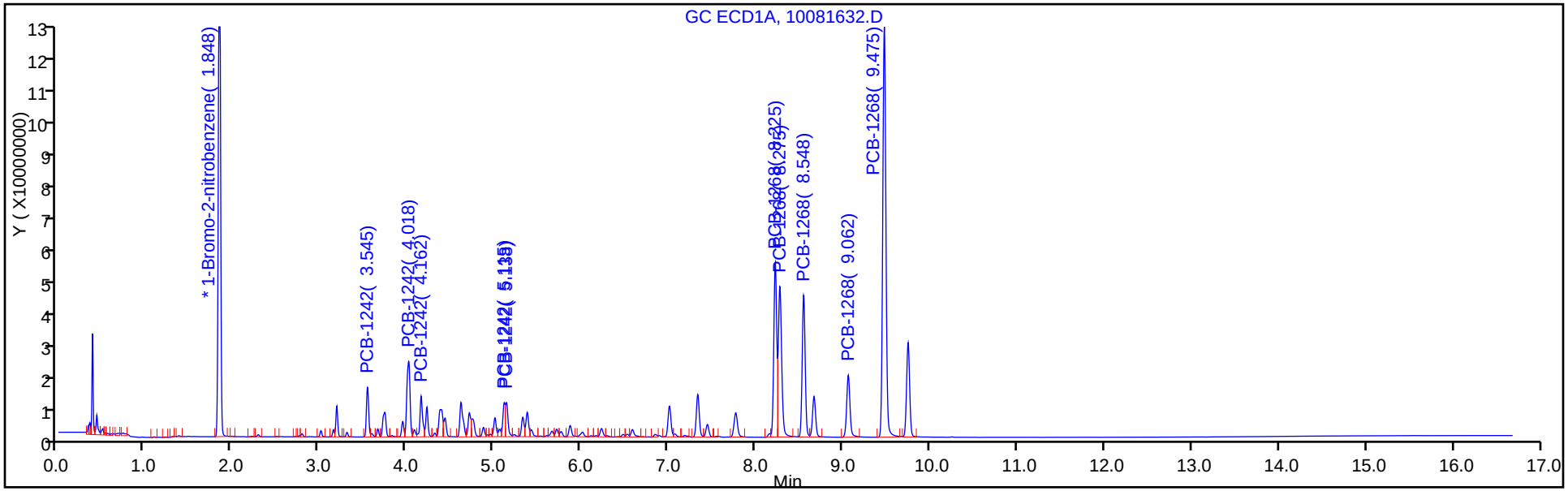
Report Date: 09-Oct-2016 09:28:19 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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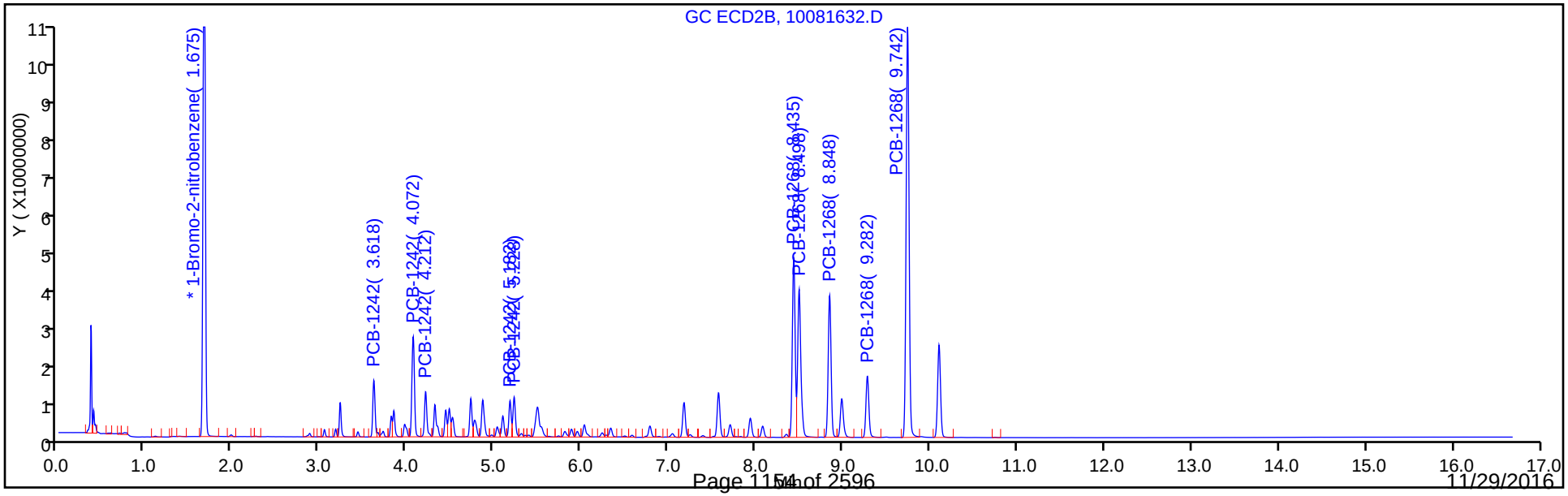
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081632.D

Injection Date:	08-Oct-2016 22:51:08	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL44268			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081633.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Oct-2016 23:12:46 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0051591-033
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:21 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.848	1.848	0.000	282419645	1000.0	1000.0	
2	1.675	1.675	0.000	265106753	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.548	3.545	0.003	11661763	100.0	106.4	
1	4.018	4.018	0.000	23821854	100.0	102.6	
1	4.161	4.162	-0.001	10854484	100.0	104.2	
1	5.118	5.115	0.003	7500410	100.0	98.6	
1	5.141	5.142	-0.001	8542661	100.0	106.3	
		Average of Peak Amounts =				103.6	
2	3.618	3.619	-0.001	11499173	100.0	104.8	
2	4.072	4.072	0.000	22656168	100.0	103.9	
2	4.212	4.215	-0.003	9766916	100.0	105.8	
2	5.182	5.182	0.000	7204125	100.0	101.1	
2	5.228	5.229	-0.001	8657905	100.0	101.7	
		Average of Peak Amounts =				103.5	
						RPD = 0.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.225	8.225	0.000	50306954	100.0	99.7	
1	8.278	8.275	0.003	50453857	100.0	105.1	
1	8.551	8.548	0.003	42071016	100.0	101.8	
1	9.061	9.062	-0.001	21145381	100.0	102.8	
1	9.475	9.475	0.000	130067066	100.0	104.0	
		Average of Peak Amounts =				102.7	
2	8.435	8.435	0.000	44221888	100.0	102.5	
2	8.498	8.499	-0.001	42105190	100.0	104.1	
2	8.848	8.849	-0.001	35710759	100.0	102.3	
2	9.282	9.279	0.003	15763254	100.0	102.9	
2	9.742	9.742	0.000	107211093	100.0	104.1	
		Average of Peak Amounts =				103.2	
						RPD = 0.47	
S 8 Polychlorinated biphenyls, Total							
1						206.3	
2						206.7	
						RPD = 0.15	

Reagents:

AR_4268_L3_00015	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

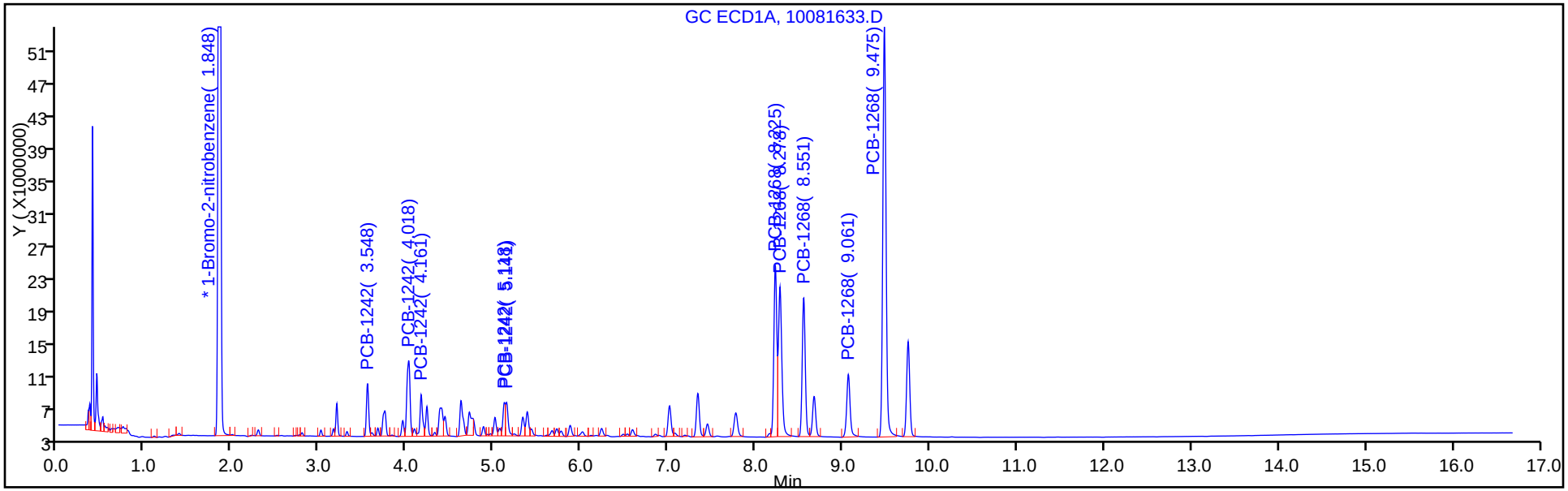
Report Date: 09-Oct-2016 09:28:21 Chrom Revision: 2.2 08-Sep-2016 14:45:52

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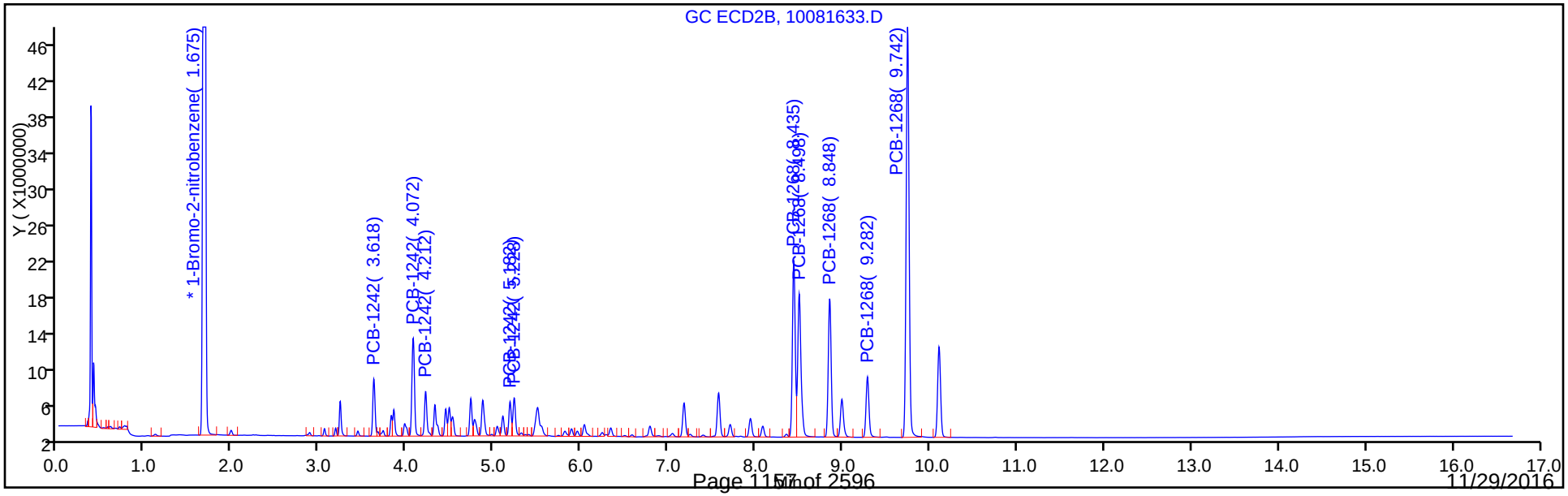
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081633.D

Injection Date:	08-Oct-2016 23:12:46	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL34268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081634.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Oct-2016 23:34:22 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0051591-034
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:22 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	280736237	1000.0	1000.0	
2	1.674	1.675	-0.001	264021785	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.547	3.545	0.002	6558220	50.0	52.5	
1	4.020	4.018	0.002	13122587	50.0	51.7	
1	4.163	4.162	0.001	6082088	50.0	53.0	
1	5.117	5.115	0.002	3850975	50.0	48.4	
1	5.140	5.142	-0.002	4688162	50.0	54.3	
		Average of Peak Amounts =				52.0	
2	3.620	3.619	0.001	6346502	50.0	50.6	
2	4.070	4.072	-0.002	12130601	50.0	50.9	
2	4.214	4.215	-0.001	5190521	50.0	51.2	
2	5.180	5.182	-0.002	3741993	50.0	50.0	
2	5.230	5.229	0.001	4678487	50.0	51.6	
		Average of Peak Amounts =				50.8	
						RPD = 2.19	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.223	8.225	-0.002	28015758	50.0	51.6	
1	8.277	8.275	0.002	26914135	50.0	50.7	
1	8.550	8.548	0.002	22895628	50.0	51.0	
1	9.060	9.062	-0.002	12931307	50.0	56.4	
1	9.477	9.475	0.002	70639126	50.0	51.4	
		Average of Peak Amounts =				52.2	
2	8.437	8.435	0.002	23784497	50.0	51.0	
2	8.497	8.499	-0.002	22776150	50.0	51.6	
2	8.847	8.849	-0.002	19231999	50.0	51.1	
2	9.280	9.279	0.001	8382456	50.0	51.2	
2	9.740	9.742	-0.002	58089236	50.0	51.4	
		Average of Peak Amounts =				51.3	
						RPD = 1.83	
S 8 Polychlorinated biphenyls, Total							
1						104.2	
2						102.1	
						RPD = 2.01	

Reagents:

AR_4268_L2_00015	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

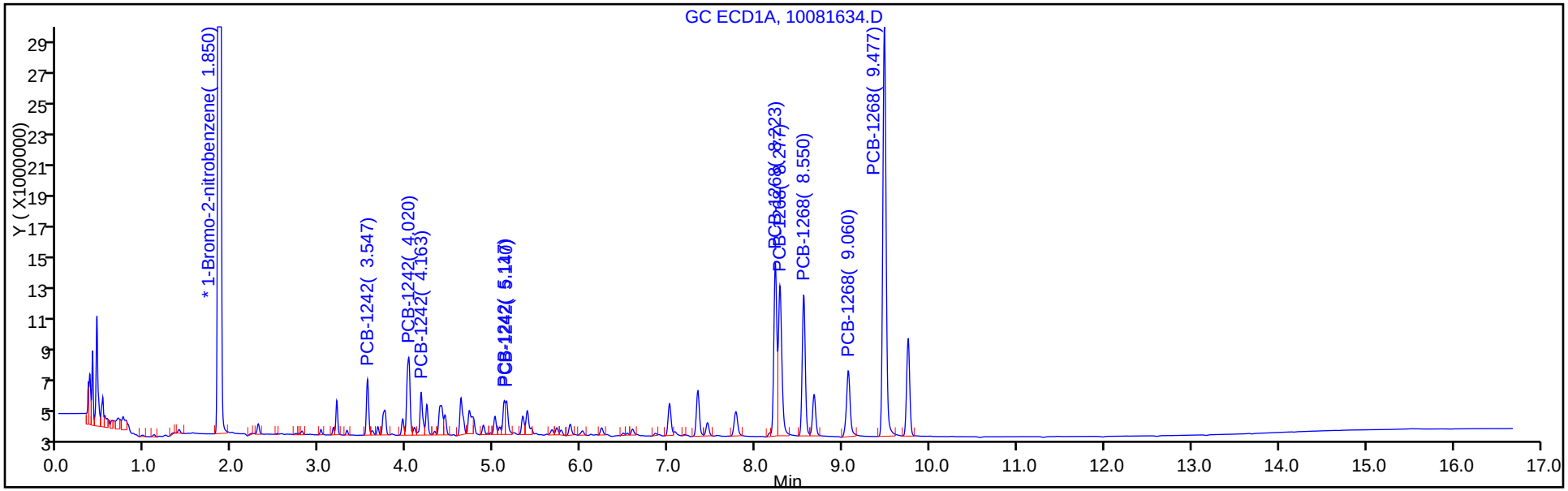
Report Date: 09-Oct-2016 09:28:23 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

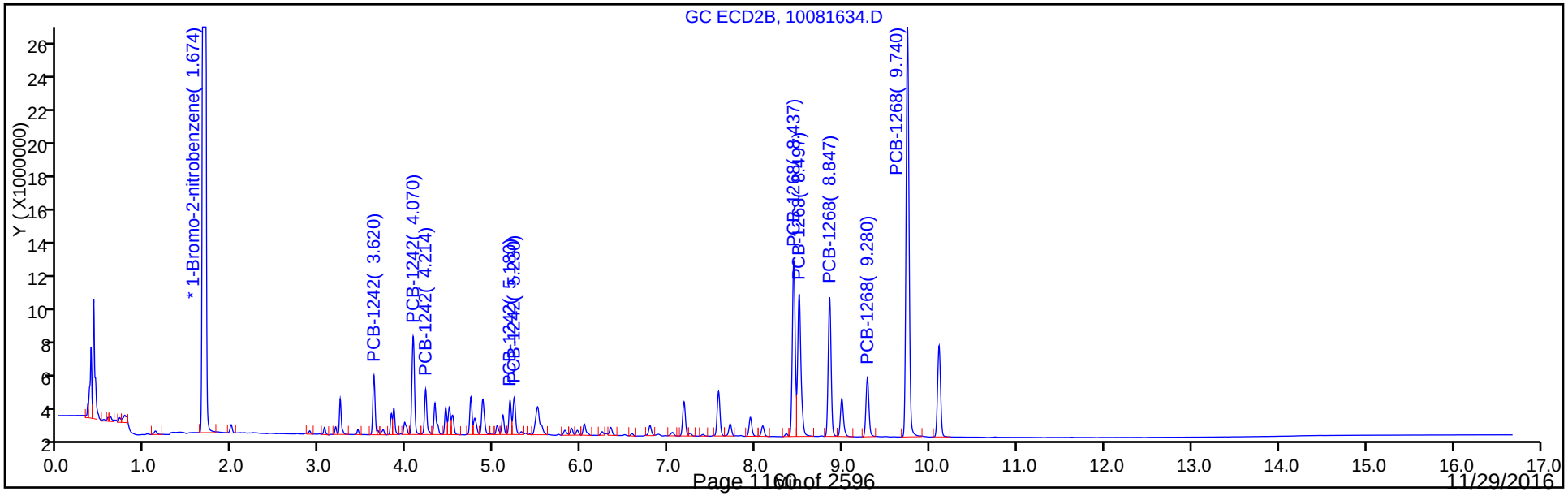
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081634.D

Injection Date:	08-Oct-2016 23:34:22	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL24268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Oct-2016 23:55:59 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0051591-035
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	282497640	1000.0	1000.0	
2	1.673	1.675	-0.002	265966776	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.547	3.545	0.002	3580800	25.0	20.3	
1	4.020	4.018	0.002	7065428	25.0	22.3	
1	4.163	4.162	0.001	3180174	25.0	21.3	
1	5.117	5.115	0.002	2224400	25.0	25.5	
1	5.140	5.142	-0.002	2207797	25.0	20.2	
		Average of Peak Amounts =				21.9	
2	3.620	3.619	0.001	3648920	25.0	21.7	
2	4.070	4.072	-0.002	6528183	25.0	22.1	
2	4.213	4.215	-0.002	2795543	25.0	22.1	
2	5.183	5.182	0.001	1958049	25.0	23.3	
2	5.230	5.229	0.001	2448251	25.0	23.0	
		Average of Peak Amounts =				22.4	
						RPD = 2.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.227	8.225	0.002	15097445	25.0	23.1	
1	8.277	8.275	0.002	14729590	25.0	21.9	
1	8.550	8.548	0.002	12444447	25.0	22.8	
1	9.063	9.062	0.001	6583001	25.0	19.8	
1	9.477	9.475	0.002	37817020	25.0	21.7	
		Average of Peak Amounts =				21.9	
2	8.437	8.435	0.002	12672985	25.0	22.6	
2	8.497	8.499	-0.002	12014734	25.0	21.9	
2	8.847	8.849	-0.002	10264654	25.0	22.7	
2	9.280	9.279	0.001	4363993	25.0	22.6	
2	9.740	9.742	-0.002	31133720	25.0	21.9	
		Average of Peak Amounts =				22.4	
						RPD = 2.26	
S 8 Polychlorinated biphenyls, Total							
1						43.8	
2						44.8	
						RPD = 2.30	

Reagents:

AR_4268_L1_00016	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

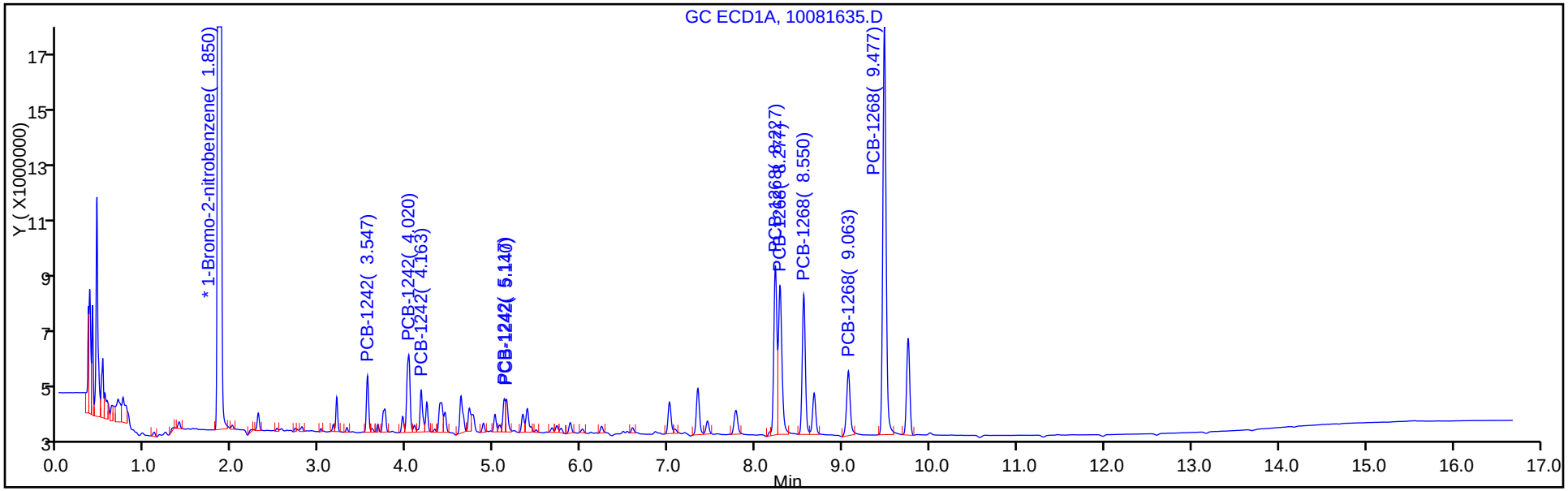
Report Date: 09-Oct-2016 09:28:24 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

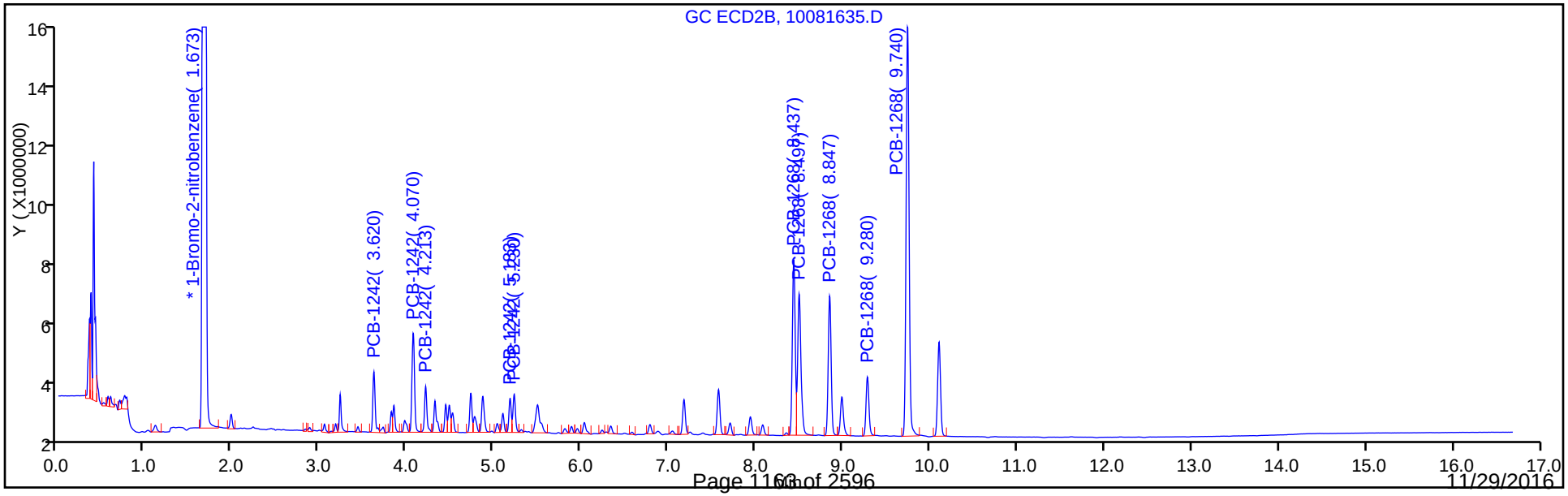
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Injection Date:	08-Oct-2016 23:55:59	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	STDL14268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/36 Calibration Date: 10/09/2016 00:17

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 11:39

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 13:49

Lab File ID: 10081636.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.5242		252	250	0.6	20.0
PCB-1248 Peak 2	Lin1		0.5589		251	250	0.3	20.0
PCB-1248 Peak 3	Lin1		0.5408		252	250	0.6	20.0
PCB-1248 Peak 4	Lin1		0.4608		232	250	-7.4	20.0
PCB-1248 Peak 5	Lin1		0.4264		277	250	11.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/36 Calibration Date: 10/09/2016 00:17

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 11:39

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 13:49

Lab File ID: 10081636.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.02	3.77	4.27
PCB-1248 Peak 2	4.38	4.13	4.63
PCB-1248 Peak 3	4.62	4.37	4.87
PCB-1248 Peak 4	5.12	4.87	5.37
PCB-1248 Peak 5	5.14	4.89	5.39

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081636.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 00:17:38 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-036
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:01:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	288872461	1000.0	1000.0	
2	1.673	1.675	-0.002	272622708	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	37854688	250.0	251.5	
1	4.380	4.379	0.001	40364861	250.0	250.8	
1	4.620	4.619	0.001	39054896	250.0	251.5	
1	5.116	5.116	0.000	33275553	250.0	231.6	
1	5.140	5.139	0.001	30793843	250.0	277.5	
		Average of Peak Amounts =				252.6	
2	4.070	4.069	0.001	36228814	250.0	253.4	
2	4.733	4.733	0.000	28215021	250.0	250.8	
2	4.866	4.869	-0.003	31491015	250.0	254.9	
2	5.180	5.183	-0.003	30285935	250.0	249.9	
2	5.226	5.229	-0.003	36229066	250.0	256.8	
		Average of Peak Amounts =				253.2	
						RPD = 0.22	

Reagents:

AR_1248_ICV_00009 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

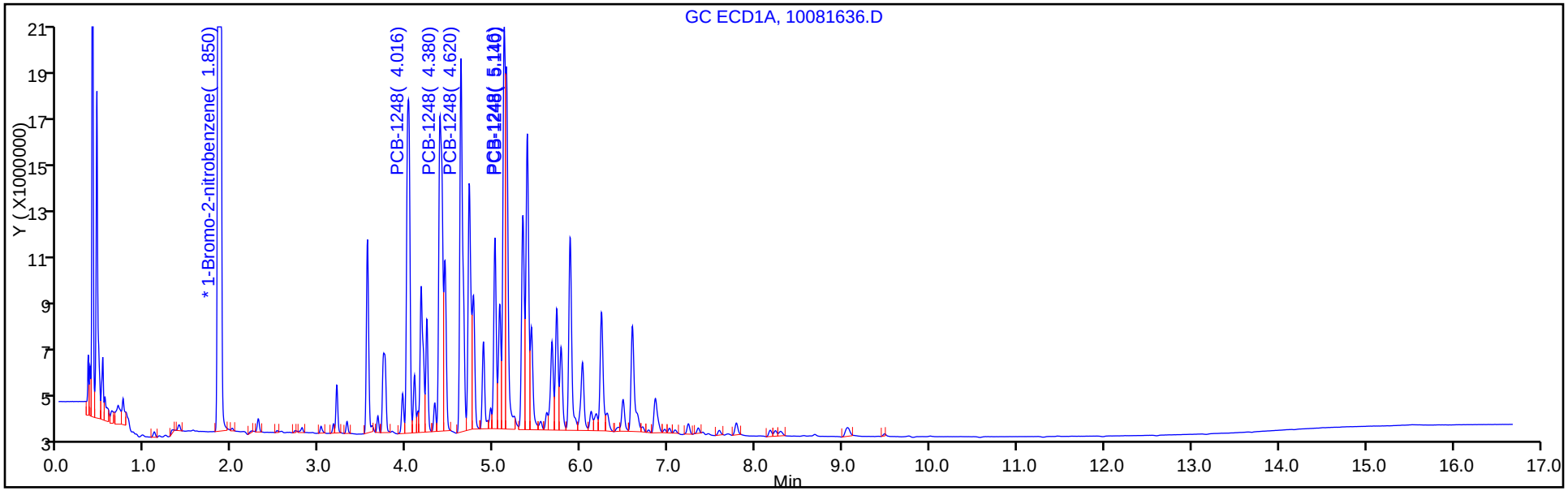
Report Date: 09-Oct-2016 09:28:26 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

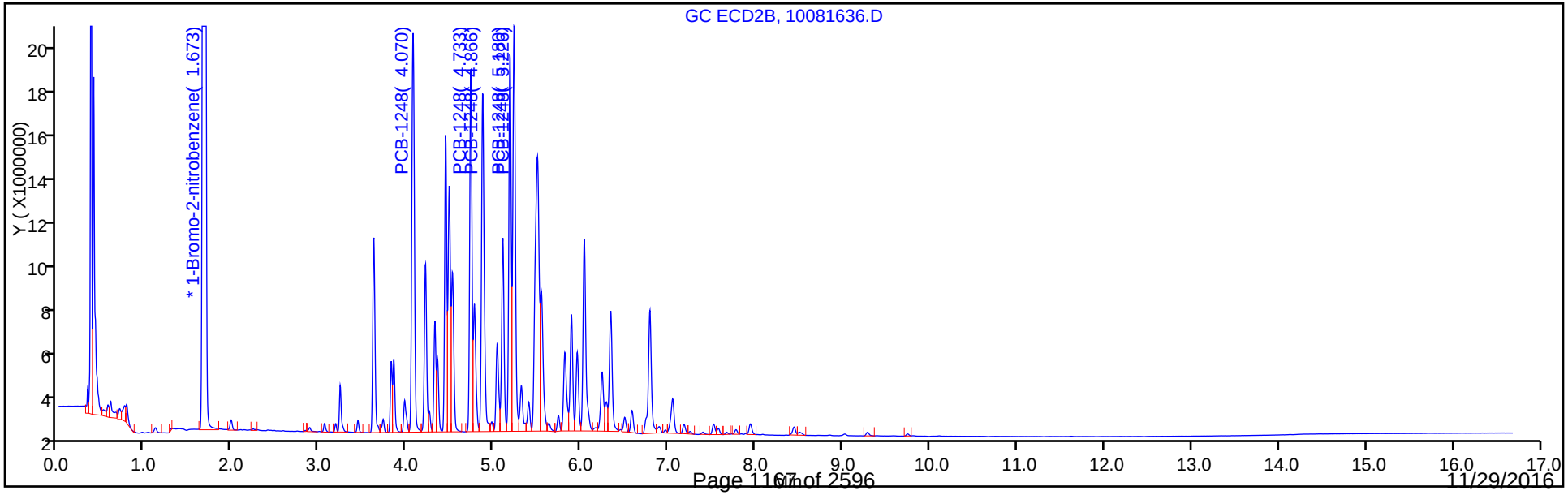
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081636.D

Injection Date:	09-Oct-2016 00:17:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/36 Calibration Date: 10/09/2016 00:17

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 11:39

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 13:49

Lab File ID: 10081636.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.5316		253	250	1.4	20.0
PCB-1248 Peak 2	Lin1		0.4140		251	250	0.3	20.0
PCB-1248 Peak 3	Lin1		0.4621		255	250	1.9	20.0
PCB-1248 Peak 4	Lin1		0.4444		250	250	-0.0	20.0
PCB-1248 Peak 5	Lin1		0.5316		257	250	2.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/36 Calibration Date: 10/09/2016 00:17

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 11:39

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 13:49

Lab File ID: 10081636.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.07	3.82	4.32
PCB-1248 Peak 2	4.73	4.48	4.98
PCB-1248 Peak 3	4.87	4.62	5.12
PCB-1248 Peak 4	5.18	4.93	5.43
PCB-1248 Peak 5	5.23	4.98	5.48

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081636.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 00:17:38 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-036
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:01:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	288872461	1000.0	1000.0	
2	1.673	1.675	-0.002	272622708	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	4.016	4.016	0.000	37854688	250.0	251.5	
1	4.380	4.379	0.001	40364861	250.0	250.8	
1	4.620	4.619	0.001	39054896	250.0	251.5	
1	5.116	5.116	0.000	33275553	250.0	231.6	
1	5.140	5.139	0.001	30793843	250.0	277.5	
		Average of Peak Amounts =				252.6	
2	4.070	4.069	0.001	36228814	250.0	253.4	
2	4.733	4.733	0.000	28215021	250.0	250.8	
2	4.866	4.869	-0.003	31491015	250.0	254.9	
2	5.180	5.183	-0.003	30285935	250.0	249.9	
2	5.226	5.229	-0.003	36229066	250.0	256.8	
		Average of Peak Amounts =				253.2	
						RPD = 0.22	

Reagents:

AR_1248_ICV_00009 Amount Added: 1.00 Units: mL
BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

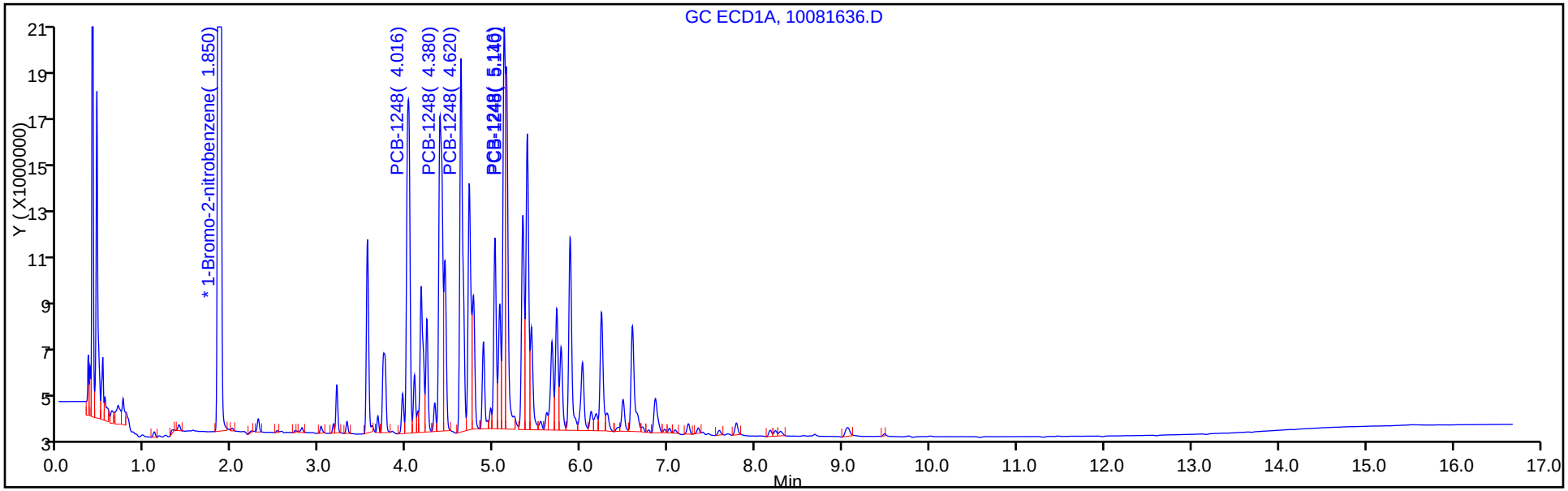
Report Date: 09-Oct-2016 09:28:26 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

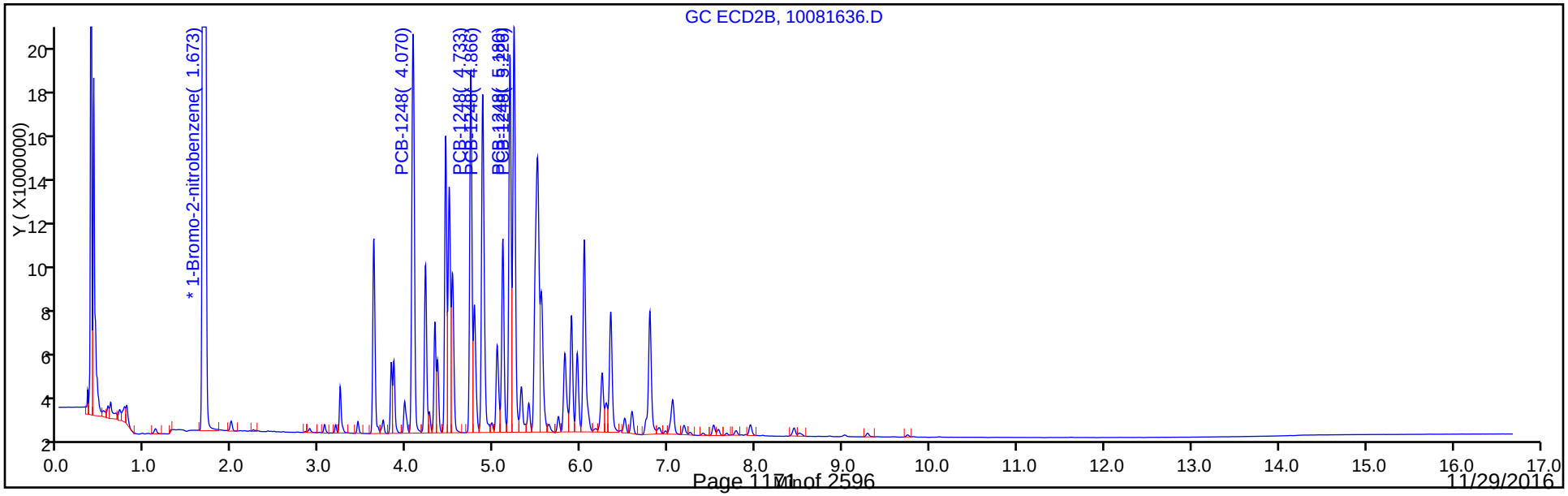
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081636.D

Injection Date:	09-Oct-2016 00:17:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/37 Calibration Date: 10/09/2016 00:39

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 14:11

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 16:21

Lab File ID: 10081637.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.1303		261	250	4.3	20.0
PCB-1221 Peak 2	Lin1		0.0852		253	250	1.4	20.0
PCB-1221 Peak 3	Lin1		0.3135		256	250	2.5	20.0
PCB-1254 Peak 1	Lin1		0.5917		248	250	-0.7	20.0
PCB-1254 Peak 2	Lin1		0.4684		243	250	-2.7	20.0
PCB-1254 Peak 3	Lin1		0.8089		249	250	-0.5	20.0
PCB-1254 Peak 4	Lin1		0.6083		244	250	-2.3	20.0
PCB-1254 Peak 5	Lin1		0.8516		249	250	-0.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/37 Calibration Date: 10/09/2016 00:39

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 14:11

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 16:21

Lab File ID: 10081637.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.01	2.76	3.26
PCB-1221 Peak 2	3.16	2.91	3.41
PCB-1221 Peak 3	3.19	2.95	3.45
PCB-1254 Peak 1	5.38	5.13	5.63
PCB-1254 Peak 2	5.72	5.47	5.97
PCB-1254 Peak 3	5.87	5.62	6.12
PCB-1254 Peak 4	6.23	5.98	6.48
PCB-1254 Peak 5	6.85	6.60	7.10

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081637.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 00:39:17 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-037
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	285261517	1000.0	1000.0	
2	1.674	1.675	-0.001	269570061	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	9291416	250.0	260.8	
1	3.157	3.155	0.002	6077050	250.0	253.5	
1	3.193	3.195	-0.002	22359751	250.0	256.3	
		Average of Peak Amounts =				256.9	
2	3.054	3.052	0.002	9343214	250.0	250.2	
2	3.180	3.182	-0.002	6041241	250.0	254.6	
2	3.234	3.236	-0.002	21884744	250.0	257.1	
		Average of Peak Amounts =				254.0	
						RPD = 1.14	
9 PCB-1254							
1	5.383	5.382	0.001	42195719	250.0	248.2	
1	5.717	5.715	0.002	33405451	250.0	243.4	
1	5.870	5.872	-0.002	57690194	250.0	248.9	
1	6.230	6.229	0.001	43383540	250.0	244.3	
1	6.847	6.849	-0.002	60729188	250.0	248.9	
		Average of Peak Amounts =				246.7	
2	5.470	5.469	0.001	38861735	250.0	249.5	
2	5.887	5.886	0.001	28740731	250.0	248.8	
2	6.034	6.032	0.002	53259317	250.0	247.9	
2	6.337	6.336	0.001	39070180	250.0	247.1	
2	7.047	7.046	0.001	54722827	250.0	249.1	
		Average of Peak Amounts =				248.5	
						RPD = 0.71	

Reagents:

AR_2154_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

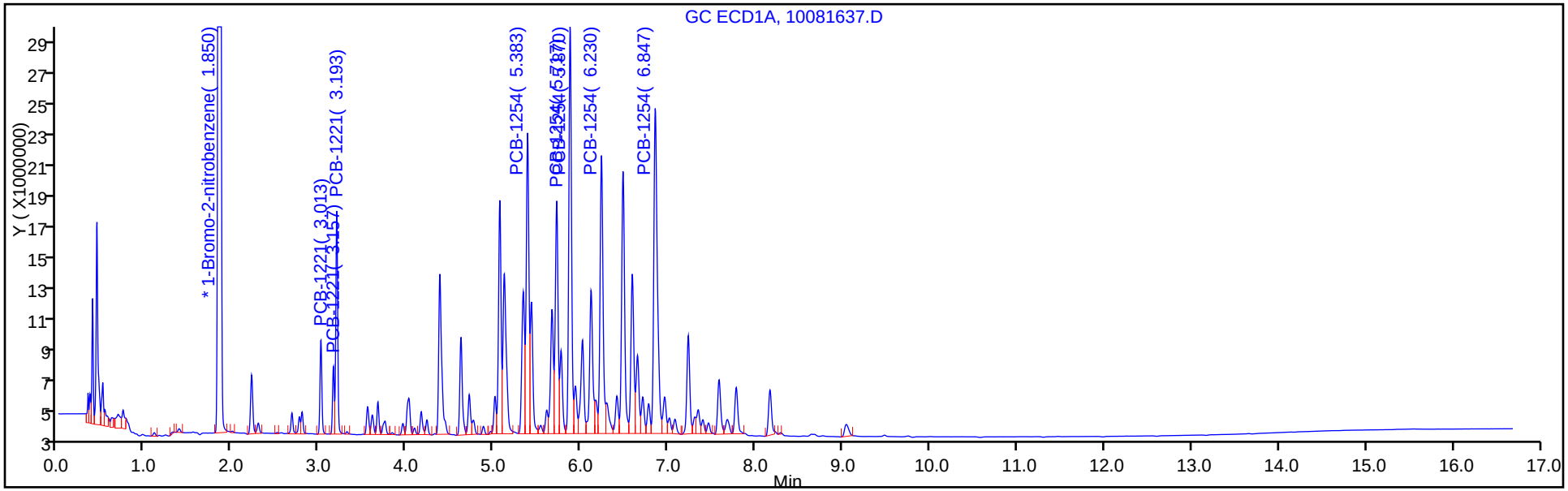
Report Date: 09-Oct-2016 09:28:28 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

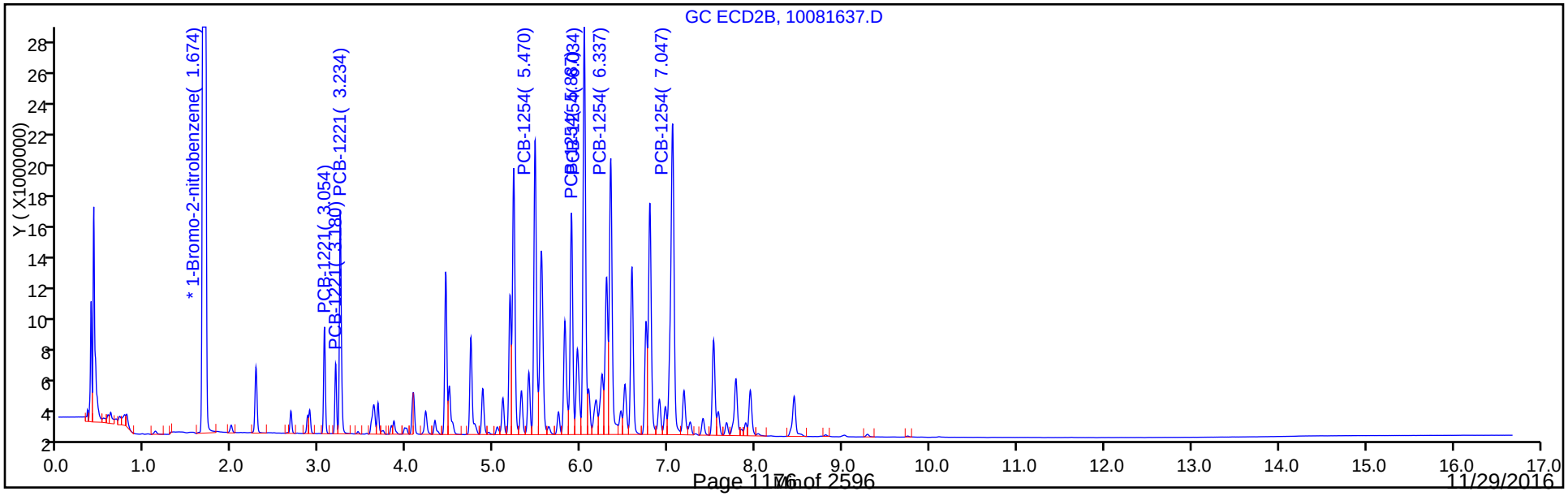
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081637.D

Injection Date:	09-Oct-2016 00:39:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/37 Calibration Date: 10/09/2016 00:39

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 14:11

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 16:21

Lab File ID: 10081637.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.1386		250	250	0.1	20.0
PCB-1221 Peak 2	Lin1		0.0896		255	250	1.8	20.0
PCB-1221 Peak 3	Lin1		0.3247		257	250	2.8	20.0
PCB-1254 Peak 1	Lin1		0.5767		250	250	-0.2	20.0
PCB-1254 Peak 2	Lin1		0.4265		249	250	-0.5	20.0
PCB-1254 Peak 3	Lin1		0.7903		248	250	-0.8	20.0
PCB-1254 Peak 4	Lin1		0.5797		247	250	-1.2	20.0
PCB-1254 Peak 5	Lin1		0.8120		249	250	-0.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/37 Calibration Date: 10/09/2016 00:39

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 14:11

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 16:21

Lab File ID: 10081637.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.05	2.80	3.30
PCB-1221 Peak 2	3.18	2.93	3.43
PCB-1221 Peak 3	3.23	2.99	3.49
PCB-1254 Peak 1	5.47	5.22	5.72
PCB-1254 Peak 2	5.89	5.64	6.14
PCB-1254 Peak 3	6.03	5.78	6.28
PCB-1254 Peak 4	6.34	6.09	6.59
PCB-1254 Peak 5	7.05	6.80	7.30

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081637.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 00:39:17 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-037
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	285261517	1000.0	1000.0	
2	1.674	1.675	-0.001	269570061	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.013	3.012	0.001	9291416	250.0	260.8	
1	3.157	3.155	0.002	6077050	250.0	253.5	
1	3.193	3.195	-0.002	22359751	250.0	256.3	
		Average of Peak Amounts =				256.9	
2	3.054	3.052	0.002	9343214	250.0	250.2	
2	3.180	3.182	-0.002	6041241	250.0	254.6	
2	3.234	3.236	-0.002	21884744	250.0	257.1	
		Average of Peak Amounts =				254.0	
						RPD = 1.14	
9 PCB-1254							
1	5.383	5.382	0.001	42195719	250.0	248.2	
1	5.717	5.715	0.002	33405451	250.0	243.4	
1	5.870	5.872	-0.002	57690194	250.0	248.9	
1	6.230	6.229	0.001	43383540	250.0	244.3	
1	6.847	6.849	-0.002	60729188	250.0	248.9	
		Average of Peak Amounts =				246.7	
2	5.470	5.469	0.001	38861735	250.0	249.5	
2	5.887	5.886	0.001	28740731	250.0	248.8	
2	6.034	6.032	0.002	53259317	250.0	247.9	
2	6.337	6.336	0.001	39070180	250.0	247.1	
2	7.047	7.046	0.001	54722827	250.0	249.1	
		Average of Peak Amounts =				248.5	
						RPD = 0.71	

Reagents:

AR_2154_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

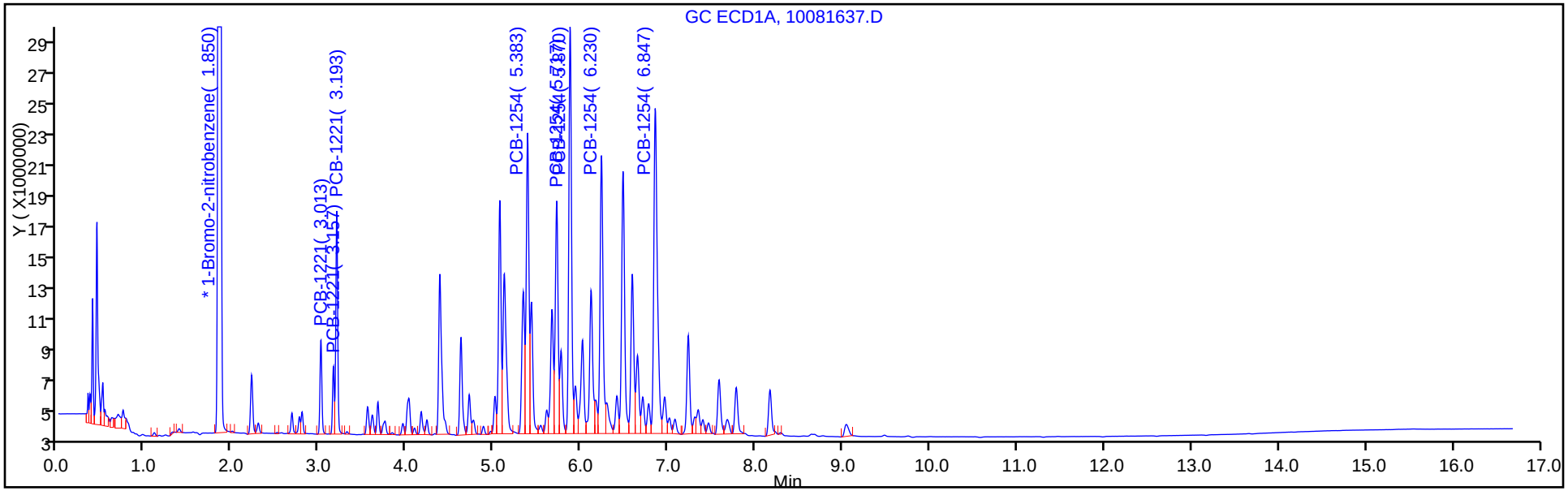
Report Date: 09-Oct-2016 09:28:29 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

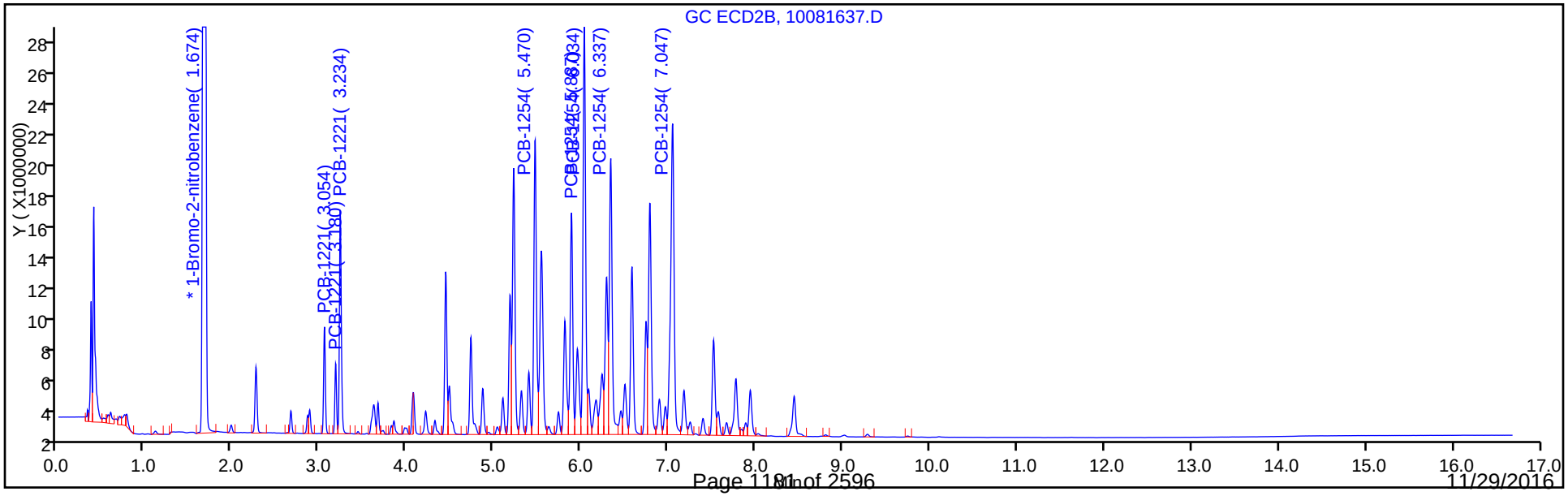
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081637.D

Injection Date:	09-Oct-2016 00:39:17	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/38 Calibration Date: 10/09/2016 01:00

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 10081638.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2311		263	250	5.4	20.0
PCB-1016 Peak 2	Lin1		0.4363		266	250	6.4	20.0
PCB-1016 Peak 3	Lin1		0.9327		257	250	3.0	20.0
PCB-1016 Peak 4	Lin1		0.4179		258	250	3.4	20.0
PCB-1016 Peak 5	Lin1		0.4001		246	250	-1.6	20.0
PCB-1260 Peak 1	Lin1		0.6306		256	250	2.4	20.0
PCB-1260 Peak 2	Lin1		1.180		258	250	3.3	20.0
PCB-1260 Peak 3	Lin1		0.5767		259	250	3.4	20.0
PCB-1260 Peak 4	Lin1		1.350		277	250	10.7	20.0
PCB-1260 Peak 5	Lin1		0.7004		259	250	3.6	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.81		12.9	12.5	3.6	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		13.26		12.8	12.5	2.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/38 Calibration Date: 10/09/2016 01:00

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 10081638.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.19	2.94	3.44
PCB-1016 Peak 2	3.55	3.30	3.80
PCB-1016 Peak 3	4.02	3.77	4.27
PCB-1016 Peak 4	4.16	3.91	4.41
PCB-1016 Peak 5	4.62	4.37	4.87
PCB-1260 Peak 1	6.11	5.86	6.36
PCB-1260 Peak 2	6.85	6.60	7.10
PCB-1260 Peak 3	7.34	7.09	7.59
PCB-1260 Peak 4	7.77	7.53	8.03
PCB-1260 Peak 5	8.16	7.91	8.41
Tetrachloro-m-xylene (Surr)	2.80	2.55	3.05
DCB Decachlorobiphenyl (Surr)	9.75	9.50	10.00

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081638.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:00:55 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-038
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:24:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	288901937	1000.0	1000.0	
2	1.674	1.675	-0.001	271849363	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	49862244	12.5	12.9	
2	2.734	2.734	0.000	49705305	12.5	12.7	
						RPD = 1.92	
1 PCB-1016							
1	3.193	3.193	0.000	16691379	250.0	263.5	
1	3.547	3.547	0.000	31515119	250.0	266.0	
1	4.020	4.020	0.000	67362194	250.0	257.4	
1	4.163	4.163	0.000	30180446	250.0	258.4	
1	4.620	4.620	0.000	28895379	250.0	245.9	
		Average of Peak Amounts =				258.3	
2	3.620	3.620	0.000	31411874	250.0	262.8	
2	4.070	4.070	0.000	64201150	250.0	260.3	
2	4.214	4.214	0.000	27217979	250.0	257.4	
2	4.444	4.444	0.000	15059467	250.0	255.9	
2	4.730	4.734	-0.004	21284901	250.0	254.4	
		Average of Peak Amounts =				258.2	
						RPD = 0.04	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.110	6.110	0.000	45542106	250.0	256.0	M
1	6.847	6.847	0.000	85241676	250.0	258.2	M
1	7.340	7.340	0.000	41649650	250.0	258.5	M
1	7.773	7.777	-0.004	97526381	250.0	276.7	M
1	8.163	8.163	0.000	50583854	250.0	259.0	
		Average of Peak Amounts =				261.7	
2	6.580	6.580	0.000	50822028	250.0	262.7	
2	7.044	7.044	0.000	76503108	250.0	258.7	
2	7.570	7.570	0.000	36228083	250.0	260.5	
2	7.937	7.940	-0.003	80069449	250.0	260.3	
2	8.440	8.440	0.000	59253017	250.0	257.4	
		Average of Peak Amounts =				259.9	
						RPD = 0.68	
$ 15 DCB Decachlorobiphenyl							
1	9.747	9.750	-0.003	47869411	12.5	12.8	
2	10.100	10.104	-0.004	39461068	12.5	12.8	
						RPD = 0.03	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

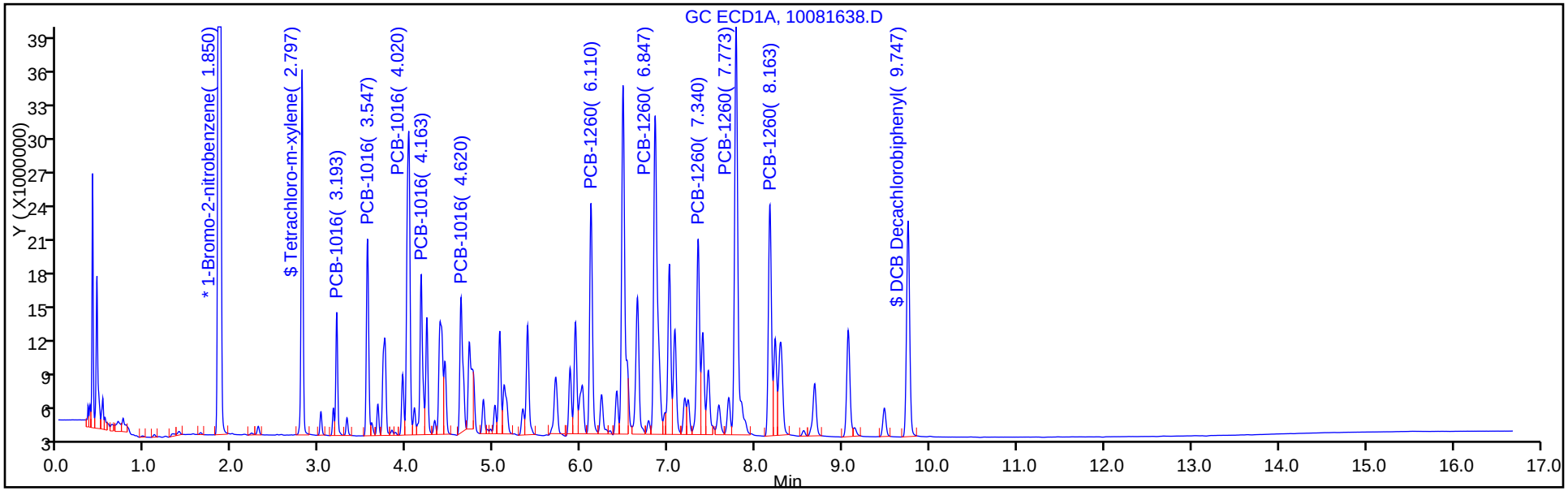
Report Date: 09-Oct-2016 09:28:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

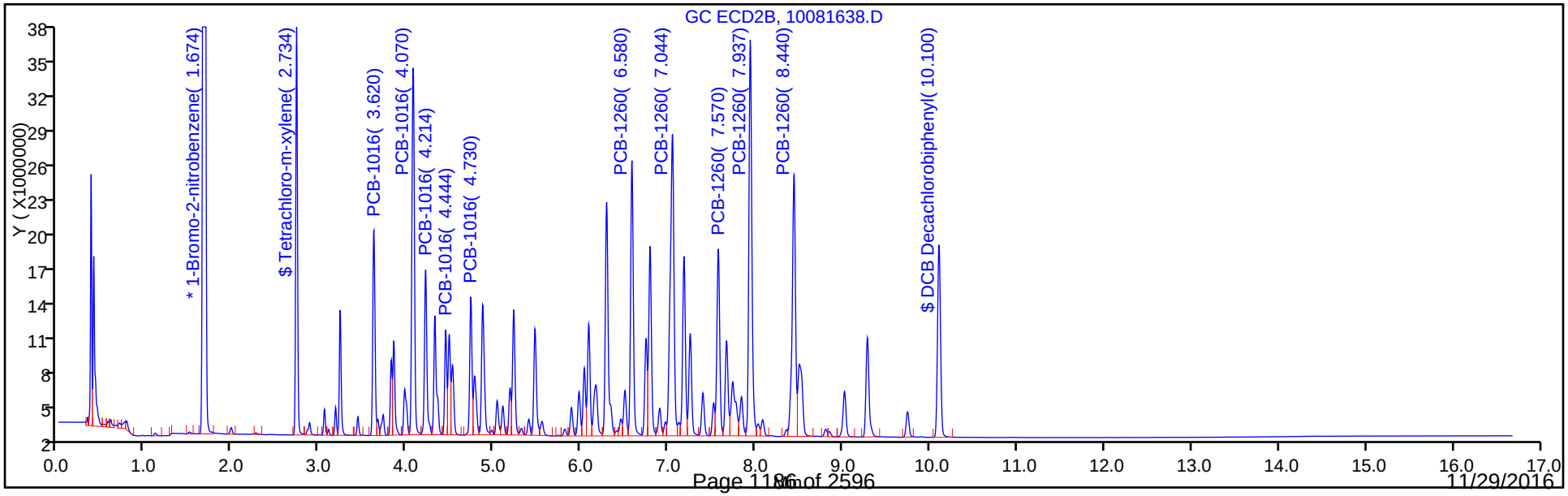
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081638.D

Injection Date:	09-Oct-2016 01:00:55	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 09-Oct-2016 09:28:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081638.D

Injection Date: 09-Oct-2016 01:00:55 Instrument ID: SGC_P3

Lims ID: ICV

Client ID:

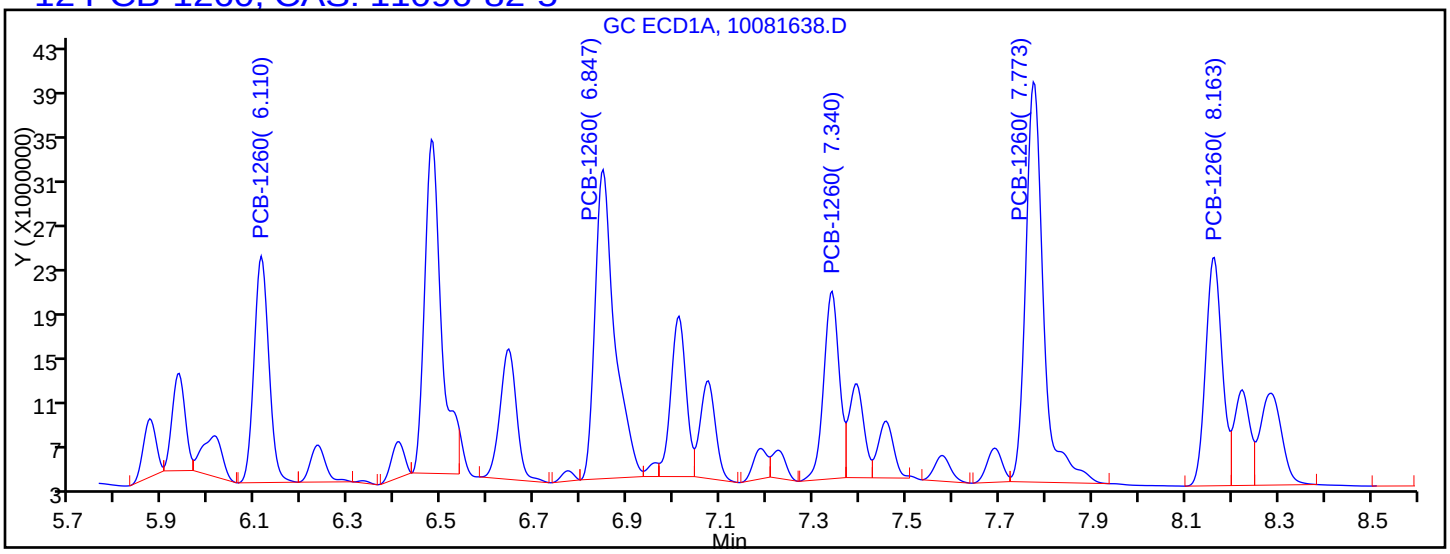
Operator ID: jax ALS Bottle#: 38 Worklist Smp#: 38

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

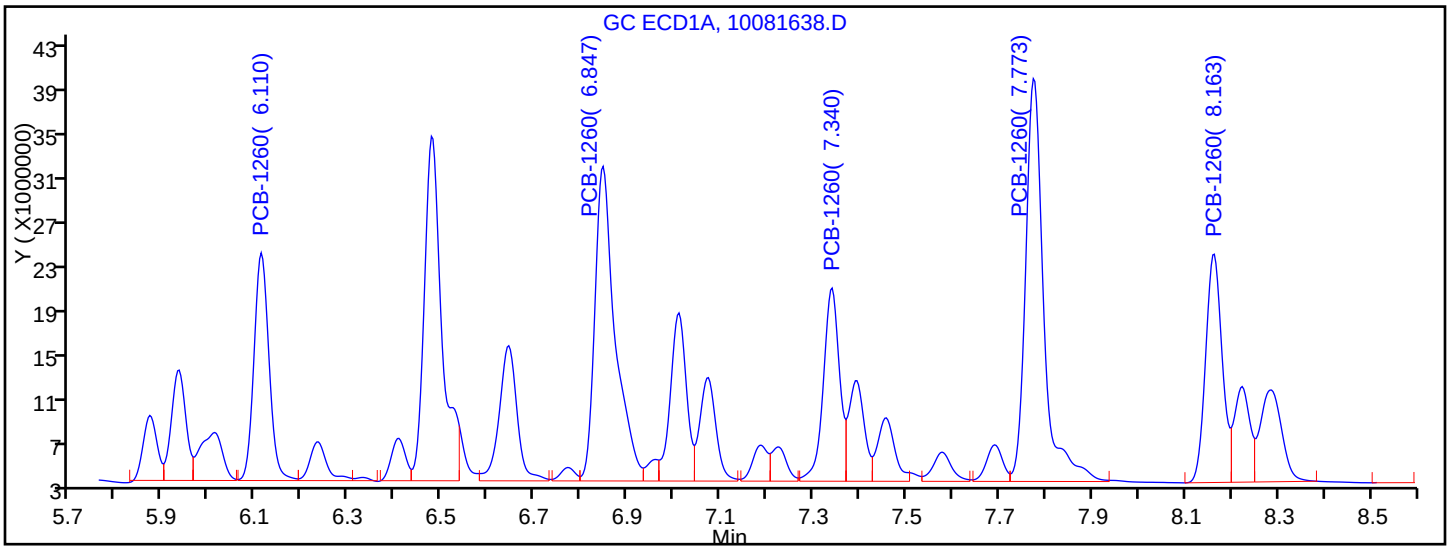
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.110	Response = 44628524
6.847	Response = 80848334
7.340	Response = 38962898
7.773	Response = 95070426
8.163	Response = 50583854



Manual Integration Results

6.110	Response = 45542106	M
6.847	Response = 85241676	M
7.340	Response = 41649650	M
7.773	Response = 97526381	M
8.163	Response = 50583854	

Reviewer: jacksonto, 09-Oct-2016 09:24:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/38 Calibration Date: 10/09/2016 01:00

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 10081638.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4622		263	250	5.1	20.0
PCB-1016 Peak 2	Lin1		0.9447		260	250	4.1	20.0
PCB-1016 Peak 3	Lin1		0.4005		257	250	3.0	20.0
PCB-1016 Peak 4	Lin1		0.2216		256	250	2.4	20.0
PCB-1016 Peak 5	Lin1		0.3132		254	250	1.7	20.0
PCB-1260 Peak 1	Lin1		0.7478		263	250	5.1	20.0
PCB-1260 Peak 2	Lin1		1.126		259	250	3.5	20.0
PCB-1260 Peak 3	Lin1		0.5331		260	250	4.2	20.0
PCB-1260 Peak 4	Lin1		1.178		260	250	4.1	20.0
PCB-1260 Peak 5	Lin1		0.8719		257	250	3.0	20.0
Tetrachloro-m-xylene (Surr)	Lin1		14.63		12.7	12.5	1.6	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		11.61		12.8	12.5	2.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/38 Calibration Date: 10/09/2016 01:00

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 10081638.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.62	3.37	3.87
PCB-1016 Peak 2	4.07	3.82	4.32
PCB-1016 Peak 3	4.21	3.96	4.46
PCB-1016 Peak 4	4.44	4.19	4.69
PCB-1016 Peak 5	4.73	4.48	4.98
PCB-1260 Peak 1	6.58	6.33	6.83
PCB-1260 Peak 2	7.04	6.79	7.29
PCB-1260 Peak 3	7.57	7.32	7.82
PCB-1260 Peak 4	7.94	7.69	8.19
PCB-1260 Peak 5	8.44	8.19	8.69
Tetrachloro-m-xylene (Surr)	2.73	2.48	2.98
DCB Decachlorobiphenyl (Surr)	10.10	9.85	10.35

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081638.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:00:55 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-038
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

First Level Reviewer: jacksonto Date: 09-Oct-2016 09:24:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.850	1.848	0.002	288901937	1000.0	1000.0	
2	1.674	1.675	-0.001	271849363	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.797	2.797	0.000	49862244	12.5	12.9	
2	2.734	2.734	0.000	49705305	12.5	12.7	
						RPD = 1.92	
1 PCB-1016							
1	3.193	3.193	0.000	16691379	250.0	263.5	
1	3.547	3.547	0.000	31515119	250.0	266.0	
1	4.020	4.020	0.000	67362194	250.0	257.4	
1	4.163	4.163	0.000	30180446	250.0	258.4	
1	4.620	4.620	0.000	28895379	250.0	245.9	
		Average of Peak Amounts =				258.3	
2	3.620	3.620	0.000	31411874	250.0	262.8	
2	4.070	4.070	0.000	64201150	250.0	260.3	
2	4.214	4.214	0.000	27217979	250.0	257.4	
2	4.444	4.444	0.000	15059467	250.0	255.9	
2	4.730	4.734	-0.004	21284901	250.0	254.4	
		Average of Peak Amounts =				258.2	
						RPD = 0.04	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.110	6.110	0.000	45542106	250.0	256.0	M
1	6.847	6.847	0.000	85241676	250.0	258.2	M
1	7.340	7.340	0.000	41649650	250.0	258.5	M
1	7.773	7.777	-0.004	97526381	250.0	276.7	M
1	8.163	8.163	0.000	50583854	250.0	259.0	
		Average of Peak Amounts =				261.7	
2	6.580	6.580	0.000	50822028	250.0	262.7	
2	7.044	7.044	0.000	76503108	250.0	258.7	
2	7.570	7.570	0.000	36228083	250.0	260.5	
2	7.937	7.940	-0.003	80069449	250.0	260.3	
2	8.440	8.440	0.000	59253017	250.0	257.4	
		Average of Peak Amounts =				259.9	
						RPD = 0.68	
$ 15 DCB Decachlorobiphenyl							
1	9.747	9.750	-0.003	47869411	12.5	12.8	
2	10.100	10.104	-0.004	39461068	12.5	12.8	
						RPD = 0.03	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

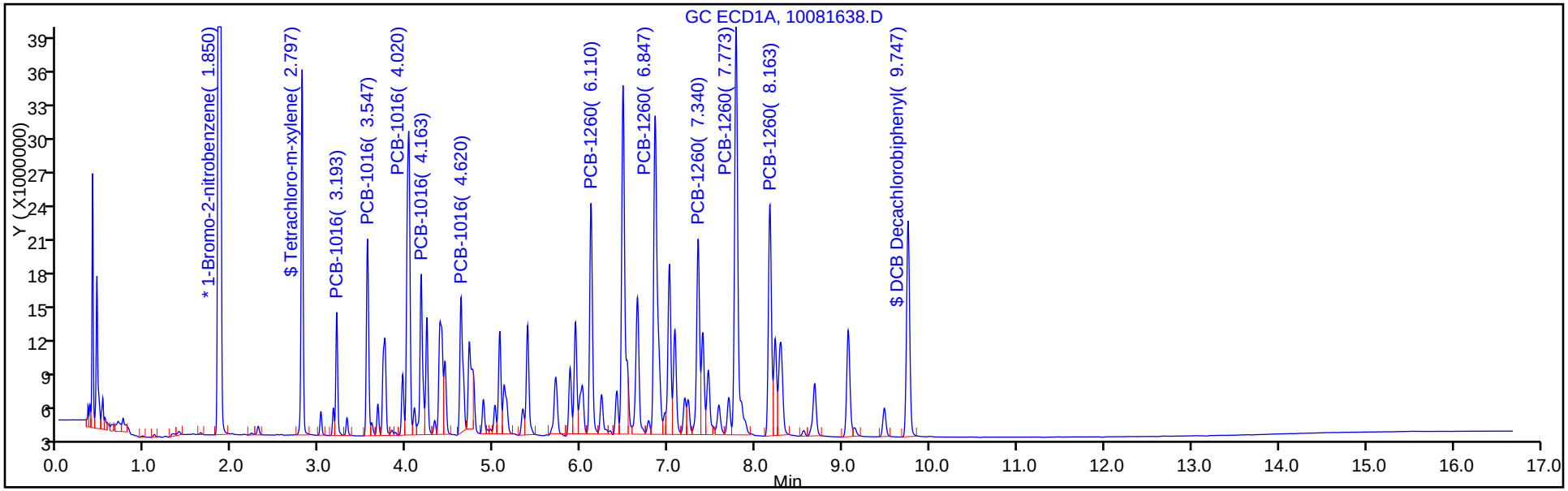
Report Date: 09-Oct-2016 09:28:32 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

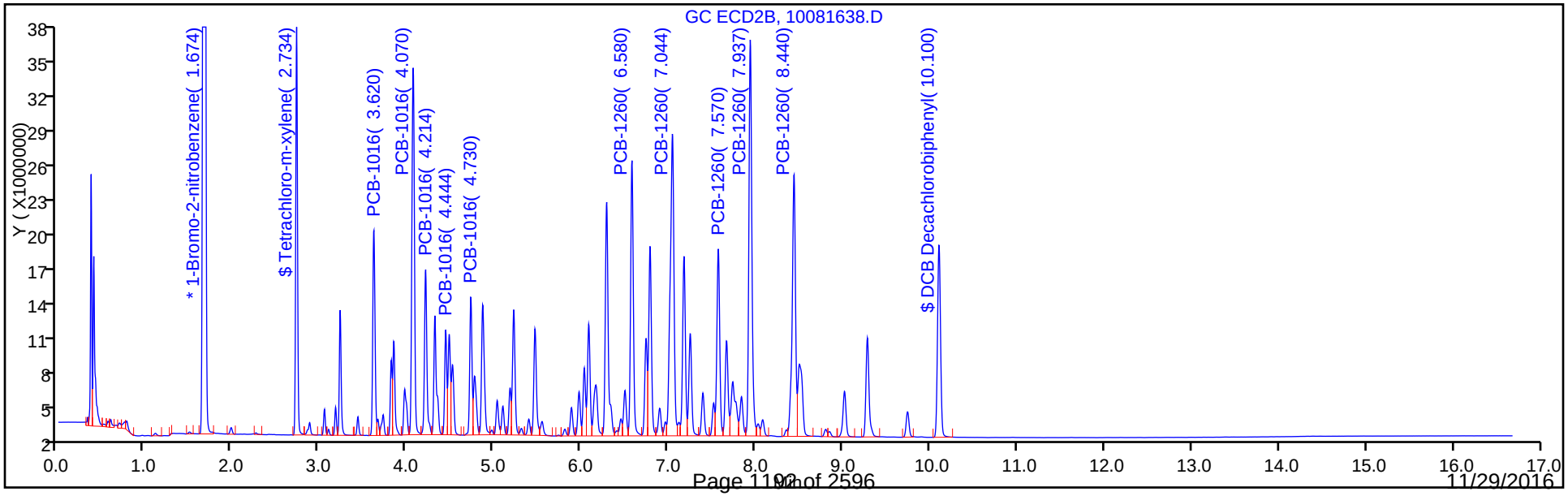
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081638.D

Injection Date:	09-Oct-2016 01:00:55	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/39 Calibration Date: 10/09/2016 01:22

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 19:14

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 21:24

Lab File ID: 10081639.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.2672		259	250	3.8	20.0
PCB-1232 Peak 2	Lin1		0.2178		257	250	2.9	20.0
PCB-1232 Peak 3	Lin1		0.4490		250	250	-0.1	20.0
PCB-1232 Peak 4	Lin1		0.2042		255	250	2.1	20.0
PCB-1232 Peak 5	Lin1		0.1929		257	250	2.9	20.0
PCB-1262 Peak 1	Lin1		0.6420		250	250	-0.0	20.0
PCB-1262 Peak 2	Lin1		0.8240		253	250	1.0	20.0
PCB-1262 Peak 3	Lin1		0.7604		250	250	-0.0	20.0
PCB-1262 Peak 4	Lin1		1.640		266	250	6.2	20.0
PCB-1262 Peak 5	Lin1		0.5323		245	250	-1.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/39 Calibration Date: 10/09/2016 01:22

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 19:14

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 21:24

Lab File ID: 10081639.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.19	2.94	3.44
PCB-1232 Peak 2	3.55	3.30	3.80
PCB-1232 Peak 3	4.02	3.77	4.27
PCB-1232 Peak 4	4.16	3.91	4.41
PCB-1232 Peak 5	4.62	4.37	4.87
PCB-1262 Peak 1	6.48	6.23	6.73
PCB-1262 Peak 2	7.01	6.76	7.26
PCB-1262 Peak 3	7.34	7.09	7.59
PCB-1262 Peak 4	7.78	7.53	8.03
PCB-1262 Peak 5	8.16	7.91	8.41

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081639.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:22:32 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-039
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	290304262	1000.0	1000.0	
2	1.673	1.675	-0.002	272928056	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	19391827	250.0	259.4	
1	3.546	3.547	-0.001	15809148	250.0	257.2	
1	4.019	4.020	-0.001	32583388	250.0	249.7	
1	4.163	4.163	0.000	14816852	250.0	255.3	
1	4.619	4.620	-0.001	14001536	250.0	257.4	
		Average of Peak Amounts =				255.8	
2	3.233	3.234	-0.001	18718118	250.0	256.6	
2	3.619	3.620	-0.001	16453717	250.0	257.0	
2	4.069	4.070	-0.001	30802033	250.0	250.7	
2	4.213	4.214	-0.001	13226501	250.0	253.7	
2	4.869	4.870	-0.001	10854469	250.0	256.6	
		Average of Peak Amounts =				254.9	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.480	-0.001	46592672	250.0	250.0	
1	7.009	7.010	-0.001	59800886	250.0	252.6	
1	7.339	7.340	-0.001	55189029	250.0	249.8	
1	7.776	7.777	-0.001	119016403	250.0	265.6	
1	8.163	8.163	0.000	38629775	250.0	245.2	
		Average of Peak Amounts =				252.7	
2	6.579	6.580	-0.001	36770543	250.0	249.5	
2	7.176	7.177	-0.001	51973223	250.0	251.2	
2	7.569	7.570	-0.001	49789528	250.0	250.9	
2	7.936	7.937	-0.001	95554485	250.0	252.5	
2	8.436	8.437	-0.001	69309227	250.0	250.7	
		Average of Peak Amounts =				251.0	
						RPD = 0.67	

Reagents:

AR_3262_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

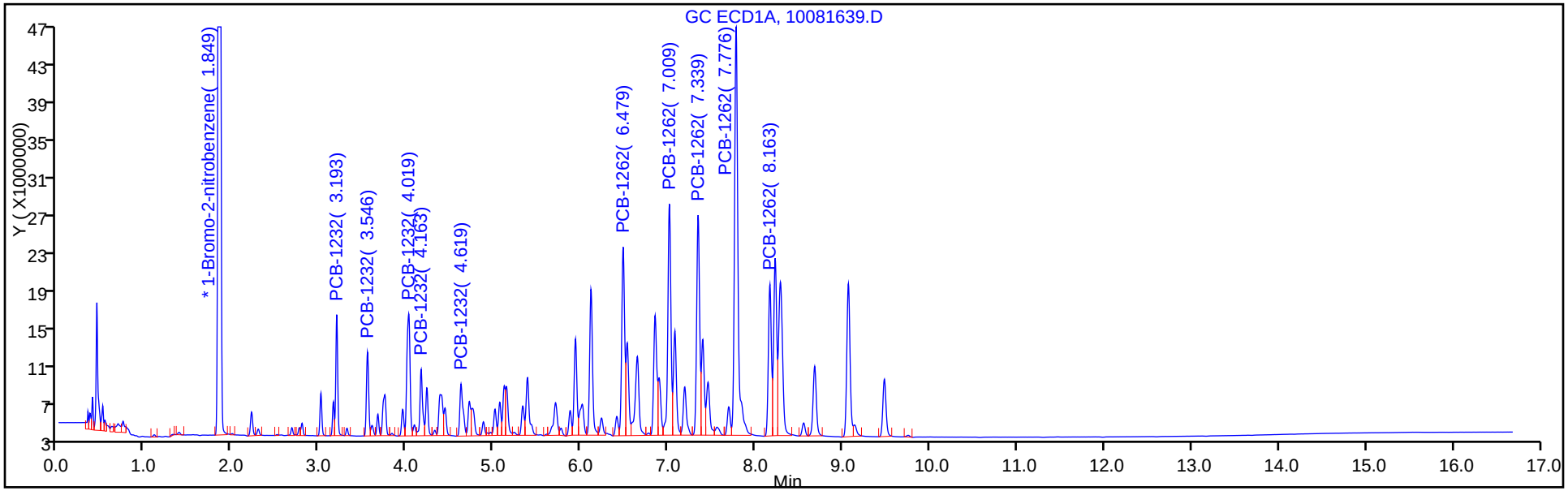
Report Date: 09-Oct-2016 09:28:35 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

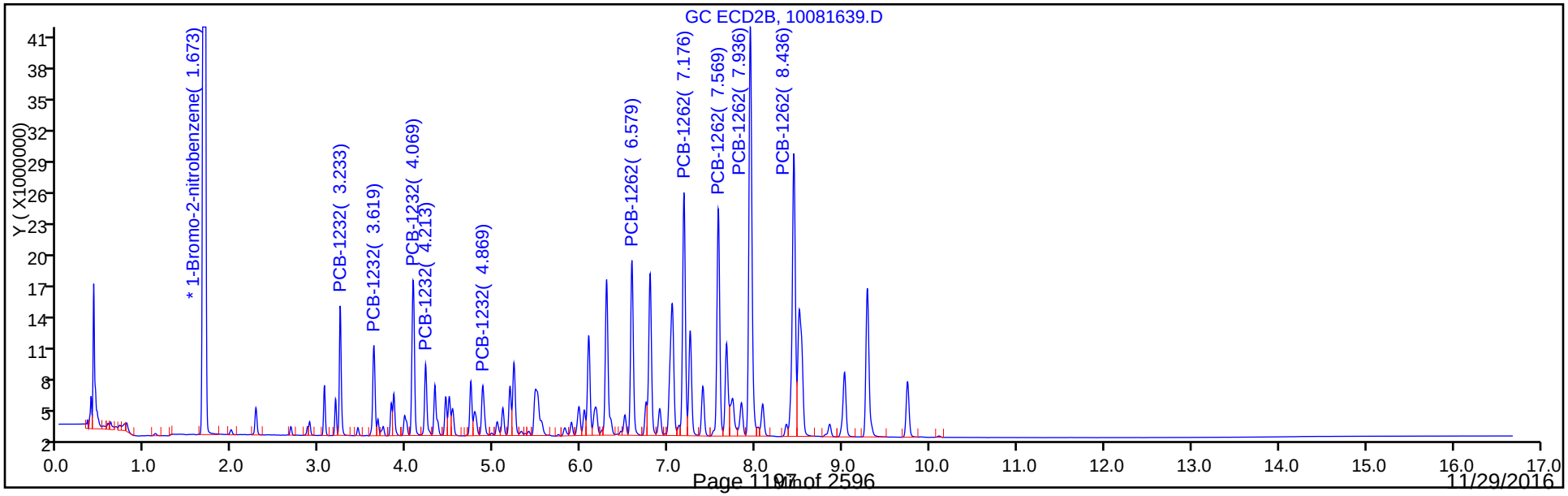
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081639.D

Injection Date:	09-Oct-2016 01:22:32	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/39 Calibration Date: 10/09/2016 01:22

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 19:14

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 21:24

Lab File ID: 10081639.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.2743		257	250	2.6	20.0
PCB-1232 Peak 2	Lin1		0.2411		257	250	2.8	20.0
PCB-1232 Peak 3	Lin1		0.4514		251	250	0.3	20.0
PCB-1232 Peak 4	Lin1		0.1939		254	250	1.5	20.0
PCB-1232 Peak 5	Lin1		0.1591		257	250	2.6	20.0
PCB-1262 Peak 1	Lin1		0.5389		250	250	-0.2	20.0
PCB-1262 Peak 2	Lin1		0.7617		251	250	0.5	20.0
PCB-1262 Peak 3	Lin1		0.7297		251	250	0.4	20.0
PCB-1262 Peak 4	Lin1		1.400		253	250	1.0	20.0
PCB-1262 Peak 5	Lin1		1.016		251	250	0.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/39 Calibration Date: 10/09/2016 01:22

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 19:14

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 21:24

Lab File ID: 10081639.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.23	2.98	3.48
PCB-1232 Peak 2	3.62	3.37	3.87
PCB-1232 Peak 3	4.07	3.82	4.32
PCB-1232 Peak 4	4.21	3.96	4.46
PCB-1232 Peak 5	4.87	4.62	5.12
PCB-1262 Peak 1	6.58	6.33	6.83
PCB-1262 Peak 2	7.18	6.93	7.43
PCB-1262 Peak 3	7.57	7.32	7.82
PCB-1262 Peak 4	7.94	7.69	8.19
PCB-1262 Peak 5	8.44	8.19	8.69

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081639.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:22:32 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-039
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	290304262	1000.0	1000.0	
2	1.673	1.675	-0.002	272928056	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.193	3.193	0.000	19391827	250.0	259.4	
1	3.546	3.547	-0.001	15809148	250.0	257.2	
1	4.019	4.020	-0.001	32583388	250.0	249.7	
1	4.163	4.163	0.000	14816852	250.0	255.3	
1	4.619	4.620	-0.001	14001536	250.0	257.4	
		Average of Peak Amounts =				255.8	
2	3.233	3.234	-0.001	18718118	250.0	256.6	
2	3.619	3.620	-0.001	16453717	250.0	257.0	
2	4.069	4.070	-0.001	30802033	250.0	250.7	
2	4.213	4.214	-0.001	13226501	250.0	253.7	
2	4.869	4.870	-0.001	10854469	250.0	256.6	
		Average of Peak Amounts =				254.9	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.480	-0.001	46592672	250.0	250.0	
1	7.009	7.010	-0.001	59800886	250.0	252.6	
1	7.339	7.340	-0.001	55189029	250.0	249.8	
1	7.776	7.777	-0.001	119016403	250.0	265.6	
1	8.163	8.163	0.000	38629775	250.0	245.2	
		Average of Peak Amounts =				252.7	
2	6.579	6.580	-0.001	36770543	250.0	249.5	
2	7.176	7.177	-0.001	51973223	250.0	251.2	
2	7.569	7.570	-0.001	49789528	250.0	250.9	
2	7.936	7.937	-0.001	95554485	250.0	252.5	
2	8.436	8.437	-0.001	69309227	250.0	250.7	
		Average of Peak Amounts =				251.0	
						RPD = 0.67	

Reagents:

AR_3262_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

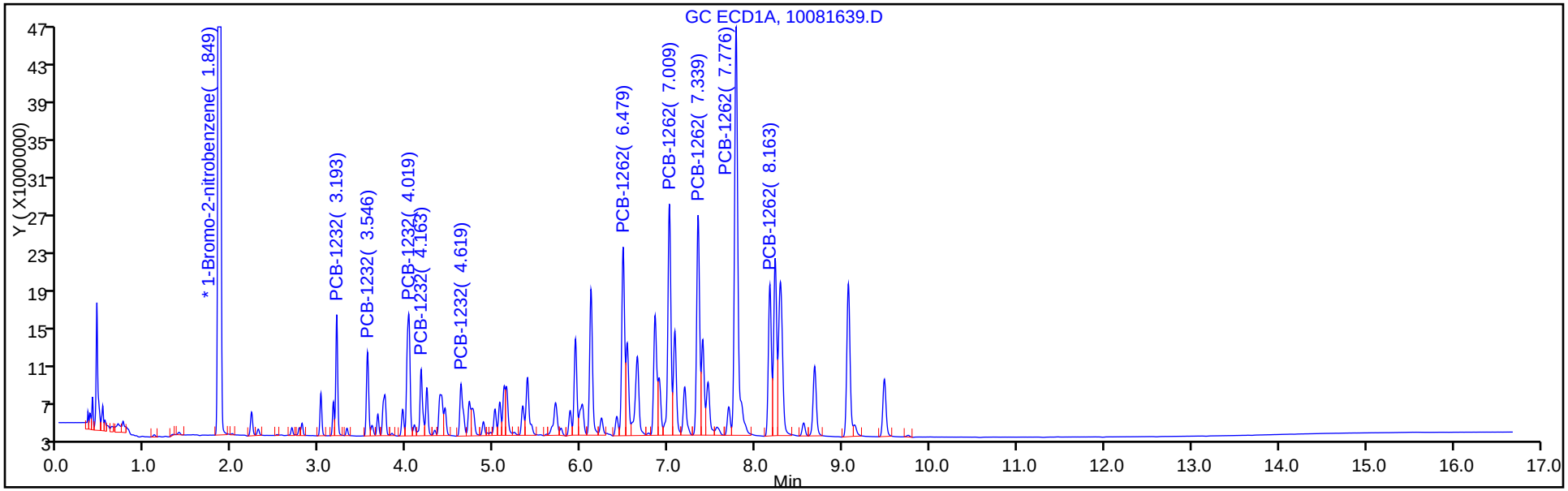
Report Date: 09-Oct-2016 09:28:35 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

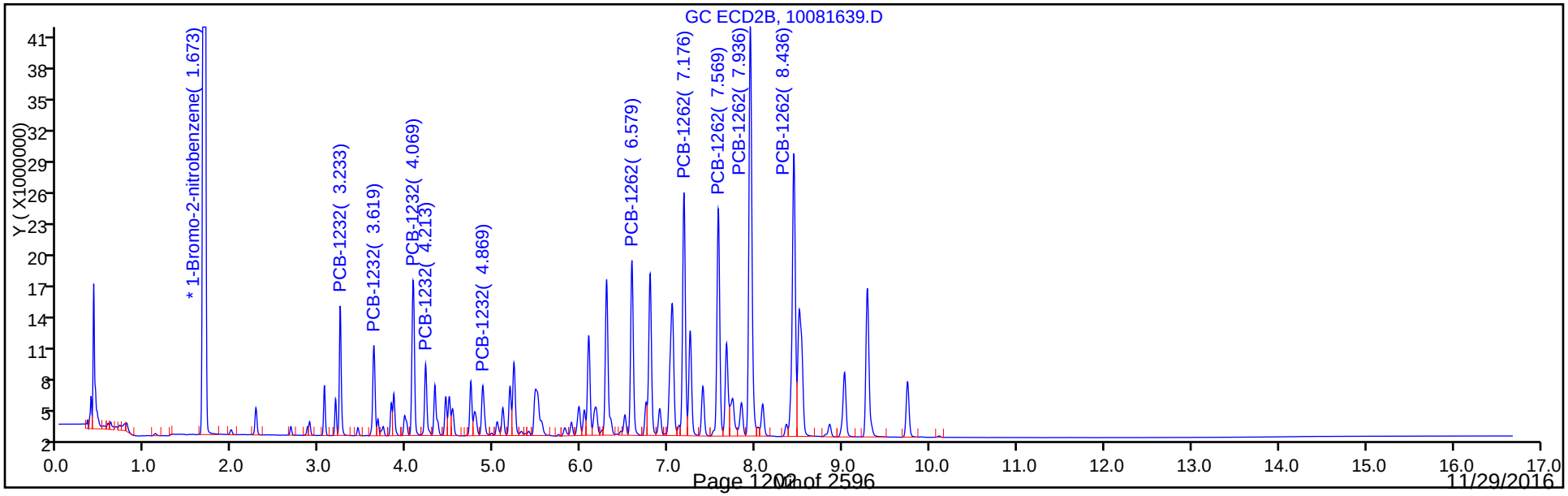
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081639.D

Injection Date:	09-Oct-2016 01:22:32	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/40 Calibration Date: 10/09/2016 01:44

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 21:46

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 23:55

Lab File ID: 10081640.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.3602		253	250	1.3	20.0
PCB-1242 Peak 2	Lin1		0.7569		245	250	-2.2	20.0
PCB-1242 Peak 3	Lin1		0.3432		249	250	-0.5	20.0
PCB-1242 Peak 4	Lin1		0.2577		247	250	-1.3	20.0
PCB-1242 Peak 5	Lin1		0.2700		249	250	-0.3	20.0
PCB-1268 Peak 1	Lin1		1.652		244	250	-2.3	20.0
PCB-1268 Peak 2	Lin1		1.569		246	250	-1.8	20.0
PCB-1268 Peak 3	Lin1		1.348		243	250	-2.6	20.0
PCB-1268 Peak 4	Lin1		0.6354		238	250	-4.7	20.0
PCB-1268 Peak 5	Lin1		4.131		248	250	-0.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/40 Calibration Date: 10/09/2016 01:44

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 21:46

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 23:55

Lab File ID: 10081640.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.55	3.30	3.80
PCB-1242 Peak 2	4.02	3.77	4.27
PCB-1242 Peak 3	4.16	3.91	4.41
PCB-1242 Peak 4	5.12	4.87	5.37
PCB-1242 Peak 5	5.14	4.89	5.39
PCB-1268 Peak 1	8.22	7.98	8.48
PCB-1268 Peak 2	8.28	8.03	8.53
PCB-1268 Peak 3	8.55	8.30	8.80
PCB-1268 Peak 4	9.06	8.81	9.31
PCB-1268 Peak 5	9.47	9.23	9.73

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081640.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:44:11 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-040
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	287551955	1000.0	1000.0	
2	1.676	1.675	0.001	270831241	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.546	3.545	0.001	25896091	250.0	253.1	
1	4.019	4.018	0.001	54408901	250.0	244.5	
1	4.162	4.162	0.000	24668252	250.0	248.8	
1	5.116	5.115	0.001	18521736	250.0	246.8	
1	5.139	5.142	-0.003	19409539	250.0	249.3	
		Average of Peak Amounts =				248.5	
2	3.619	3.619	0.000	25874692	250.0	251.1	
2	4.069	4.072	-0.003	51934642	250.0	246.5	
2	4.213	4.215	-0.002	22054244	250.0	247.7	
2	5.179	5.182	-0.003	16908504	250.0	239.5	
2	5.229	5.229	0.000	20582667	250.0	247.2	
		Average of Peak Amounts =				246.4	
						RPD = 0.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.222	8.225	-0.003	118773830	250.0	244.2	
1	8.276	8.275	0.001	112787280	250.0	245.6	
1	8.549	8.548	0.001	96935377	250.0	243.4	
1	9.062	9.062	0.000	45680674	250.0	238.2	
1	9.472	9.475	-0.003	296955486	250.0	248.2	
		Average of Peak Amounts =				243.9	
2	8.436	8.435	0.001	103353939	250.0	246.6	
2	8.496	8.499	-0.003	95993399	250.0	245.6	
2	8.846	8.849	-0.003	83150165	250.0	245.1	
2	9.279	9.279	0.000	36394395	250.0	242.5	
2	9.743	9.742	0.001	244704037	250.0	246.9	
		Average of Peak Amounts =				245.3	
						RPD = 0.58	

Reagents:

AR_4268_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

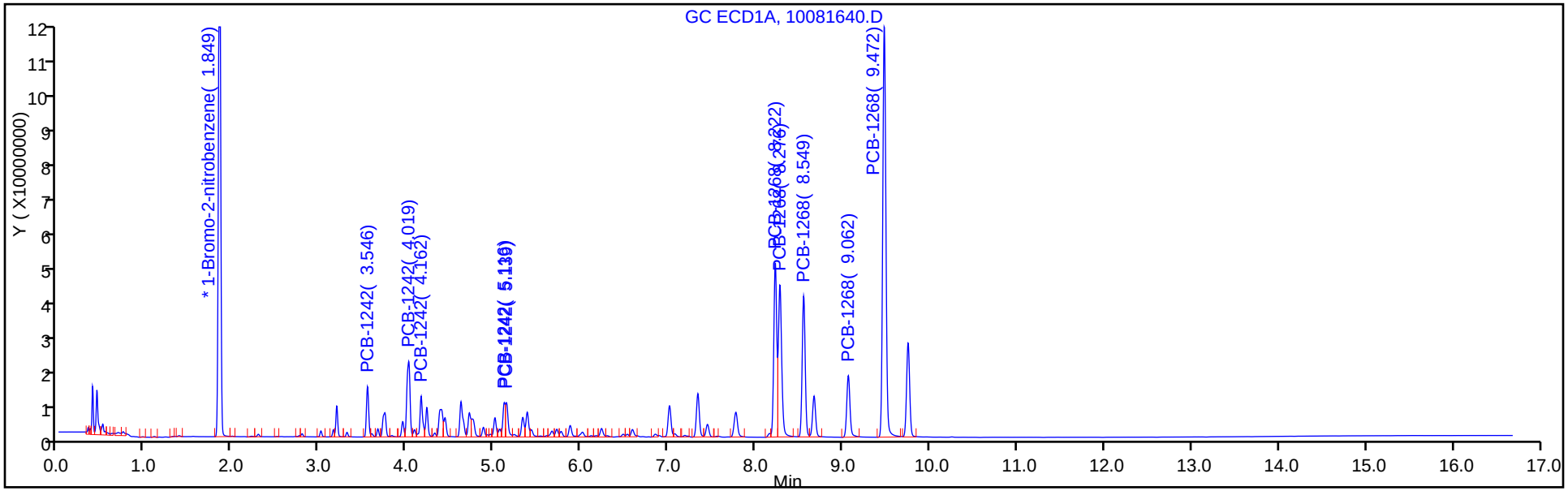
Report Date: 09-Oct-2016 09:28:38 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

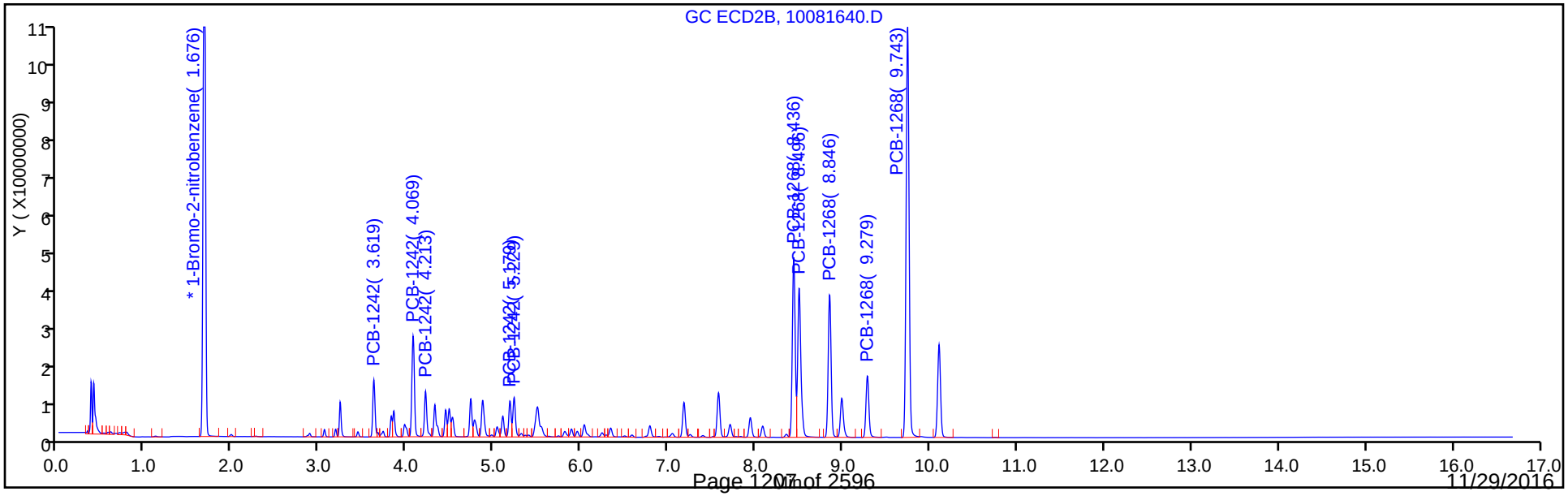
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081640.D

Injection Date:	09-Oct-2016 01:44:11	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/40 Calibration Date: 10/09/2016 01:44

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 21:46

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 23:55

Lab File ID: 10081640.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.3822		251	250	0.4	20.0
PCB-1242 Peak 2	Lin1		0.7670		247	250	-1.4	20.0
PCB-1242 Peak 3	Lin1		0.3257		248	250	-0.9	20.0
PCB-1242 Peak 4	Lin1		0.2497		240	250	-4.2	20.0
PCB-1242 Peak 5	Lin1		0.3040		247	250	-1.1	20.0
PCB-1268 Peak 1	Lin1		1.526		247	250	-1.4	20.0
PCB-1268 Peak 2	Lin1		1.418		246	250	-1.8	20.0
PCB-1268 Peak 3	Lin1		1.228		245	250	-2.0	20.0
PCB-1268 Peak 4	Lin1		0.5375		243	250	-3.0	20.0
PCB-1268 Peak 5	Lin1		3.614		247	250	-1.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-345281/40 Calibration Date: 10/09/2016 01:44

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 21:46

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 23:55

Lab File ID: 10081640.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.62	3.37	3.87
PCB-1242 Peak 2	4.07	3.82	4.32
PCB-1242 Peak 3	4.21	3.97	4.47
PCB-1242 Peak 4	5.18	4.93	5.43
PCB-1242 Peak 5	5.23	4.98	5.48
PCB-1268 Peak 1	8.44	8.19	8.69
PCB-1268 Peak 2	8.50	8.25	8.75
PCB-1268 Peak 3	8.85	8.60	9.10
PCB-1268 Peak 4	9.28	9.03	9.53
PCB-1268 Peak 5	9.74	9.49	9.99

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081640.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Oct-2016 01:44:11 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0051591-040
Operator ID: jax Instrument ID: SGC_P3
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 09-Oct-2016 09:28:24 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK027

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.849	1.848	0.001	287551955	1000.0	1000.0	
2	1.676	1.675	0.001	270831241	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.546	3.545	0.001	25896091	250.0	253.1	
1	4.019	4.018	0.001	54408901	250.0	244.5	
1	4.162	4.162	0.000	24668252	250.0	248.8	
1	5.116	5.115	0.001	18521736	250.0	246.8	
1	5.139	5.142	-0.003	19409539	250.0	249.3	
		Average of Peak Amounts =				248.5	
2	3.619	3.619	0.000	25874692	250.0	251.1	
2	4.069	4.072	-0.003	51934642	250.0	246.5	
2	4.213	4.215	-0.002	22054244	250.0	247.7	
2	5.179	5.182	-0.003	16908504	250.0	239.5	
2	5.229	5.229	0.000	20582667	250.0	247.2	
		Average of Peak Amounts =				246.4	
						RPD = 0.85	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.222	8.225	-0.003	118773830	250.0	244.2	
1	8.276	8.275	0.001	112787280	250.0	245.6	
1	8.549	8.548	0.001	96935377	250.0	243.4	
1	9.062	9.062	0.000	45680674	250.0	238.2	
1	9.472	9.475	-0.003	296955486	250.0	248.2	
		Average of Peak Amounts =				243.9	
2	8.436	8.435	0.001	103353939	250.0	246.6	
2	8.496	8.499	-0.003	95993399	250.0	245.6	
2	8.846	8.849	-0.003	83150165	250.0	245.1	
2	9.279	9.279	0.000	36394395	250.0	242.5	
2	9.743	9.742	0.001	244704037	250.0	246.9	
		Average of Peak Amounts =				245.3	
						RPD = 0.58	

Reagents:

AR_4268_ICV_00009	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

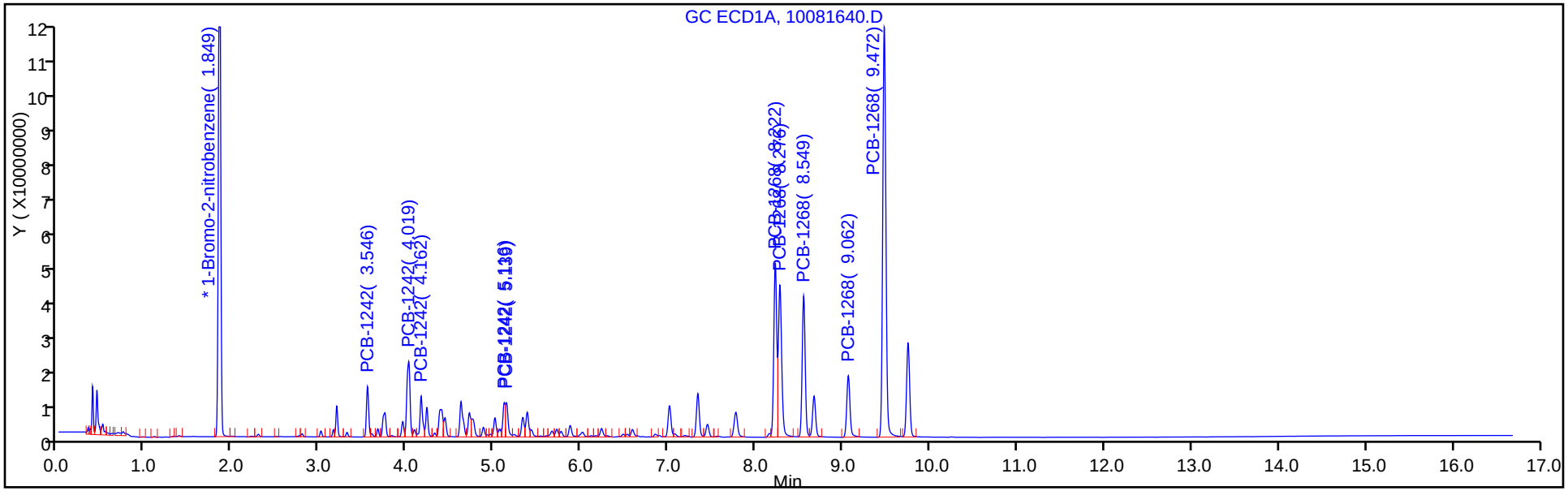
Report Date: 09-Oct-2016 09:28:39 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

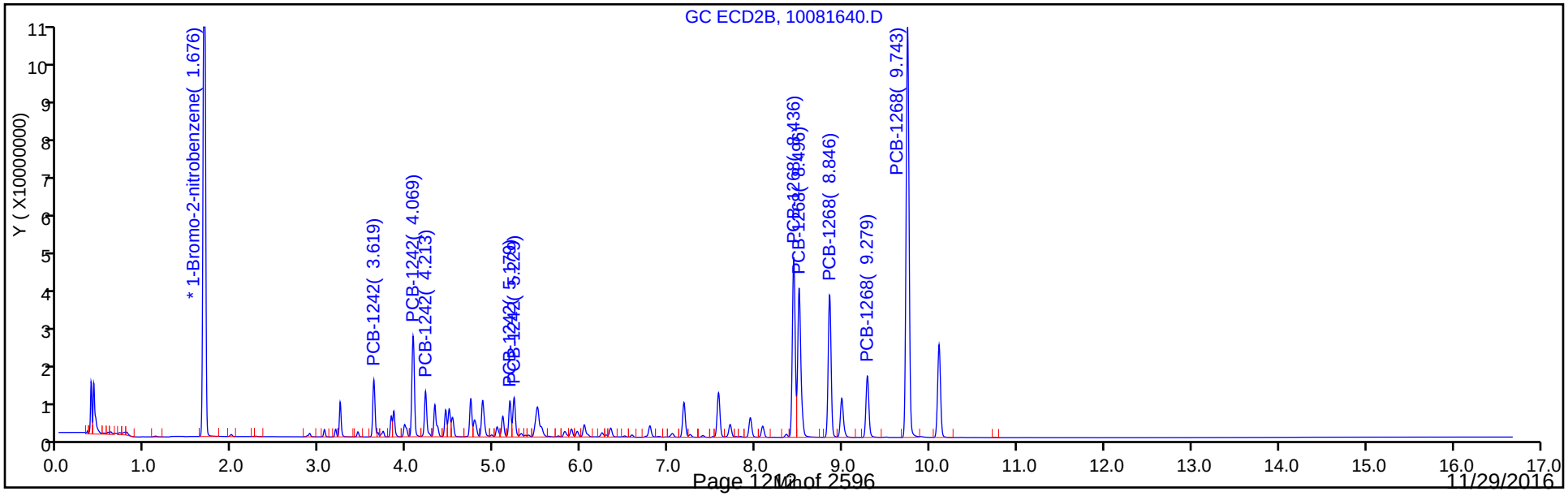
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081640.D

Injection Date:	09-Oct-2016 01:44:11	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351504/3 Calibration Date: 11/15/2016 12:02

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151603.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2130		498	500	-0.4	20.0
PCB-1016 Peak 2	Lin1		0.4066		510	500	2.0	20.0
PCB-1016 Peak 3	Lin1		0.9131		515	500	2.9	20.0
PCB-1016 Peak 4	Lin1		0.3946		499	500	-0.1	20.0
PCB-1016 Peak 5	Lin1		0.4077		513	500	2.5	20.0
PCB-1260 Peak 1	Lin1		0.6008		498	500	-0.4	20.0
PCB-1260 Peak 2	Lin1		1.170		520	500	4.1	20.0
PCB-1260 Peak 3	Lin1		0.5473		497	500	-0.6	20.0
PCB-1260 Peak 4	Lin1		1.180		493	500	-1.4	20.0
PCB-1260 Peak 5	Lin1		0.6517		490	500	-2.1	20.0
Tetrachloro-m-xylene (Surr)	Lin1		12.89		24.7	25.0	-1.3	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.23		24.1	25.0	-3.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351504/3 Calibration Date: 11/15/2016 12:02

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151603.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.20	2.95	3.45
PCB-1016 Peak 2	3.56	3.31	3.81
PCB-1016 Peak 3	4.04	3.79	4.29
PCB-1016 Peak 4	4.18	3.93	4.43
PCB-1016 Peak 5	4.64	4.39	4.89
PCB-1260 Peak 1	6.13	5.88	6.38
PCB-1260 Peak 2	6.86	6.61	7.11
PCB-1260 Peak 3	7.36	7.11	7.61
PCB-1260 Peak 4	7.79	7.54	8.04
PCB-1260 Peak 5	8.18	7.93	8.43
Tetrachloro-m-xylene (Surr)	2.81	2.56	3.06
DCB Decachlorobiphenyl (Surr)	9.77	9.52	10.02

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151603.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 15-Nov-2016 12:02:03 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0053145-003
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:05 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 15-Nov-2016 13:24:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.857	0.000	283665553	1000.0	1000.0	
2	1.680	1.680	0.000	234106170	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.807	0.000	91430423	25.0	24.7	
2	2.737	2.737	0.000	76967647	25.0	23.1	
						RPD = 6.48	
1 PCB-1016							
1	3.204	3.204	0.000	30214469	500.0	498.1	
1	3.560	3.560	0.000	57675080	500.0	510.1	
1	4.037	4.037	0.000	129508666	500.0	514.7	
1	4.177	4.177	0.000	55969663	500.0	499.3	
1	4.637	4.637	0.000	57817692	500.0	512.7	
		Average of Peak Amounts =				507.0	
2	3.624	3.624	0.000	49893459	500.0	498.3	
2	4.077	4.077	0.000	105231826	500.0	504.8	
2	4.220	4.220	0.000	43764600	500.0	489.6	
2	4.450	4.450	0.000	24761505	500.0	498.3	
2	4.737	4.737	0.000	35186202	500.0	496.6	
		Average of Peak Amounts =				497.5	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.127	6.127	0.000	85211849	500.0	498.2	
1	6.864	6.864	0.000	165945806	500.0	520.3	
1	7.357	7.357	0.000	77617727	500.0	497.2	
1	7.794	7.794	0.000	167294166	500.0	493.2	
1	8.180	8.180	0.000	92436766	500.0	489.6	
		Average of Peak Amounts =				499.7	
2	6.587	6.587	0.000	84385228	500.0	515.5	
2	7.050	7.050	0.000	130455112	500.0	521.5	
2	7.577	7.577	0.000	59215873	500.0	502.1	
2	7.944	7.944	0.000	133883735	500.0	512.9	
2	8.444	8.444	0.000	99566817	500.0	509.1	
		Average of Peak Amounts =				512.2	
						RPD = 2.48	
$ 15 DCB Decachlorobiphenyl							
1	9.767	9.767	0.000	86724770	25.0	24.1	
2	10.110	10.110	0.000	68450567	25.0	26.3	
						RPD = 8.55	
19 1260 Res 1							
1	8.180	8.180	0.000	92436766	NR	NR	
16 1260 Res 2							
1	8.240	8.240	0.000	34871250	NR	NR	
18 1260 Res 3							
1	8.304	8.304	0.000	46466229	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

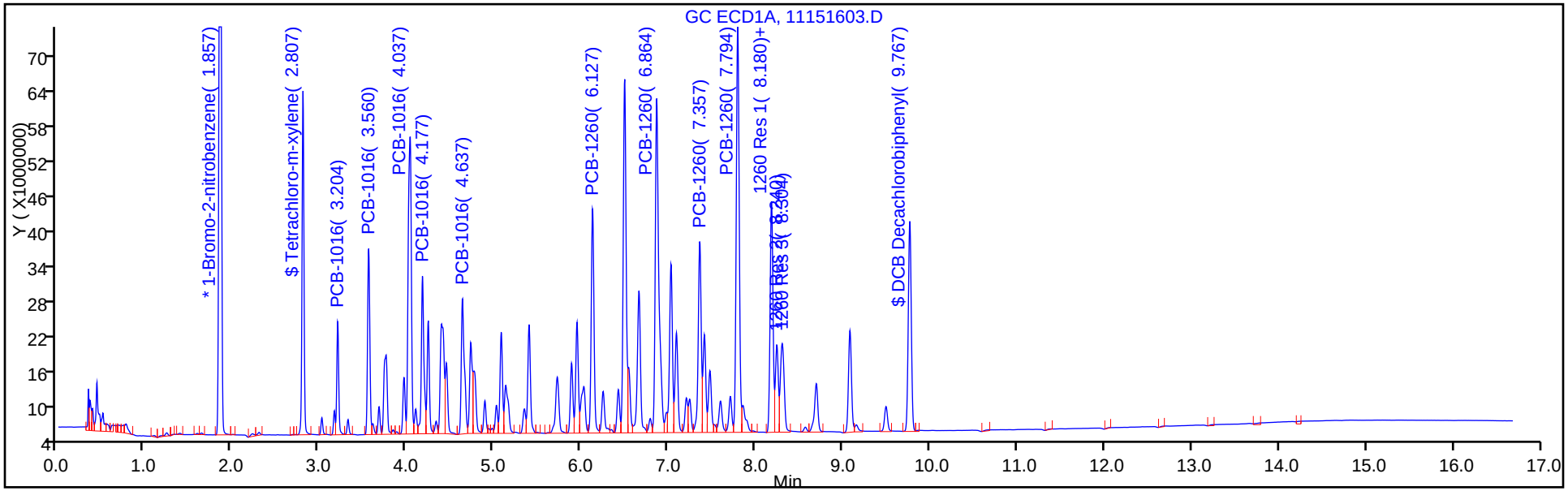
Report Date: 16-Nov-2016 06:57:05 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

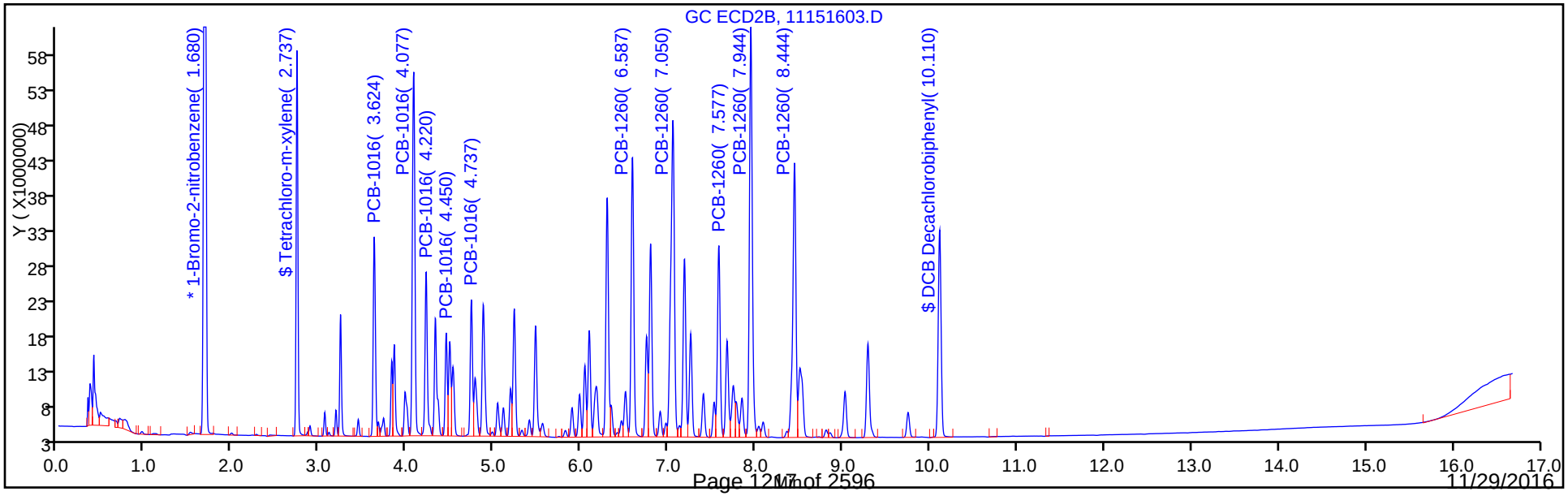
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151603.D

Injection Date:	15-Nov-2016 12:02:03	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351504/3 Calibration Date: 11/15/2016 12:02

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151603.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4263		498	500	-0.3	20.0
PCB-1016 Peak 2	Lin1		0.8990		505	500	1.0	20.0
PCB-1016 Peak 3	Lin1		0.3739		490	500	-2.1	20.0
PCB-1016 Peak 4	Lin1		0.2115		498	500	-0.3	20.0
PCB-1016 Peak 5	Lin1		0.3006		497	500	-0.7	20.0
PCB-1260 Peak 1	Lin1		0.7209		515	500	3.1	20.0
PCB-1260 Peak 2	Lin1		1.115		521	500	4.3	20.0
PCB-1260 Peak 3	Lin1		0.5059		502	500	0.4	20.0
PCB-1260 Peak 4	Lin1		1.144		513	500	2.6	20.0
PCB-1260 Peak 5	Lin1		0.8506		509	500	1.8	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.15		23.1	25.0	-7.5	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		11.70		26.3	25.0	5.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351504/3 Calibration Date: 11/15/2016 12:02

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151603.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.62	3.37	3.87
PCB-1016 Peak 2	4.08	3.83	4.33
PCB-1016 Peak 3	4.22	3.97	4.47
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.74	4.49	4.99
PCB-1260 Peak 1	6.59	6.34	6.84
PCB-1260 Peak 2	7.05	6.80	7.30
PCB-1260 Peak 3	7.58	7.33	7.83
PCB-1260 Peak 4	7.94	7.69	8.19
PCB-1260 Peak 5	8.44	8.19	8.69
Tetrachloro-m-xylene (Surr)	2.74	2.49	2.99
DCB Decachlorobiphenyl (Surr)	10.11	9.86	10.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151603.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 15-Nov-2016 12:02:03 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0053145-003
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:05 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 15-Nov-2016 13:24:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.857	0.000	283665553	1000.0	1000.0	
2	1.680	1.680	0.000	234106170	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.807	0.000	91430423	25.0	24.7	
2	2.737	2.737	0.000	76967647	25.0	23.1	
						RPD = 6.48	
1 PCB-1016							
1	3.204	3.204	0.000	30214469	500.0	498.1	
1	3.560	3.560	0.000	57675080	500.0	510.1	
1	4.037	4.037	0.000	129508666	500.0	514.7	
1	4.177	4.177	0.000	55969663	500.0	499.3	
1	4.637	4.637	0.000	57817692	500.0	512.7	
		Average of Peak Amounts =				507.0	
2	3.624	3.624	0.000	49893459	500.0	498.3	
2	4.077	4.077	0.000	105231826	500.0	504.8	
2	4.220	4.220	0.000	43764600	500.0	489.6	
2	4.450	4.450	0.000	24761505	500.0	498.3	
2	4.737	4.737	0.000	35186202	500.0	496.6	
		Average of Peak Amounts =				497.5	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.127	6.127	0.000	85211849	500.0	498.2	
1	6.864	6.864	0.000	165945806	500.0	520.3	
1	7.357	7.357	0.000	77617727	500.0	497.2	
1	7.794	7.794	0.000	167294166	500.0	493.2	
1	8.180	8.180	0.000	92436766	500.0	489.6	
		Average of Peak Amounts =				499.7	
2	6.587	6.587	0.000	84385228	500.0	515.5	
2	7.050	7.050	0.000	130455112	500.0	521.5	
2	7.577	7.577	0.000	59215873	500.0	502.1	
2	7.944	7.944	0.000	133883735	500.0	512.9	
2	8.444	8.444	0.000	99566817	500.0	509.1	
		Average of Peak Amounts =				512.2	
						RPD = 2.48	
$ 15 DCB Decachlorobiphenyl							
1	9.767	9.767	0.000	86724770	25.0	24.1	
2	10.110	10.110	0.000	68450567	25.0	26.3	
						RPD = 8.55	
19 1260 Res 1							
1	8.180	8.180	0.000	92436766	NR	NR	
16 1260 Res 2							
1	8.240	8.240	0.000	34871250	NR	NR	
18 1260 Res 3							
1	8.304	8.304	0.000	46466229	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

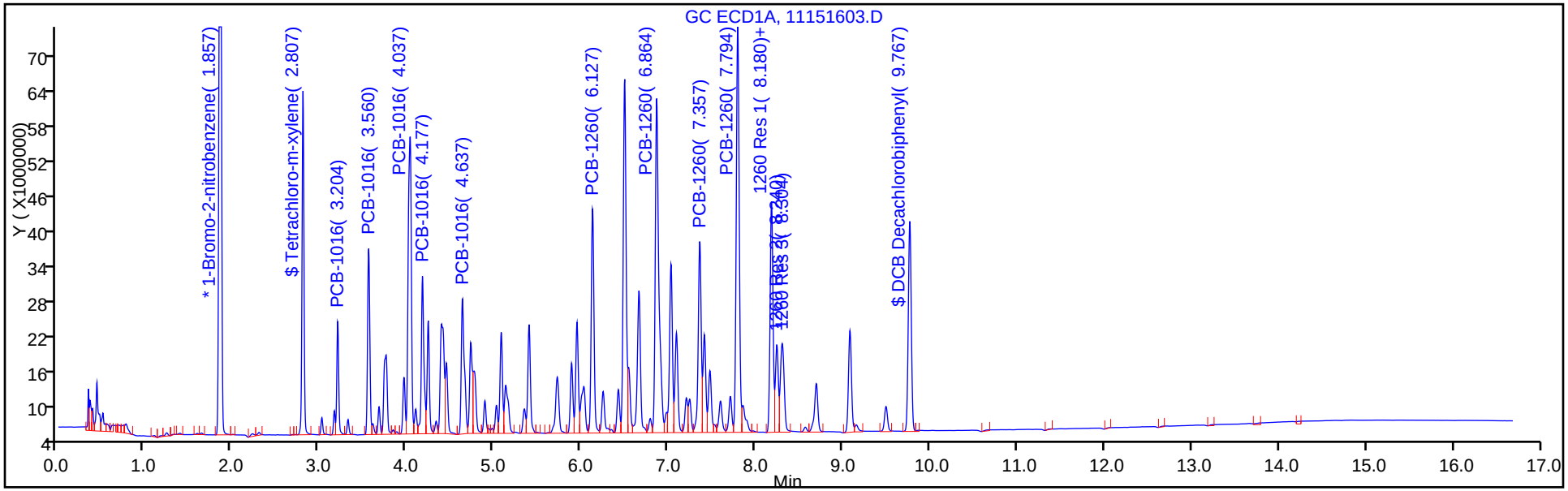
Report Date: 16-Nov-2016 06:57:06 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

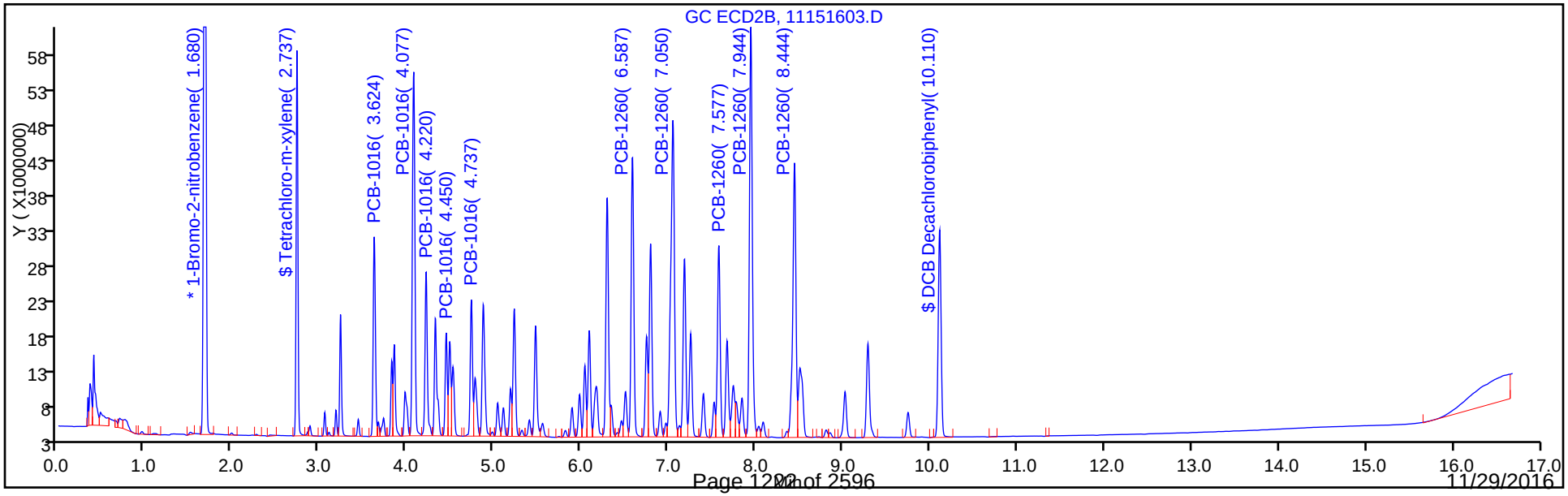
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151603.D

Injection Date:	15-Nov-2016 12:02:03	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/17 Calibration Date: 11/15/2016 17:06

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151617.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2223		520	500	4.1	20.0
PCB-1016 Peak 2	Lin1		0.4211		529	500	5.8	20.0
PCB-1016 Peak 3	Lin1		0.9510		537	500	7.3	20.0
PCB-1016 Peak 4	Lin1		0.4107		520	500	4.0	20.0
PCB-1016 Peak 5	Lin1		0.4243		534	500	6.8	20.0
PCB-1260 Peak 1	Lin1		0.6340		526	500	5.3	20.0
PCB-1260 Peak 2	Lin1		1.218		542	500	8.4	20.0
PCB-1260 Peak 3	Lin1		0.5752		523	500	4.6	20.0
PCB-1260 Peak 4	Lin1		1.234		517	500	3.3	20.0
PCB-1260 Peak 5	Lin1		0.6840		514	500	2.8	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.31		25.5	25.0	2.0	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.95		25.6	25.0	2.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/17 Calibration Date: 11/15/2016 17:06

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151617.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.21	2.95	3.45
PCB-1016 Peak 2	3.56	3.31	3.81
PCB-1016 Peak 3	4.04	3.79	4.29
PCB-1016 Peak 4	4.18	3.93	4.43
PCB-1016 Peak 5	4.64	4.39	4.89
PCB-1260 Peak 1	6.13	5.88	6.38
PCB-1260 Peak 2	6.87	6.61	7.11
PCB-1260 Peak 3	7.36	7.11	7.61
PCB-1260 Peak 4	7.79	7.54	8.04
PCB-1260 Peak 5	8.18	7.93	8.43
Tetrachloro-m-xylene (Surr)	2.81	2.56	3.06
DCB Decachlorobiphenyl (Surr)	9.77	9.52	10.02

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151617.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 17:06:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0053145-017
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:35:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.857	0.000	283962147	1000.0	1000.0	
2	1.684	1.680	0.004	236788106	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.807	0.000	94468672	25.0	25.5	
2	2.740	2.737	0.003	79535620	25.0	23.6	
						RPD = 7.54	
1 PCB-1016							
1	3.207	3.204	0.003	31566326	500.0	520.4	
1	3.560	3.560	0.000	59790758	500.0	528.9	
1	4.037	4.037	0.000	135027296	500.0	536.6	
1	4.177	4.177	0.000	58307315	500.0	520.1	
1	4.637	4.637	0.000	60235160	500.0	534.0	
		Average of Peak Amounts =				528.0	
2	3.624	3.624	0.000	51493877	500.0	508.8	
2	4.077	4.077	0.000	108741967	500.0	516.0	
2	4.220	4.220	0.000	45824312	500.0	507.2	
2	4.450	4.450	0.000	25566809	500.0	508.9	
2	4.737	4.737	0.000	36510177	500.0	509.7	
		Average of Peak Amounts =				510.1	
						RPD = 3.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.130	6.127	0.003	90020601	500.0	526.4	
1	6.867	6.864	0.003	172938609	500.0	542.0	
1	7.360	7.357	0.003	81665783	500.0	522.9	
1	7.793	7.794	-0.001	175211194	500.0	516.6	
1	8.180	8.180	0.000	97111370	500.0	514.2	
		Average of Peak Amounts =				524.4	
2	6.587	6.587	0.000	88170153	500.0	532.8	
2	7.050	7.050	0.000	136576642	500.0	540.1	
2	7.577	7.577	0.000	62784332	500.0	526.7	
2	7.944	7.944	0.000	140500005	500.0	532.4	
2	8.447	8.444	0.003	105721583	500.0	534.8	
		Average of Peak Amounts =				533.4	
						RPD = 1.69	
$ 15 DCB Decachlorobiphenyl							
1	9.767	9.767	0.000	91953610	25.0	25.6	
2	10.110	10.110	0.000	71908120	25.0	27.3	
						RPD = 6.53	
S 8 Polychlorinated biphenyls, Total							
1						1052.4	
2						1043.5	
						RPD = 0.85	
19 1260 Res 1							
1		8.180			ND	ND	
16 1260 Res 2							
1		8.240			ND	ND	
18 1260 Res 3							
1		8.304			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

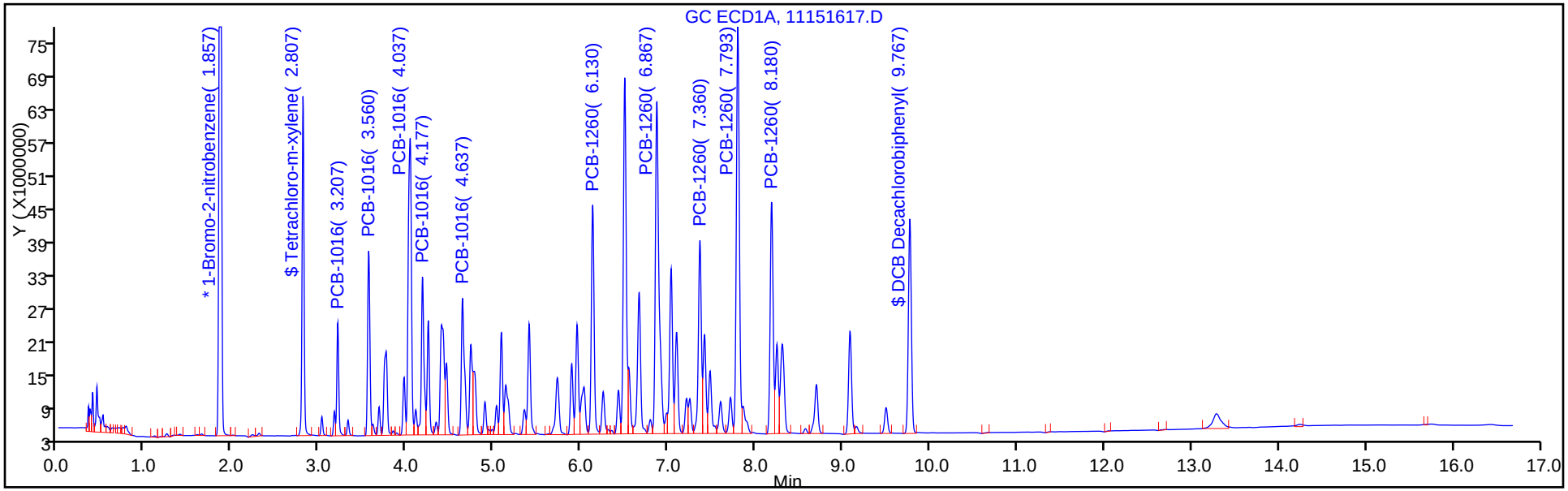
Report Date: 16-Nov-2016 06:57:39 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

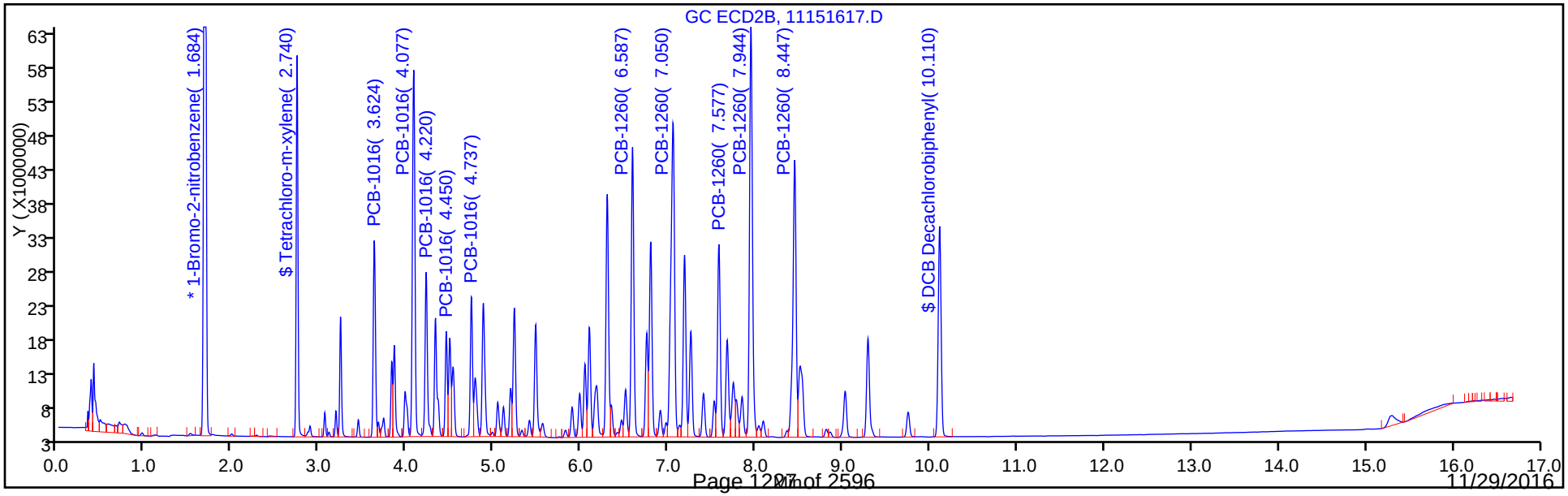
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151617.D

Injection Date:	15-Nov-2016 17:06:27	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/17 Calibration Date: 11/15/2016 17:06

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151617.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4349		509	500	1.8	20.0
PCB-1016 Peak 2	Lin1		0.9185		516	500	3.2	20.0
PCB-1016 Peak 3	Lin1		0.3871		507	500	1.4	20.0
PCB-1016 Peak 4	Lin1		0.2160		509	500	1.8	20.0
PCB-1016 Peak 5	Lin1		0.3084		510	500	1.9	20.0
PCB-1260 Peak 1	Lin1		0.7447		533	500	6.6	20.0
PCB-1260 Peak 2	Lin1		1.154		540	500	8.0	20.0
PCB-1260 Peak 3	Lin1		0.5303		527	500	5.3	20.0
PCB-1260 Peak 4	Lin1		1.187		532	500	6.5	20.0
PCB-1260 Peak 5	Lin1		0.8930		535	500	7.0	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.44		23.6	25.0	-5.4	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.15		27.3	25.0	9.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/17 Calibration Date: 11/15/2016 17:06

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151617.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.62	3.37	3.87
PCB-1016 Peak 2	4.08	3.83	4.33
PCB-1016 Peak 3	4.22	3.97	4.47
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.74	4.49	4.99
PCB-1260 Peak 1	6.59	6.34	6.84
PCB-1260 Peak 2	7.05	6.80	7.30
PCB-1260 Peak 3	7.58	7.33	7.83
PCB-1260 Peak 4	7.94	7.69	8.19
PCB-1260 Peak 5	8.45	8.19	8.69
Tetrachloro-m-xylene (Surr)	2.74	2.49	2.99
DCB Decachlorobiphenyl (Surr)	10.11	9.86	10.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151617.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 17:06:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0053145-017
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:35:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.857	0.000	283962147	1000.0	1000.0	
2	1.684	1.680	0.004	236788106	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.807	0.000	94468672	25.0	25.5	
2	2.740	2.737	0.003	79535620	25.0	23.6	
						RPD = 7.54	
1 PCB-1016							
1	3.207	3.204	0.003	31566326	500.0	520.4	
1	3.560	3.560	0.000	59790758	500.0	528.9	
1	4.037	4.037	0.000	135027296	500.0	536.6	
1	4.177	4.177	0.000	58307315	500.0	520.1	
1	4.637	4.637	0.000	60235160	500.0	534.0	
		Average of Peak Amounts =				528.0	
2	3.624	3.624	0.000	51493877	500.0	508.8	
2	4.077	4.077	0.000	108741967	500.0	516.0	
2	4.220	4.220	0.000	45824312	500.0	507.2	
2	4.450	4.450	0.000	25566809	500.0	508.9	
2	4.737	4.737	0.000	36510177	500.0	509.7	
		Average of Peak Amounts =				510.1	
						RPD = 3.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.130	6.127	0.003	90020601	500.0	526.4	
1	6.867	6.864	0.003	172938609	500.0	542.0	
1	7.360	7.357	0.003	81665783	500.0	522.9	
1	7.793	7.794	-0.001	175211194	500.0	516.6	
1	8.180	8.180	0.000	97111370	500.0	514.2	
		Average of Peak Amounts =				524.4	
2	6.587	6.587	0.000	88170153	500.0	532.8	
2	7.050	7.050	0.000	136576642	500.0	540.1	
2	7.577	7.577	0.000	62784332	500.0	526.7	
2	7.944	7.944	0.000	140500005	500.0	532.4	
2	8.447	8.444	0.003	105721583	500.0	534.8	
		Average of Peak Amounts =				533.4	
						RPD = 1.69	
$ 15 DCB Decachlorobiphenyl							
1	9.767	9.767	0.000	91953610	25.0	25.6	
2	10.110	10.110	0.000	71908120	25.0	27.3	
						RPD = 6.53	
S 8 Polychlorinated biphenyls, Total							
1						1052.4	
2						1043.5	
						RPD = 0.85	
19 1260 Res 1							
1		8.180			ND	ND	
16 1260 Res 2							
1		8.240			ND	ND	
18 1260 Res 3							
1		8.304			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

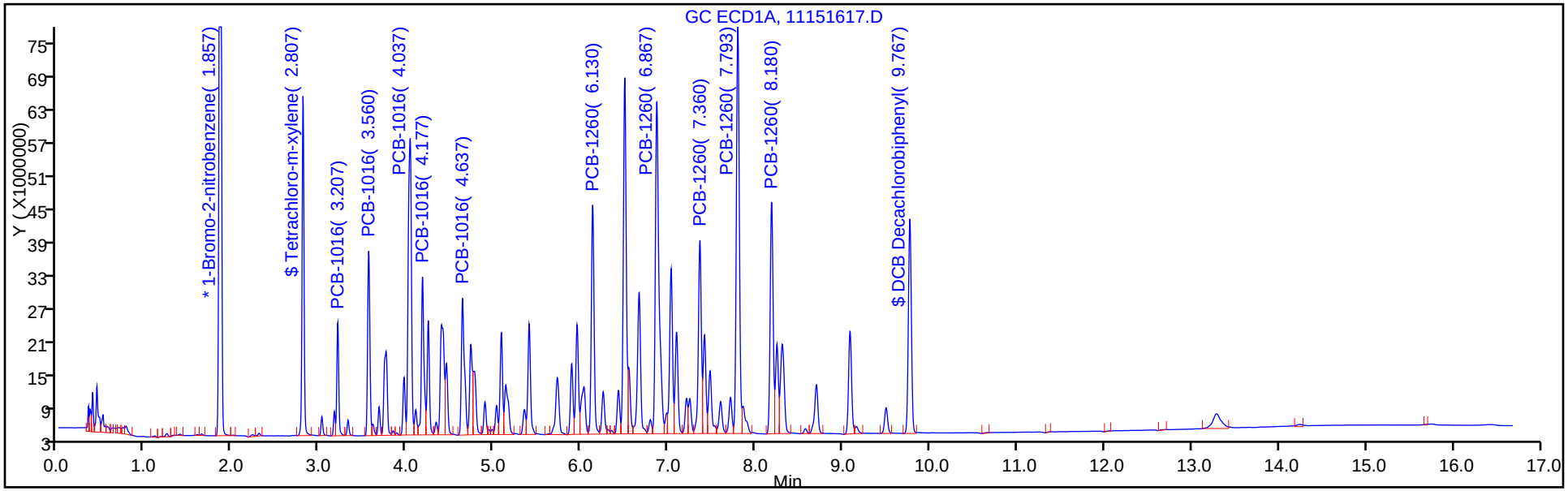
Report Date: 16-Nov-2016 06:57:40 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

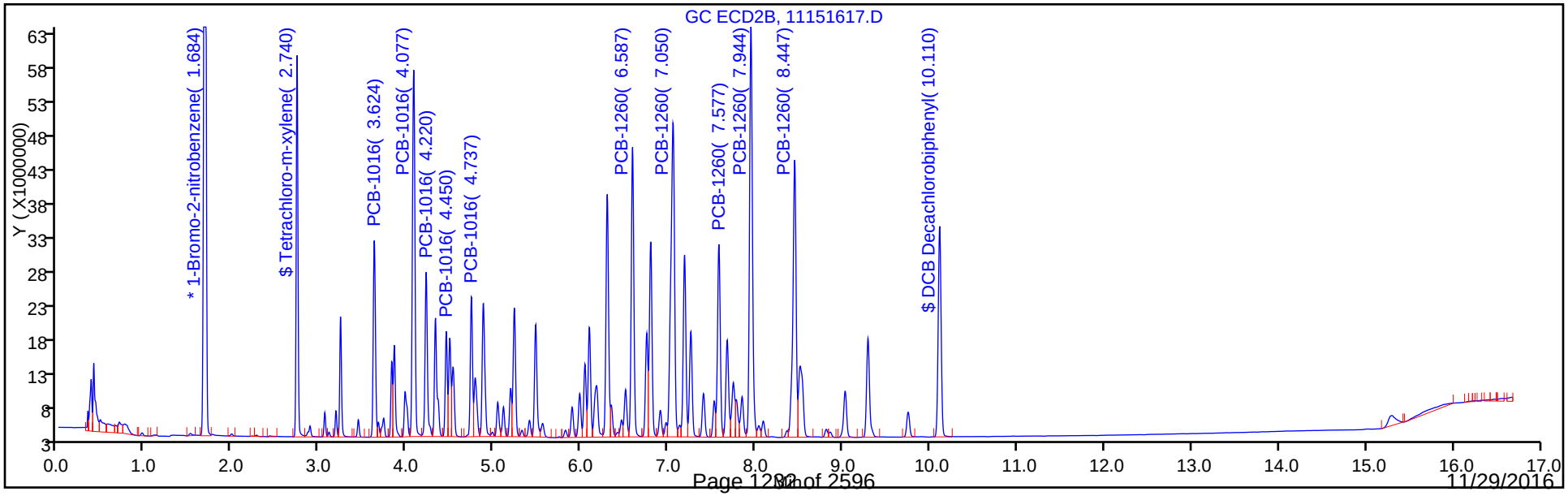
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151617.D

Injection Date:	15-Nov-2016 17:06:27	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/30 Calibration Date: 11/15/2016 21:48

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151630.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2176		509	500	1.8	20.0
PCB-1016 Peak 2	Lin1		0.4157		522	500	4.4	20.0
PCB-1016 Peak 3	Lin1		0.9325		526	500	5.2	20.0
PCB-1016 Peak 4	Lin1		0.4071		515	500	3.1	20.0
PCB-1016 Peak 5	Lin1		0.4154		523	500	4.5	20.0
PCB-1260 Peak 1	Lin1		0.6078		504	500	0.8	20.0
PCB-1260 Peak 2	Lin1		1.179		524	500	4.9	20.0
PCB-1260 Peak 3	Lin1		0.5512		501	500	0.2	20.0
PCB-1260 Peak 4	Lin1		1.191		498	500	-0.4	20.0
PCB-1260 Peak 5	Lin1		0.6660		500	500	0.0	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.14		25.2	25.0	0.7	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.47		24.6	25.0	-1.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/30 Calibration Date: 11/15/2016 21:48

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151630.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.21	2.95	3.45
PCB-1016 Peak 2	3.56	3.31	3.81
PCB-1016 Peak 3	4.04	3.79	4.29
PCB-1016 Peak 4	4.18	3.93	4.43
PCB-1016 Peak 5	4.64	4.39	4.89
PCB-1260 Peak 1	6.13	5.88	6.38
PCB-1260 Peak 2	6.87	6.61	7.11
PCB-1260 Peak 3	7.36	7.11	7.61
PCB-1260 Peak 4	7.80	7.54	8.04
PCB-1260 Peak 5	8.18	7.93	8.43
Tetrachloro-m-xylene (Surr)	2.81	2.56	3.06
DCB Decachlorobiphenyl (Surr)	9.77	9.52	10.02

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151630.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 21:48:52 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0053145-030
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:58:08 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:41:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.858	1.857	0.001	304586052	1000.0	1000.0	
2	1.682	1.680	0.002	249798948	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.808	2.807	0.001	100071799	25.0	25.2	
2	2.739	2.737	0.002	79668974	25.0	22.4	
						RPD = 11.52	
1 PCB-1016							
1	3.205	3.204	0.001	33131477	500.0	508.9	
1	3.558	3.560	-0.002	63303177	500.0	521.8	
1	4.035	4.037	-0.002	142007483	500.0	525.9	
1	4.178	4.177	0.001	61992532	500.0	515.4	
1	4.635	4.637	-0.002	63267836	500.0	522.7	
		Average of Peak Amounts =				518.9	
2	3.625	3.624	0.001	51402762	500.0	480.6	
2	4.075	4.077	-0.002	109475388	500.0	491.9	
2	4.219	4.220	-0.001	46194067	500.0	484.2	
2	4.449	4.450	-0.001	25300053	500.0	476.7	
2	4.739	4.737	0.002	36472441	500.0	482.1	
		Average of Peak Amounts =				483.1	
						RPD = 7.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.128	6.127	0.001	92558398	500.0	504.1	
1	6.865	6.864	0.001	179541633	500.0	524.3	
1	7.358	7.357	0.001	83937455	500.0	500.8	
1	7.795	7.794	0.001	181387234	500.0	498.1	
1	8.182	8.180	0.002	101418933	500.0	500.4	
		Average of Peak Amounts =				505.5	
2	6.585	6.587	-0.002	89044255	500.0	509.7	
2	7.049	7.050	-0.001	137914804	500.0	516.6	
2	7.575	7.577	-0.002	63066588	500.0	501.1	
2	7.945	7.944	0.001	142096448	500.0	510.1	
2	8.445	8.444	0.001	106867558	500.0	512.2	
		Average of Peak Amounts =				509.9	
						RPD = 0.86	
$ 15 DCB Decachlorobiphenyl							
1	9.768	9.767	0.001	94942294	25.0	24.6	
2	10.109	10.110	-0.001	72526799	25.0	26.1	
						RPD = 5.86	
S 8 Polychlorinated biphenyls, Total							
1						1024.5	
2						993.0	
						RPD = 3.12	
19 1260 Res 1							
1		8.180			ND	ND	
16 1260 Res 2							
1		8.240			ND	ND	
18 1260 Res 3							
1		8.304			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

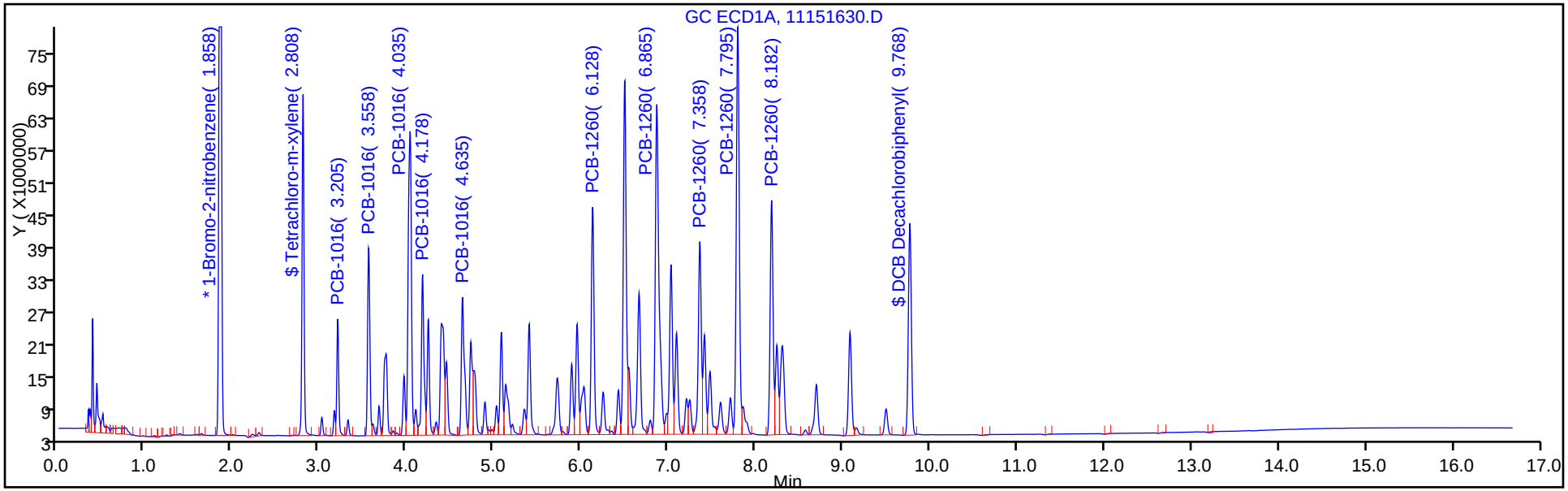
Report Date: 16-Nov-2016 06:58:09 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

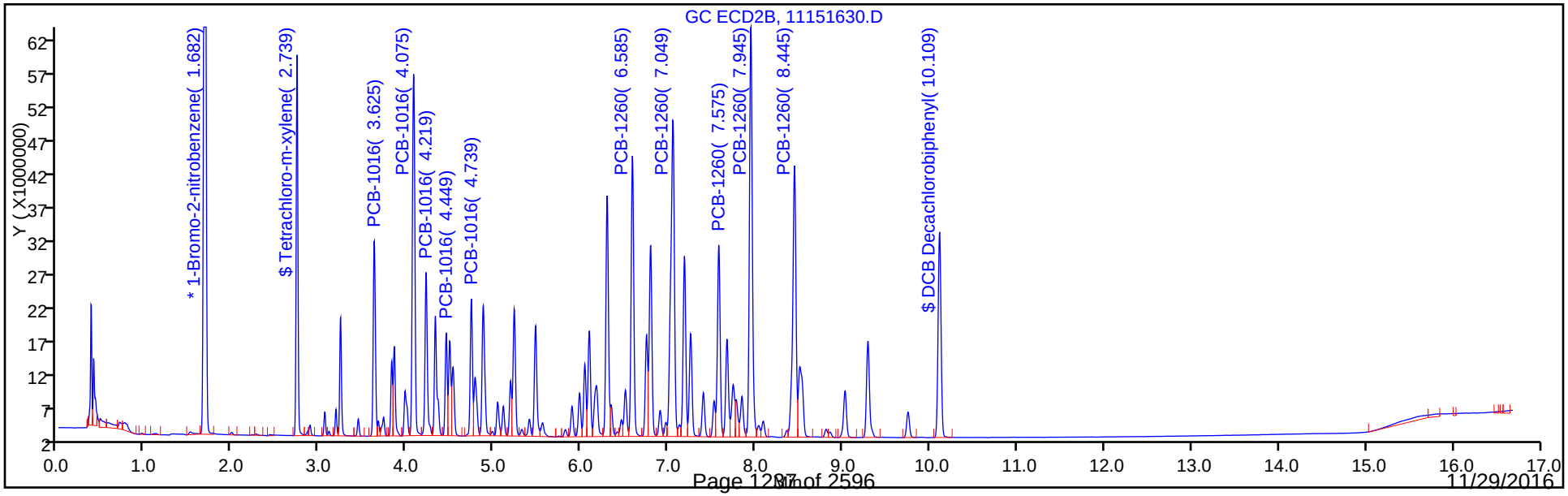
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151630.D

Injection Date:	15-Nov-2016 21:48:52	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/30 Calibration Date: 11/15/2016 21:48

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151630.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4116		481	500	-3.9	20.0
PCB-1016 Peak 2	Lin1		0.8765		492	500	-1.6	20.0
PCB-1016 Peak 3	Lin1		0.3699		484	500	-3.2	20.0
PCB-1016 Peak 4	Lin1		0.2026		477	500	-4.7	20.0
PCB-1016 Peak 5	Lin1		0.2920		482	500	-3.6	20.0
PCB-1260 Peak 1	Lin1		0.7129		510	500	1.9	20.0
PCB-1260 Peak 2	Lin1		1.104		517	500	3.3	20.0
PCB-1260 Peak 3	Lin1		0.5049		501	500	0.2	20.0
PCB-1260 Peak 4	Lin1		1.138		510	500	2.0	20.0
PCB-1260 Peak 5	Lin1		0.8556		512	500	2.4	20.0
Tetrachloro-m-xylene (Surr)	Lin1		12.76		22.4	25.0	-10.3	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		11.61		26.1	25.0	4.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351504/30 Calibration Date: 11/15/2016 21:48

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11151630.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.63	3.37	3.87
PCB-1016 Peak 2	4.08	3.83	4.33
PCB-1016 Peak 3	4.22	3.97	4.47
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.74	4.49	4.99
PCB-1260 Peak 1	6.59	6.34	6.84
PCB-1260 Peak 2	7.05	6.80	7.30
PCB-1260 Peak 3	7.58	7.33	7.83
PCB-1260 Peak 4	7.95	7.69	8.19
PCB-1260 Peak 5	8.45	8.19	8.69
Tetrachloro-m-xylene (Surr)	2.74	2.49	2.99
DCB Decachlorobiphenyl (Surr)	10.11	9.86	10.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151630.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 21:48:52 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0053145-030
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:58:08 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:41:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.858	1.857	0.001	304586052	1000.0	1000.0	
2	1.682	1.680	0.002	249798948	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.808	2.807	0.001	100071799	25.0	25.2	
2	2.739	2.737	0.002	79668974	25.0	22.4	
						RPD = 11.52	
1 PCB-1016							
1	3.205	3.204	0.001	33131477	500.0	508.9	
1	3.558	3.560	-0.002	63303177	500.0	521.8	
1	4.035	4.037	-0.002	142007483	500.0	525.9	
1	4.178	4.177	0.001	61992532	500.0	515.4	
1	4.635	4.637	-0.002	63267836	500.0	522.7	
		Average of Peak Amounts =				518.9	
2	3.625	3.624	0.001	51402762	500.0	480.6	
2	4.075	4.077	-0.002	109475388	500.0	491.9	
2	4.219	4.220	-0.001	46194067	500.0	484.2	
2	4.449	4.450	-0.001	25300053	500.0	476.7	
2	4.739	4.737	0.002	36472441	500.0	482.1	
		Average of Peak Amounts =				483.1	
						RPD = 7.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.128	6.127	0.001	92558398	500.0	504.1	
1	6.865	6.864	0.001	179541633	500.0	524.3	
1	7.358	7.357	0.001	83937455	500.0	500.8	
1	7.795	7.794	0.001	181387234	500.0	498.1	
1	8.182	8.180	0.002	101418933	500.0	500.4	
		Average of Peak Amounts =				505.5	
2	6.585	6.587	-0.002	89044255	500.0	509.7	
2	7.049	7.050	-0.001	137914804	500.0	516.6	
2	7.575	7.577	-0.002	63066588	500.0	501.1	
2	7.945	7.944	0.001	142096448	500.0	510.1	
2	8.445	8.444	0.001	106867558	500.0	512.2	
		Average of Peak Amounts =				509.9	
						RPD = 0.86	
$ 15 DCB Decachlorobiphenyl							
1	9.768	9.767	0.001	94942294	25.0	24.6	
2	10.109	10.110	-0.001	72526799	25.0	26.1	
						RPD = 5.86	
S 8 Polychlorinated biphenyls, Total							
1						1024.5	
2						993.0	
						RPD = 3.12	
19 1260 Res 1							
1		8.180			ND	ND	
16 1260 Res 2							
1		8.240			ND	ND	
18 1260 Res 3							
1		8.304			ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

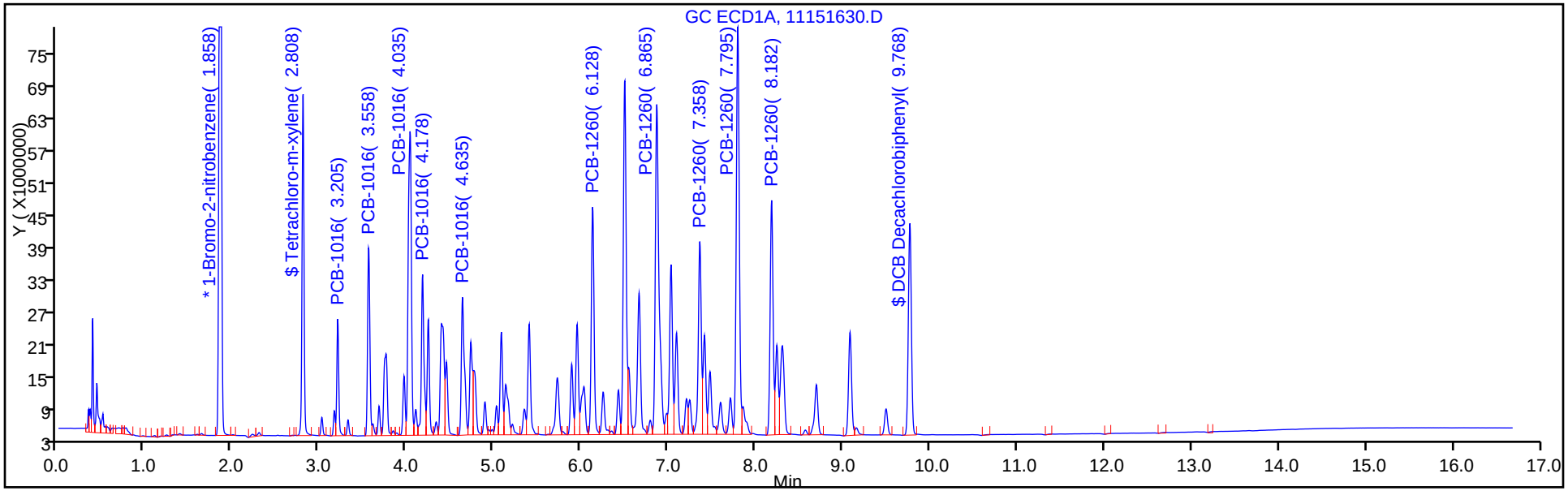
Report Date: 16-Nov-2016 06:58:10 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

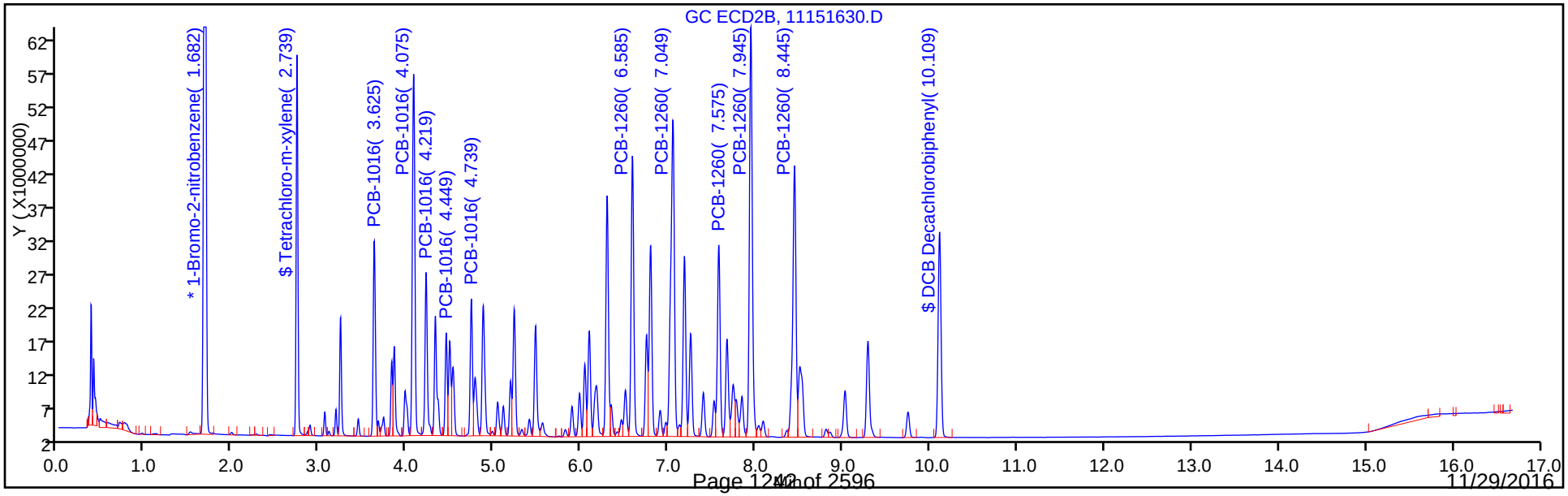
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151630.D

Injection Date:	15-Nov-2016 21:48:52	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351983/1 Calibration Date: 11/18/2016 00:18

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171601.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2124		497	500	-0.7	20.0
PCB-1016 Peak 2	Lin1		0.4008		503	500	0.5	20.0
PCB-1016 Peak 3	Lin1		0.9073		511	500	2.3	20.0
PCB-1016 Peak 4	Lin1		0.4024		509	500	1.9	20.0
PCB-1016 Peak 5	Lin1		0.4079		513	500	2.6	20.0
PCB-1260 Peak 1	Lin1		0.6085		505	500	0.9	20.0
PCB-1260 Peak 2	Lin1		1.160		516	500	3.2	20.0
PCB-1260 Peak 3	Lin1		0.5515		501	500	0.2	20.0
PCB-1260 Peak 4	Lin1		1.169		489	500	-2.3	20.0
PCB-1260 Peak 5	Lin1		0.6629		498	500	-0.4	20.0
Tetrachloro-m-xylene (Surr)	Lin1		12.59		24.1	25.0	-3.7	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.45		24.6	25.0	-1.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351983/1 Calibration Date: 11/18/2016 00:18

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171601.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.21	2.96	3.46
PCB-1016 Peak 2	3.56	3.31	3.81
PCB-1016 Peak 3	4.04	3.79	4.29
PCB-1016 Peak 4	4.18	3.93	4.43
PCB-1016 Peak 5	4.64	4.39	4.89
PCB-1260 Peak 1	6.13	5.88	6.38
PCB-1260 Peak 2	6.86	6.61	7.11
PCB-1260 Peak 3	7.36	7.11	7.61
PCB-1260 Peak 4	7.79	7.54	8.04
PCB-1260 Peak 5	8.18	7.93	8.43
Tetrachloro-m-xylene (Surr)	2.81	2.56	3.06
DCB Decachlorobiphenyl (Surr)	9.77	9.52	10.02

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171601.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 18-Nov-2016 00:18:45 ALS Bottle#: 29 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.859	1.859	0.000	317640897	1000.0	1000.0	
2	1.682	1.682	0.000	251071146	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.805	2.805	0.000	99949405	25.0	24.1	
2	2.739	2.739	0.000	83312925	25.0	23.4	
						RPD = 3.08	
1 PCB-1016							
1	3.205	3.205	0.000	33739196	500.0	496.6	
1	3.559	3.559	0.000	63658517	500.0	502.6	
1	4.035	4.035	0.000	144098471	500.0	511.4	
1	4.179	4.179	0.000	63911916	500.0	509.4	
1	4.635	4.635	0.000	64786556	500.0	513.0	
		Average of Peak Amounts =				506.6	
2	3.622	3.622	0.000	53491698	500.0	498.1	
2	4.075	4.075	0.000	112551742	500.0	503.4	
2	4.219	4.219	0.000	47860462	500.0	499.5	
2	4.449	4.449	0.000	26862110	500.0	504.1	
2	4.735	4.735	0.000	37847443	500.0	498.1	
		Average of Peak Amounts =				500.6	
						RPD = 1.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.128	6.128	0.000	96639125	500.0	504.7	
1	6.862	6.862	0.000	184302389	500.0	515.9	
1	7.355	7.355	0.000	87583932	500.0	501.1	
1	7.792	7.792	0.000	185625014	500.0	488.5	
1	8.178	8.178	0.000	105276577	500.0	498.1	
		Average of Peak Amounts =				501.7	
2	6.585	6.585	0.000	89528345	500.0	509.9	
2	7.049	7.049	0.000	138514351	500.0	516.2	
2	7.575	7.575	0.000	63675088	500.0	503.4	
2	7.942	7.942	0.000	142175486	500.0	507.8	
2	8.445	8.445	0.000	106476153	500.0	507.6	
		Average of Peak Amounts =				509.0	
						RPD = 1.44	
$ 15 DCB Decachlorobiphenyl							
1	9.765	9.765	0.000	98826891	25.0	24.6	
2	10.105	10.105	0.000	72091484	25.0	25.8	
						RPD = 4.92	
19 1260 Res 1							
1	8.178	8.178	0.000	105276577	NR	NR	
16 1260 Res 2							
1	8.242	8.242	0.000	39128295	NR	NR	
18 1260 Res 3							
1	8.302	8.302	0.000	51793189	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

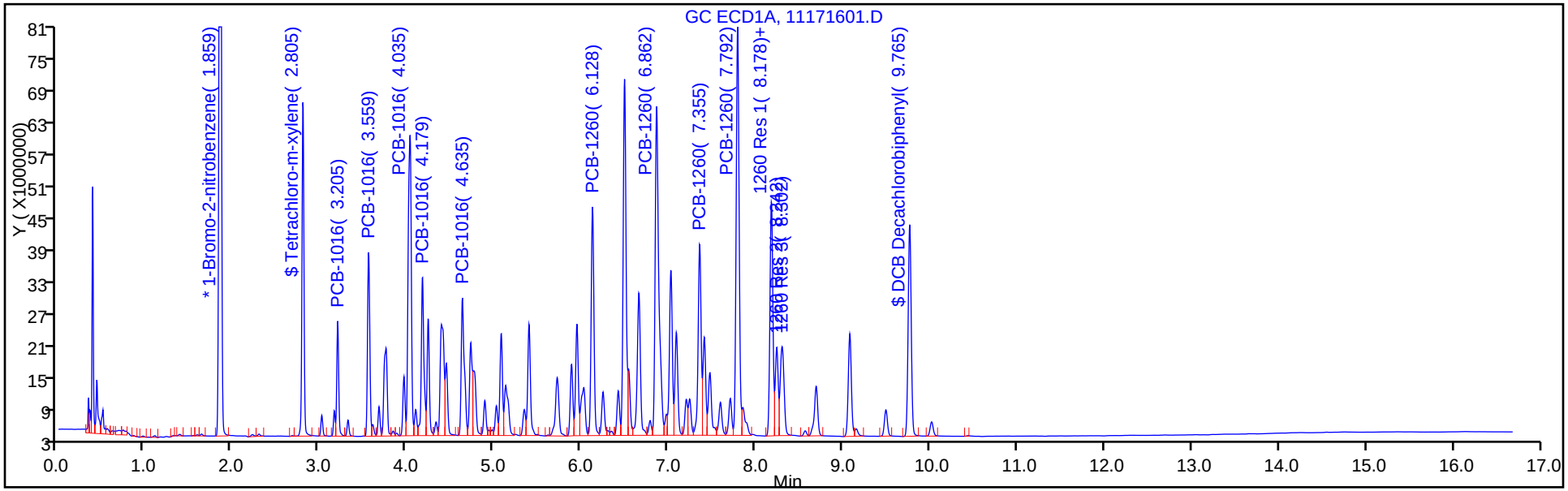
Report Date: 20-Nov-2016 07:51:46 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

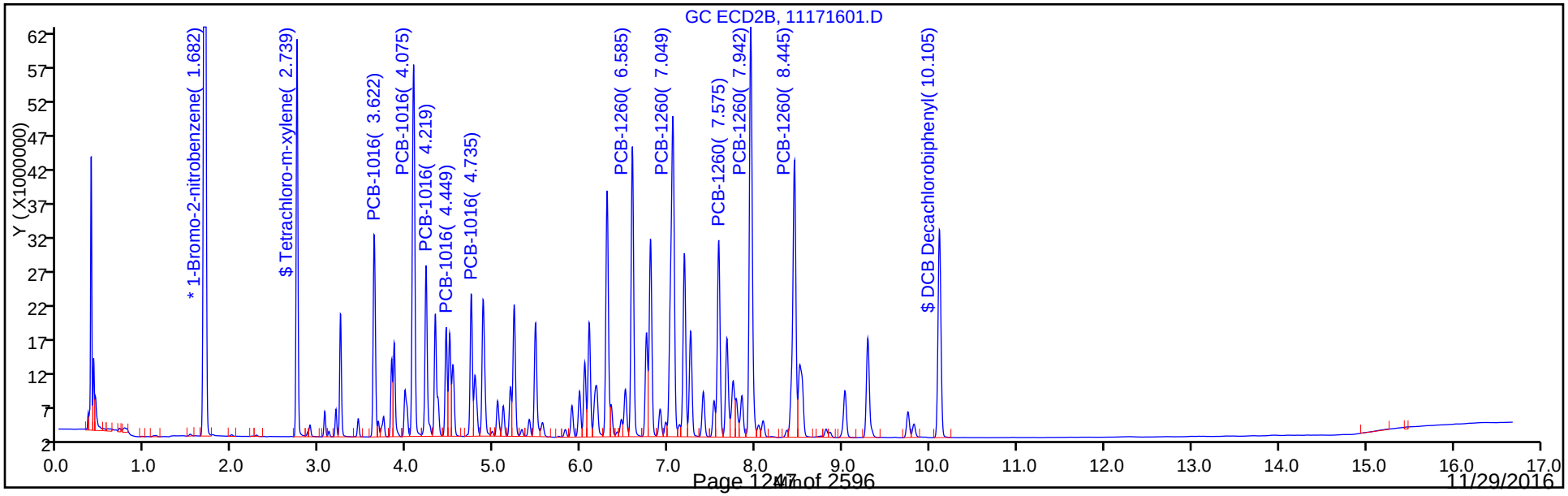
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171601.D

Injection Date:	18-Nov-2016 00:18:45	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCVIS			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351983/1 Calibration Date: 11/18/2016 00:18

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171601.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4261		498	500	-0.4	20.0
PCB-1016 Peak 2	Lin1		0.8966		503	500	0.7	20.0
PCB-1016 Peak 3	Lin1		0.3813		499	500	-0.1	20.0
PCB-1016 Peak 4	Lin1		0.2140		504	500	0.8	20.0
PCB-1016 Peak 5	Lin1		0.3015		498	500	-0.4	20.0
PCB-1260 Peak 1	Lin1		0.7132		510	500	2.0	20.0
PCB-1260 Peak 2	Lin1		1.103		516	500	3.2	20.0
PCB-1260 Peak 3	Lin1		0.5072		503	500	0.7	20.0
PCB-1260 Peak 4	Lin1		1.133		508	500	1.6	20.0
PCB-1260 Peak 5	Lin1		0.8482		508	500	1.5	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.27		23.4	25.0	-6.6	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		11.49		25.8	25.0	3.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVIS 280-351983/1 Calibration Date: 11/18/2016 00:18

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171601.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.62	3.37	3.87
PCB-1016 Peak 2	4.08	3.83	4.33
PCB-1016 Peak 3	4.22	3.97	4.47
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.74	4.49	4.99
PCB-1260 Peak 1	6.59	6.34	6.84
PCB-1260 Peak 2	7.05	6.80	7.30
PCB-1260 Peak 3	7.58	7.33	7.83
PCB-1260 Peak 4	7.94	7.69	8.19
PCB-1260 Peak 5	8.45	8.20	8.70
Tetrachloro-m-xylene (Surr)	2.74	2.49	2.99
DCB Decachlorobiphenyl (Surr)	10.11	9.86	10.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171601.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 18-Nov-2016 00:18:45 ALS Bottle#: 29 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.859	1.859	0.000	317640897	1000.0	1000.0	
2	1.682	1.682	0.000	251071146	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.805	2.805	0.000	99949405	25.0	24.1	
2	2.739	2.739	0.000	83312925	25.0	23.4	
						RPD = 3.08	
1 PCB-1016							
1	3.205	3.205	0.000	33739196	500.0	496.6	
1	3.559	3.559	0.000	63658517	500.0	502.6	
1	4.035	4.035	0.000	144098471	500.0	511.4	
1	4.179	4.179	0.000	63911916	500.0	509.4	
1	4.635	4.635	0.000	64786556	500.0	513.0	
		Average of Peak Amounts =				506.6	
2	3.622	3.622	0.000	53491698	500.0	498.1	
2	4.075	4.075	0.000	112551742	500.0	503.4	
2	4.219	4.219	0.000	47860462	500.0	499.5	
2	4.449	4.449	0.000	26862110	500.0	504.1	
2	4.735	4.735	0.000	37847443	500.0	498.1	
		Average of Peak Amounts =				500.6	
						RPD = 1.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.128	6.128	0.000	96639125	500.0	504.7	
1	6.862	6.862	0.000	184302389	500.0	515.9	
1	7.355	7.355	0.000	87583932	500.0	501.1	
1	7.792	7.792	0.000	185625014	500.0	488.5	
1	8.178	8.178	0.000	105276577	500.0	498.1	
		Average of Peak Amounts =				501.7	
2	6.585	6.585	0.000	89528345	500.0	509.9	
2	7.049	7.049	0.000	138514351	500.0	516.2	
2	7.575	7.575	0.000	63675088	500.0	503.4	
2	7.942	7.942	0.000	142175486	500.0	507.8	
2	8.445	8.445	0.000	106476153	500.0	507.6	
		Average of Peak Amounts =				509.0	
						RPD = 1.44	
$ 15 DCB Decachlorobiphenyl							
1	9.765	9.765	0.000	98826891	25.0	24.6	
2	10.105	10.105	0.000	72091484	25.0	25.8	
						RPD = 4.92	
19 1260 Res 1							
1	8.178	8.178	0.000	105276577	NR	NR	
16 1260 Res 2							
1	8.242	8.242	0.000	39128295	NR	NR	
18 1260 Res 3							
1	8.302	8.302	0.000	51793189	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

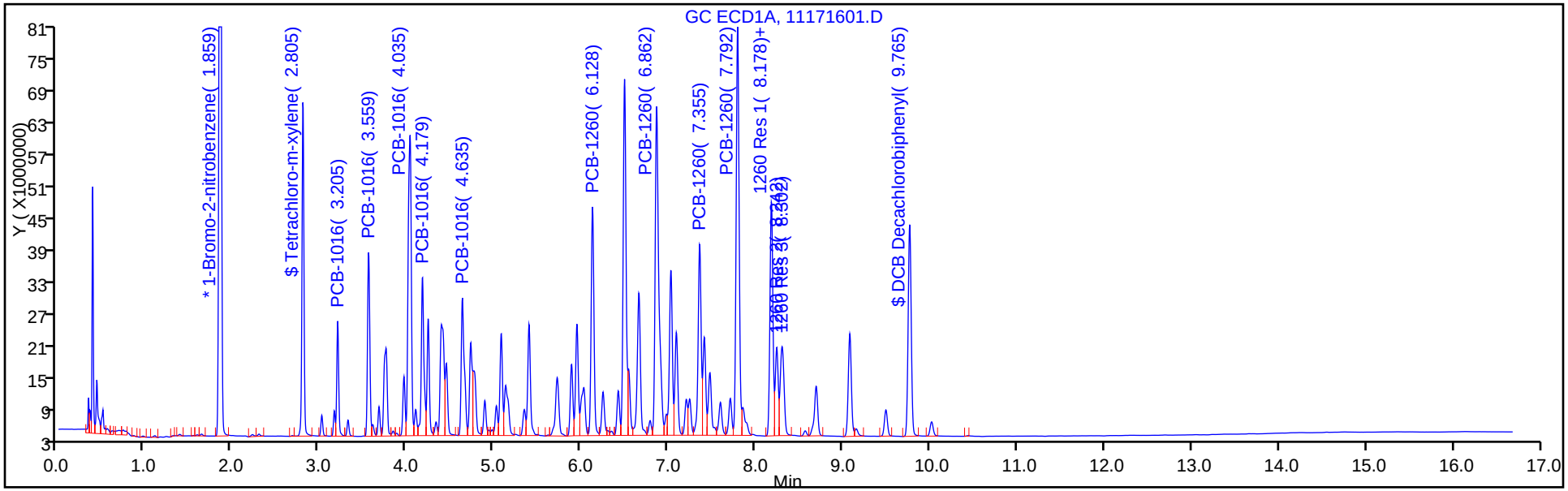
Report Date: 20-Nov-2016 07:51:47 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

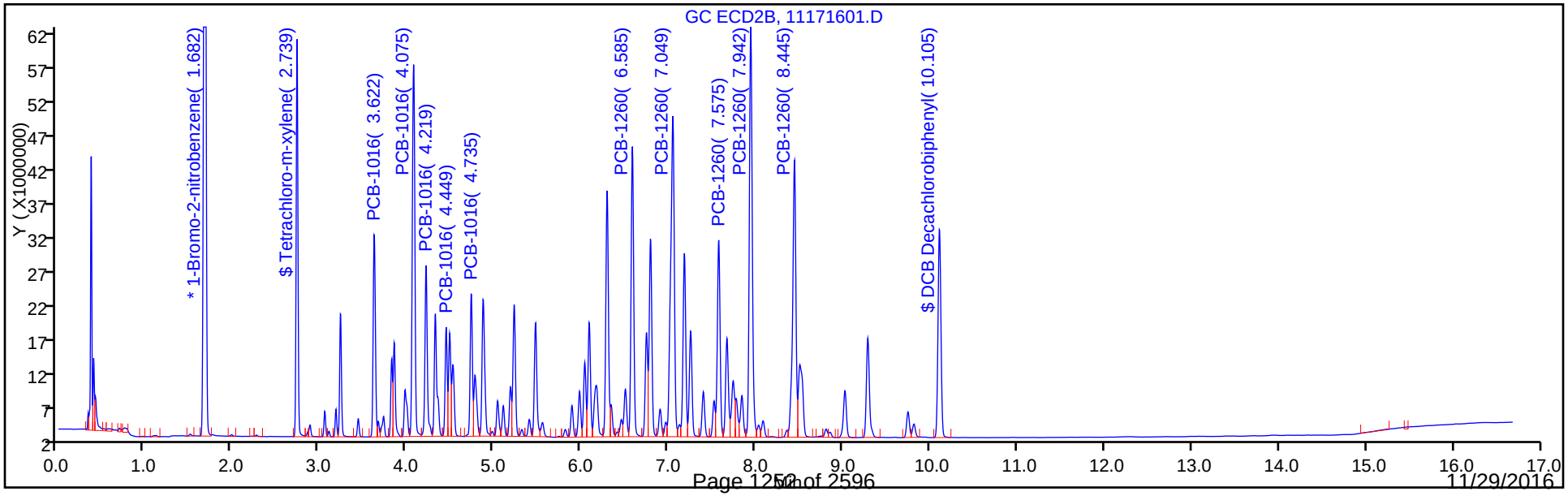
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171601.D

Injection Date:	18-Nov-2016 00:18:45	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCVIS			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351983/16 Calibration Date: 11/18/2016 05:43

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171616.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2192		513	500	2.6	20.0
PCB-1016 Peak 2	Lin1		0.4154		521	500	4.3	20.0
PCB-1016 Peak 3	Lin1		0.9252		522	500	4.3	20.0
PCB-1016 Peak 4	Lin1		0.4089		518	500	3.6	20.0
PCB-1016 Peak 5	Lin1		0.4144		521	500	4.3	20.0
PCB-1260 Peak 1	Lin1		0.6139		509	500	1.9	20.0
PCB-1260 Peak 2	Lin1		1.170		520	500	4.0	20.0
PCB-1260 Peak 3	Lin1		0.5560		505	500	1.1	20.0
PCB-1260 Peak 4	Lin1		1.184		495	500	-1.0	20.0
PCB-1260 Peak 5	Lin1		0.6653		500	500	-0.0	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.05		25.0	25.0	-0.0	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		12.67		25.0	25.0	0.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351983/16 Calibration Date: 11/18/2016 05:43

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171616.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.20	2.96	3.46
PCB-1016 Peak 2	3.56	3.31	3.81
PCB-1016 Peak 3	4.03	3.79	4.29
PCB-1016 Peak 4	4.18	3.93	4.43
PCB-1016 Peak 5	4.63	4.39	4.89
PCB-1260 Peak 1	6.13	5.88	6.38
PCB-1260 Peak 2	6.86	6.61	7.11
PCB-1260 Peak 3	7.36	7.11	7.61
PCB-1260 Peak 4	7.79	7.54	8.04
PCB-1260 Peak 5	8.18	7.93	8.43
Tetrachloro-m-xylene (Surr)	2.81	2.56	3.06
DCB Decachlorobiphenyl (Surr)	9.76	9.52	10.02

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171616.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2016 05:43:38 ALS Bottle#: 44 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:52:25 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.859	-0.002	318972380	1000.0	1000.0	
2	1.681	1.682	-0.001	247903906	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.805	0.002	104051659	25.0	25.0	
2	2.738	2.739	-0.001	83604594	25.0	23.7	
						RPD = 5.12	
1 PCB-1016							
1	3.204	3.205	-0.001	34954975	500.0	512.9	
1	3.561	3.559	0.002	66243218	500.0	521.4	
1	4.034	4.035	-0.001	147555369	500.0	521.7	
1	4.177	4.179	-0.002	65210299	500.0	517.8	
1	4.634	4.635	-0.001	66094212	500.0	521.4	
		Average of Peak Amounts =				519.0	
2	3.624	3.622	0.002	53923381	500.0	508.9	
2	4.074	4.075	-0.001	114033024	500.0	516.8	
2	4.218	4.219	-0.001	48674257	500.0	514.8	
2	4.448	4.449	-0.001	27058941	500.0	514.5	
2	4.738	4.735	0.003	38273081	500.0	510.3	
		Average of Peak Amounts =				513.1	
						RPD = 1.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.127	6.128	-0.001	97909264	500.0	509.3	
1	6.864	6.862	0.002	186563645	500.0	520.2	
1	7.357	7.355	0.002	88679482	500.0	505.3	
1	7.791	7.792	-0.001	188772221	500.0	494.9	
1	8.177	8.178	-0.001	106106770	500.0	500.0	
		Average of Peak Amounts =				505.9	
2	6.584	6.585	-0.001	91648253	500.0	529.0	
2	7.048	7.049	-0.001	141523542	500.0	534.5	
2	7.574	7.575	-0.001	65127986	500.0	521.8	
2	7.941	7.942	-0.001	145504268	500.0	526.6	
2	8.444	8.445	-0.001	109378420	500.0	528.4	
		Average of Peak Amounts =				528.0	
						RPD = 4.28	
$ 15 DCB Decachlorobiphenyl							
1	9.764	9.765	-0.001	101021969	25.0	25.0	
2	10.108	10.105	0.003	73697714	25.0	26.7	
						RPD = 6.63	
S 8 Polychlorinated biphenyls, Total							
1						1024.9	
2						1041.1	
						RPD = 1.56	
19 1260 Res 1							
1	8.177	8.178	-0.001	106106770	NR	NR	
16 1260 Res 2							
1	8.241	8.242	-0.001	39867351	NR	NR	
18 1260 Res 3							
1	8.301	8.302	-0.001	53241364	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

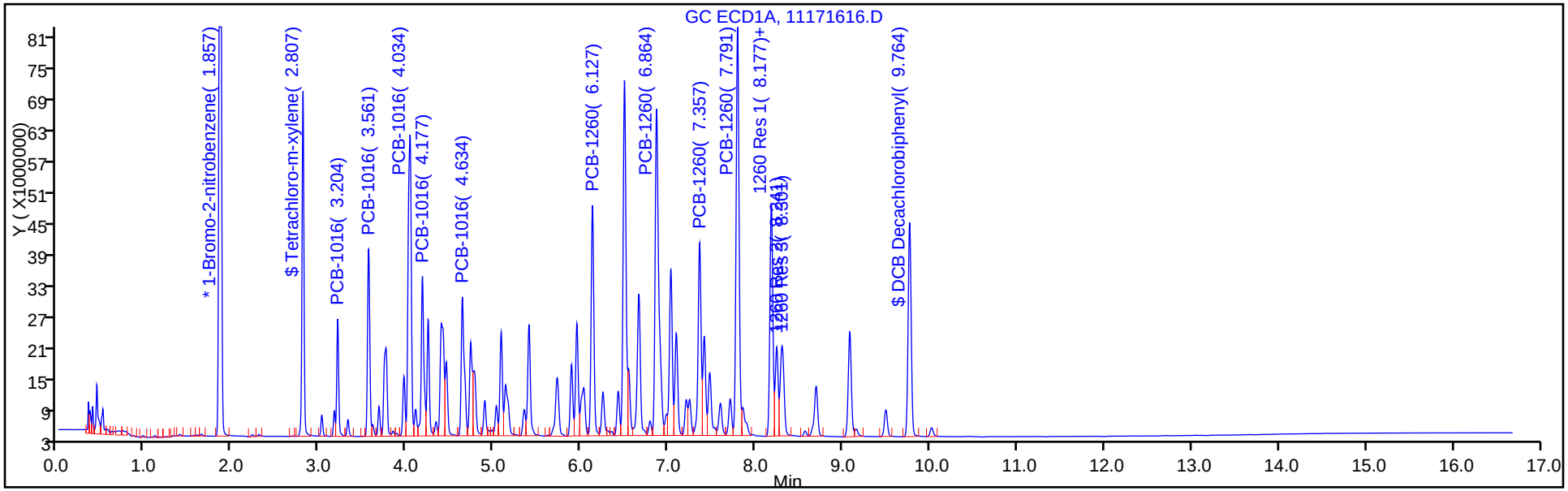
Report Date: 20-Nov-2016 07:52:25 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

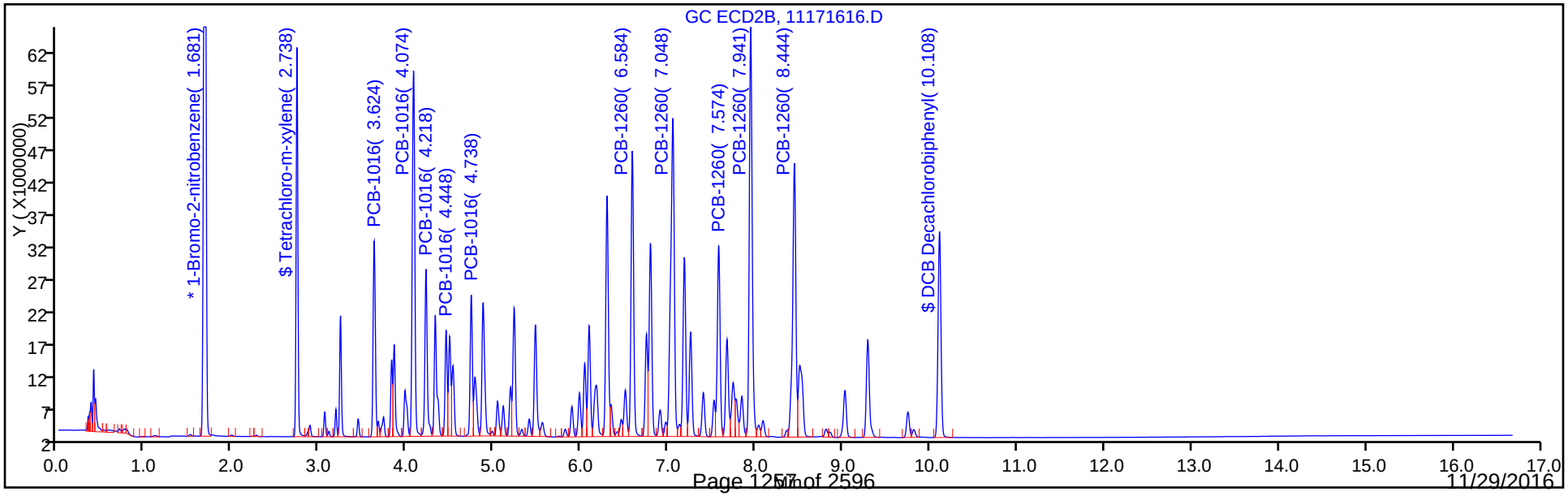
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171616.D

Injection Date:	18-Nov-2016 05:43:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351983/16 Calibration Date: 11/18/2016 05:43

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171616.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4350		509	500	1.8	20.0
PCB-1016 Peak 2	Lin1		0.9200		517	500	3.4	20.0
PCB-1016 Peak 3	Lin1		0.3927		515	500	3.0	20.0
PCB-1016 Peak 4	Lin1		0.2183		515	500	2.9	20.0
PCB-1016 Peak 5	Lin1		0.3088		510	500	2.1	20.0
PCB-1260 Peak 1	Lin1		0.7394		529	500	5.8	20.0
PCB-1260 Peak 2	Lin1		1.142		534	500	6.9	20.0
PCB-1260 Peak 3	Lin1		0.5254		522	500	4.4	20.0
PCB-1260 Peak 4	Lin1		1.174		527	500	5.3	20.0
PCB-1260 Peak 5	Lin1		0.8824		528	500	5.7	20.0
Tetrachloro-m-xylene (Surr)	Lin1		13.49		23.7	25.0	-5.0	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		11.89		26.7	25.0	6.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351983/16 Calibration Date: 11/18/2016 05:43

Instrument ID: SGC_P3 Calib Start Date: 10/08/2016 16:42

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/08/2016 18:52

Lab File ID: 11171616.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.62	3.37	3.87
PCB-1016 Peak 2	4.07	3.83	4.33
PCB-1016 Peak 3	4.22	3.97	4.47
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.74	4.49	4.99
PCB-1260 Peak 1	6.58	6.34	6.84
PCB-1260 Peak 2	7.05	6.80	7.30
PCB-1260 Peak 3	7.57	7.33	7.83
PCB-1260 Peak 4	7.94	7.69	8.19
PCB-1260 Peak 5	8.44	8.20	8.70
Tetrachloro-m-xylene (Surr)	2.74	2.49	2.99
DCB Decachlorobiphenyl (Surr)	10.11	9.86	10.36

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171616.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 18-Nov-2016 05:43:38 ALS Bottle#: 44 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: jax Instrument ID: SGC_P3
Sublist: chrom-PCB_P3*sub1

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:52:25 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.859	-0.002	318972380	1000.0	1000.0	
2	1.681	1.682	-0.001	247903906	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.805	0.002	104051659	25.0	25.0	
2	2.738	2.739	-0.001	83604594	25.0	23.7	
						RPD = 5.12	
1 PCB-1016							
1	3.204	3.205	-0.001	34954975	500.0	512.9	
1	3.561	3.559	0.002	66243218	500.0	521.4	
1	4.034	4.035	-0.001	147555369	500.0	521.7	
1	4.177	4.179	-0.002	65210299	500.0	517.8	
1	4.634	4.635	-0.001	66094212	500.0	521.4	
		Average of Peak Amounts =				519.0	
2	3.624	3.622	0.002	53923381	500.0	508.9	
2	4.074	4.075	-0.001	114033024	500.0	516.8	
2	4.218	4.219	-0.001	48674257	500.0	514.8	
2	4.448	4.449	-0.001	27058941	500.0	514.5	
2	4.738	4.735	0.003	38273081	500.0	510.3	
		Average of Peak Amounts =				513.1	
						RPD = 1.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.127	6.128	-0.001	97909264	500.0	509.3	
1	6.864	6.862	0.002	186563645	500.0	520.2	
1	7.357	7.355	0.002	88679482	500.0	505.3	
1	7.791	7.792	-0.001	188772221	500.0	494.9	
1	8.177	8.178	-0.001	106106770	500.0	500.0	
		Average of Peak Amounts =				505.9	
2	6.584	6.585	-0.001	91648253	500.0	529.0	
2	7.048	7.049	-0.001	141523542	500.0	534.5	
2	7.574	7.575	-0.001	65127986	500.0	521.8	
2	7.941	7.942	-0.001	145504268	500.0	526.6	
2	8.444	8.445	-0.001	109378420	500.0	528.4	
		Average of Peak Amounts =				528.0	
						RPD = 4.28	
$ 15 DCB Decachlorobiphenyl							
1	9.764	9.765	-0.001	101021969	25.0	25.0	
2	10.108	10.105	0.003	73697714	25.0	26.7	
						RPD = 6.63	
S 8 Polychlorinated biphenyls, Total							
1						1024.9	
2						1041.1	
						RPD = 1.56	
19 1260 Res 1							
1	8.177	8.178	-0.001	106106770	NR	NR	
16 1260 Res 2							
1	8.241	8.242	-0.001	39867351	NR	NR	
18 1260 Res 3							
1	8.301	8.302	-0.001	53241364	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

AR_1660_L5_00061	Amount Added:	1.00	Units: mL	
BNB IS_00008	Amount Added:	1.00	Units: mL	Run Reagent

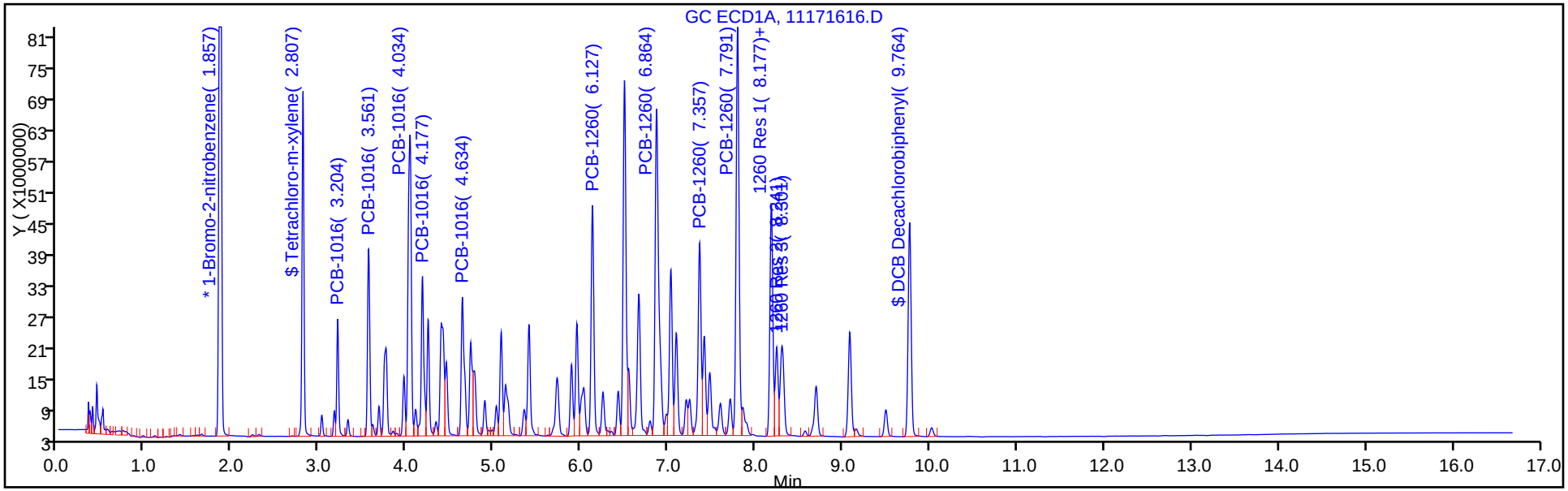
Report Date: 20-Nov-2016 07:52:26 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

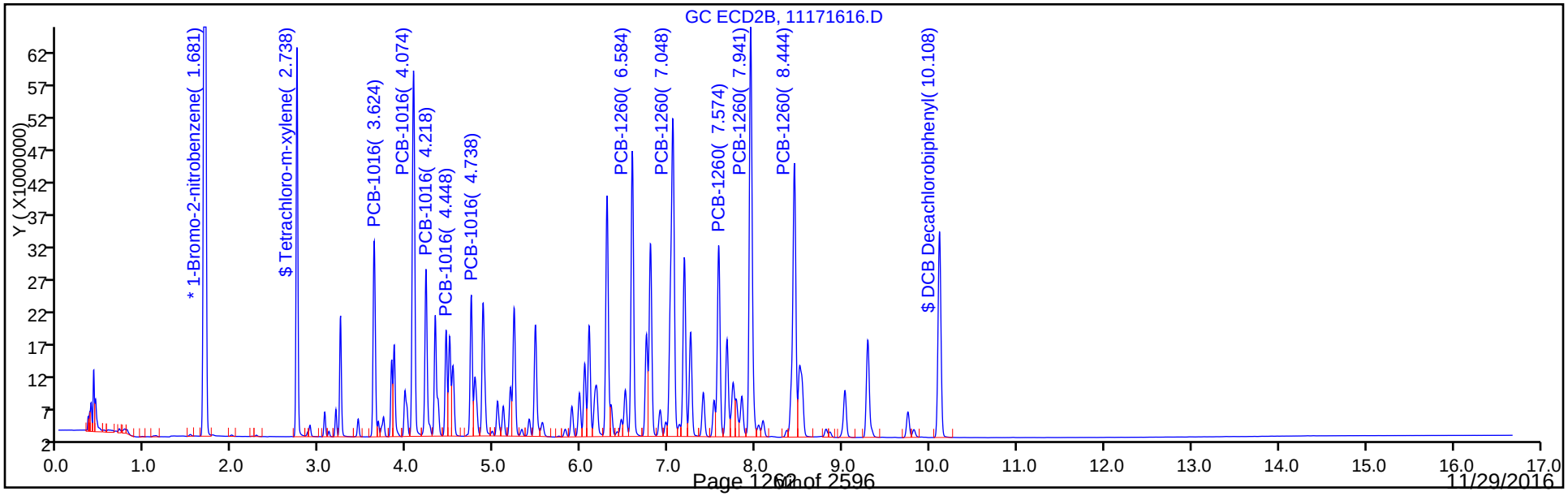
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Injection Date:	18-Nov-2016 05:43:38	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-350275/1-A

Matrix: Water | Lab File ID: 11151618.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 11/07/2016 22:14

Sample wt/vol: 1000(mL) | Date Analyzed: 11/15/2016 17:28

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351504 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.10	U	0.15	0.10	0.042
11104-28-2	PCB-1221	0.10	U	0.15	0.10	0.042
11141-16-5	PCB-1232	0.10	U	0.15	0.10	0.042
53469-21-9	PCB-1242	0.10	U	0.15	0.10	0.042
12672-29-6	PCB-1248	0.10	U	0.15	0.10	0.042
11097-69-1	PCB-1254	0.10	U	0.15	0.10	0.042
11096-82-5	PCB-1260	0.10	U	0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	48		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	94		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151618.D
Lims ID: MB 280-350275/1-A
Client ID:
Sample Type: MB
Inject. Date: 15-Nov-2016 17:28:12 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-350275/1-
Misc. Info.: 280-0053145-018
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:35:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.859	1.857	0.002	287569179	1000.0	1000.0	
2	1.683	1.680	0.003	243313471	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.806	2.807	-0.001	45668592	20.0	11.9	
2	2.739	2.737	0.002	33861437	20.0	9.57	
						RPD = 21.36	
3 PCB-1221							
1		3.023				ND	
1		3.166					
1		3.206					
2		3.056					
2		3.186					
2		3.240					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
7 PCB-1232							
1		3.193				ND	
1		3.547					
1		4.020					
1		4.163					
1		4.620					
2		3.234					
2		3.620					
2		4.070					
2		4.214					
2		4.870					
1 PCB-1016							
1		3.204				ND	
1		3.560					
1		4.037					
1		4.177					
1		4.637					
2		3.624					
2		4.077					
2		4.220					
2		4.450					
2		4.737					
10 PCB-1242							
1		3.562				ND	
1		4.035					
1		4.178					
1		5.135					
1		5.158					
2		3.625					
2		4.078					
2		4.218					
2		5.188					
2		5.235					
4 PCB-1248							
1		4.032				ND	
1		4.395					
1		4.635					
1		5.132					
1		5.159					
2		4.075					
2		4.739					
2		4.875					
2		5.189					
2		5.235					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1		5.403				ND	
1		5.736					
1		5.890					
1		6.250					
1		6.866					
2		5.476					
2		5.893					
2		6.043					
2		6.343					
2		7.056					
12 PCB-1260							
1		6.127				ND	
1		6.864					
1		7.357					
1		7.794					
1		8.180					
2		6.587					
2		7.050					
2		7.577					
2		7.944					
2		8.444					
5 PCB-1262							
1		6.480				ND	
1		7.010					
1		7.340					
1		7.777					
1		8.163					
2		6.580					
2		7.177					
2		7.570					
2		7.937					
2		8.437					
13 PCB-1268							
1		8.245				ND	
1		8.298					
1		8.572					
1		9.085					
1		9.498					
2		8.445					
2		8.505					
2		8.855					
2		9.288					
2		9.752					
$ 15 DCB Decachlorobiphenyl							
1	9.769	9.767	0.002	64666879	20.0	17.6	
2	10.109	10.110	-0.001	51238176	20.0	18.8	
						RPD = 6.61	
S 8 Polychlorinated biphenyls, Total							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
2 PCB-5460							
1		0.000				ND	
1		12.739					
1		0.000					
1		13.802					
1		14.259					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
6 PCB-5432							
1		7.063				ND	
1		7.693					
1		8.203					
1		9.029					
1		9.459					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
11 PCB-5442							
1		9.459				ND	
1		9.923					
1		10.079					
1		10.289					
1		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

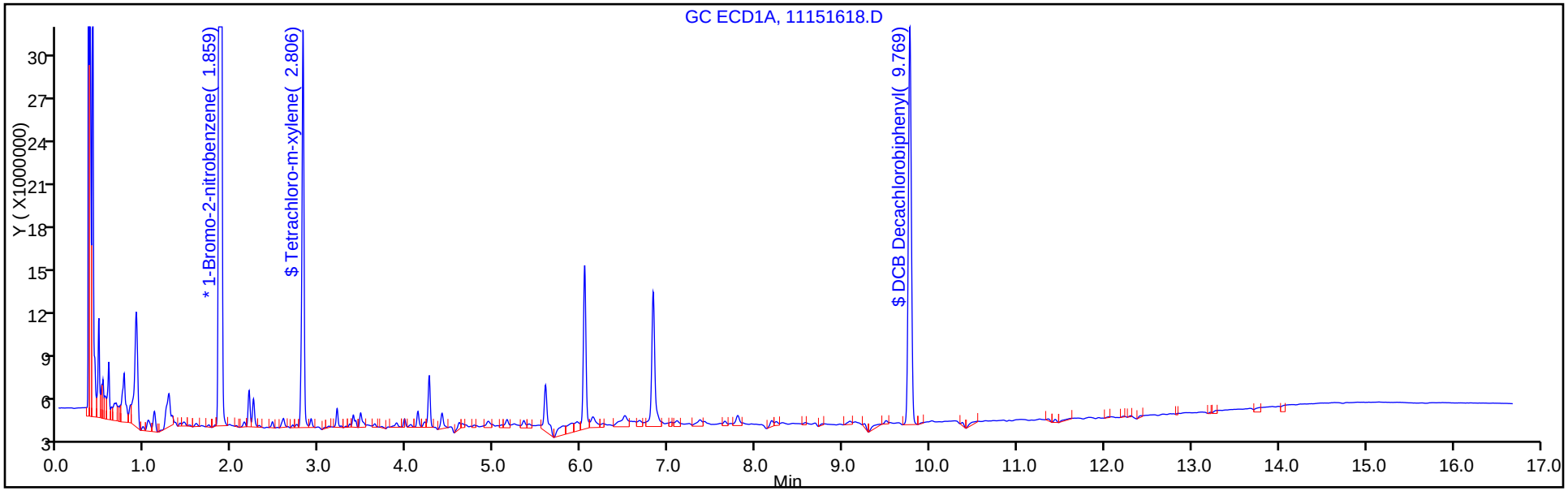
Report Date: 16-Nov-2016 06:57:43 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

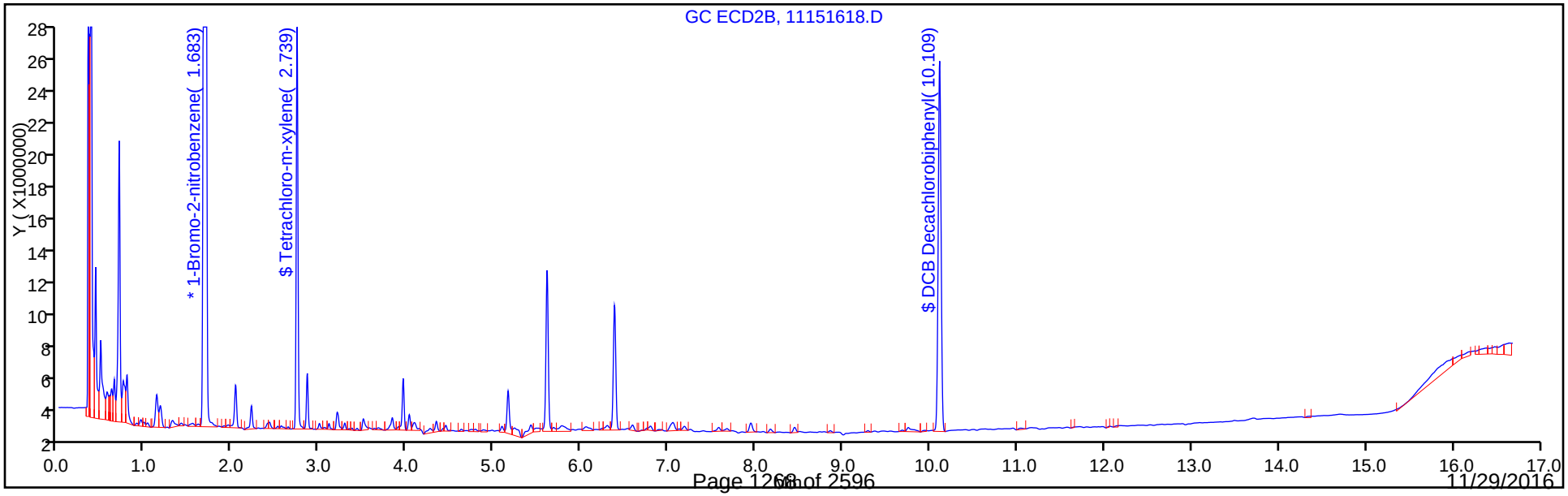
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151618.D

Injection Date:	15-Nov-2016 17:28:12	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	MB 280-350275/1-A			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151618.D				
Lims ID:	MB 280-350275/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	15-Nov-2016 17:28:12	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-350275/1-				
Misc. Info.:	280-0053145-018				
Operator ID:	jax	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	16-Nov-2016 06:57:39	Calib Date:	08-Oct-2016 23:55:59		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK032				
First Level Reviewer: jacksonto		Date:	16-Nov-2016 06:35:27		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	11.9	59.32
$ 15 DCB Decachlorobiphenyl	20.0	17.6	87.98

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	9.57	47.87
$ 15 DCB Decachlorobiphenyl	20.0	18.8	93.99

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-350443/1-A

Matrix: Water | Lab File ID: 11171602.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 11/08/2016 13:24

Sample wt/vol: 1000(mL) | Date Analyzed: 11/18/2016 00:40

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351983 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.10	U	0.15	0.10	0.042
11104-28-2	PCB-1221	0.10	U	0.15	0.10	0.042
11141-16-5	PCB-1232	0.10	U	0.15	0.10	0.042
53469-21-9	PCB-1242	0.10	U	0.15	0.10	0.042
12672-29-6	PCB-1248	0.10	U	0.15	0.10	0.042
11097-69-1	PCB-1254	0.10	U	0.15	0.10	0.042
11096-82-5	PCB-1260	0.10	U	0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	53		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171602.D
Lims ID: MB 280-350443/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Nov-2016 00:40:26 ALS Bottle#: 30 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-350443/1-A
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.856	1.859	-0.003	294092643	1000.0	1000.0	
2	1.679	1.682	-0.003	235134148	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.806	2.805	0.001	48404921	20.0	12.3	
2	2.739	2.739	0.000	36345871	20.0	10.7	
						RPD = 14.27	
3 PCB-1221							
1		3.023				ND	
1		3.166					
1		3.206					
2		3.056					
2		3.186					
2		3.240					
7 PCB-1232							
1		3.193				ND	
1		3.547					
1		4.020					
1		4.163					
1		4.620					
2		3.234					
2		3.620					
2		4.070					
2		4.214					
2		4.870					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
1 PCB-1016							
1		3.205				ND	
1		3.559					
1		4.035					
1		4.179					
1		4.635					
2		3.622					
2		4.075					
2		4.219					
2		4.449					
2		4.735					
10 PCB-1242							
1		3.562				ND	
1		4.035					
1		4.178					
1		5.135					
1		5.158					
2		3.625					
2		4.078					
2		4.218					
2		5.188					
2		5.235					
4 PCB-1248							
1		4.032				ND	
1		4.395					
1		4.635					
1		5.132					
1		5.159					
2		4.075					
2		4.739					
2		4.875					
2		5.189					
2		5.235					
9 PCB-1254							
1		5.403				ND	
1		5.736					
1		5.890					
1		6.250					
1		6.866					
2		5.476					
2		5.893					
2		6.043					
2		6.343					
2		7.056					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1		6.128				ND	
1		6.862					
1		7.355					
1		7.792					
1		8.178					
2		6.585					
2		7.049					
2		7.575					
2		7.942					
2		8.445					
5 PCB-1262							
1		6.480				ND	
1		7.010					
1		7.340					
1		7.777					
1		8.163					
2		6.580					
2		7.177					
2		7.570					
2		7.937					
2		8.437					
13 PCB-1268							
1		8.245				ND	
1		8.298					
1		8.572					
1		9.085					
1		9.498					
2		8.445					
2		8.505					
2		8.855					
2		9.288					
2		9.752					
$ 15 DCB Decachlorobiphenyl							
1	9.766	9.765	0.001	70708747	20.0	18.9	
2	10.106	10.105	0.001	52805179	20.0	20.1	
						RPD = 6.30	
S 8 Polychlorinated biphenyls, Total							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
2 PCB-5460							
1		0.000				ND	
1		12.739					
1		0.000					
1		13.802					
1		14.259					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
6 PCB-5432							
1		7.063				ND	
1		7.693					
1		8.203					
1		9.029					
1		9.459					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
11 PCB-5442							
1		9.459				ND	
1		9.923					
1		10.079					
1		10.289					
1		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

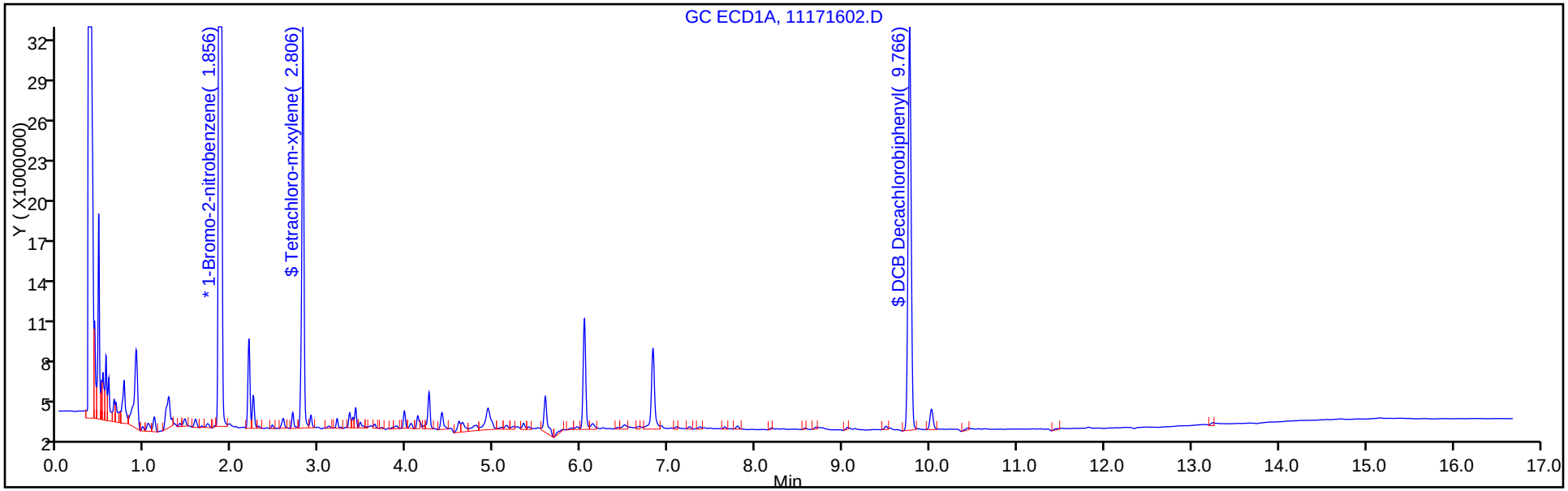
Report Date: 20-Nov-2016 07:51:50 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

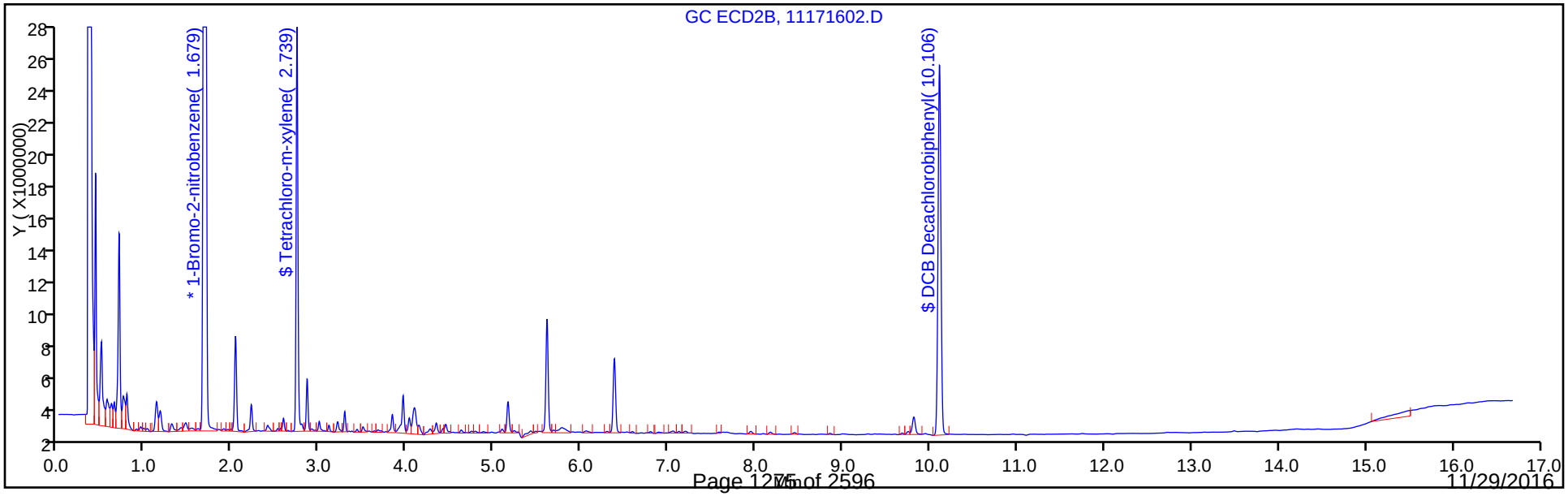
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171602.D

Injection Date:	18-Nov-2016 00:40:26	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	MB 280-350443/1-A			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171602.D
Lims ID: MB 280-350443/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Nov-2016 00:40:26 ALS Bottle#: 30 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-350443/1-A
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:23

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	12.3	61.59
$ 15 DCB Decachlorobiphenyl	20.0	18.9	94.26

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	10.7	53.38
$ 15 DCB Decachlorobiphenyl	20.0	20.1	100.39

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-350275/2-A

Matrix: Water | Lab File ID: 11151619.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 11/07/2016 22:14

Sample wt/vol: 1000(mL) | Date Analyzed: 11/15/2016 17:49

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351504 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.156		0.15	0.10	0.042
11096-82-5	PCB-1260	0.187		0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	48		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151619.D
Lims ID: LCS 280-350275/2-A
Client ID:
Sample Type: LCS
Inject. Date: 15-Nov-2016 17:49:57 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-350275/2
Misc. Info.: 280-0053145-019
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:36:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.859	1.857	0.002	290995218	1000.0	1000.0	
2	1.682	1.680	0.002	244178610	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.809	2.807	0.002	46859090	20.0	12.0	
2	2.739	2.737	0.002	33793510	20.0	9.52	
						RPD = 23.37	
1 PCB-1016							
1	3.205	3.204	0.001	10499097	200.0	159.1	
1	3.559	3.560	-0.001	19532589	200.0	157.3	
1	4.035	4.037	-0.002	43417484	200.0	160.7	
1	4.179	4.177	0.002	20204095	200.0	167.6	
1	4.635	4.637	-0.002	21543032	200.0	179.1	
		Average of Peak Amounts =				164.8	
2	3.625	3.624	0.001	16531209	200.0	147.3	
2	4.075	4.077	-0.002	37033511	200.0	163.4	
2	4.219	4.220	-0.001	14134265	200.0	144.5	
2	4.449	4.450	-0.001	8835769	200.0	163.5	
2	4.739	4.737	0.002	12390739	200.0	161.7	
		Average of Peak Amounts =				156.1	
						RPD = 5.42	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.129	6.127	0.002	31869124	200.0	174.4	
1	6.865	6.864	0.001	60044854	200.0	178.0	
1	7.359	7.357	0.002	32064436	200.0	195.9	
1	7.795	7.794	0.001	69597752	200.0	192.2	
1	8.182	8.180	0.002	35954901	200.0	180.2	
		Average of Peak Amounts =				184.1	
2	6.585	6.587	-0.002	30712760	200.0	173.5	
2	7.052	7.050	0.002	45573141	200.0	168.4	
2	7.579	7.577	0.002	25105837	200.0	199.0	
2	7.945	7.944	0.001	55731399	200.0	200.0	
2	8.445	8.444	0.001	40377434	200.0	193.5	
		Average of Peak Amounts =				186.9	
						RPD = 1.49	
$ 15 DCB Decachlorobiphenyl							
1	9.769	9.767	0.002	63270534	20.0	17.0	
2	10.109	10.110	-0.001	50318628	20.0	18.4	
						RPD = 7.86	

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

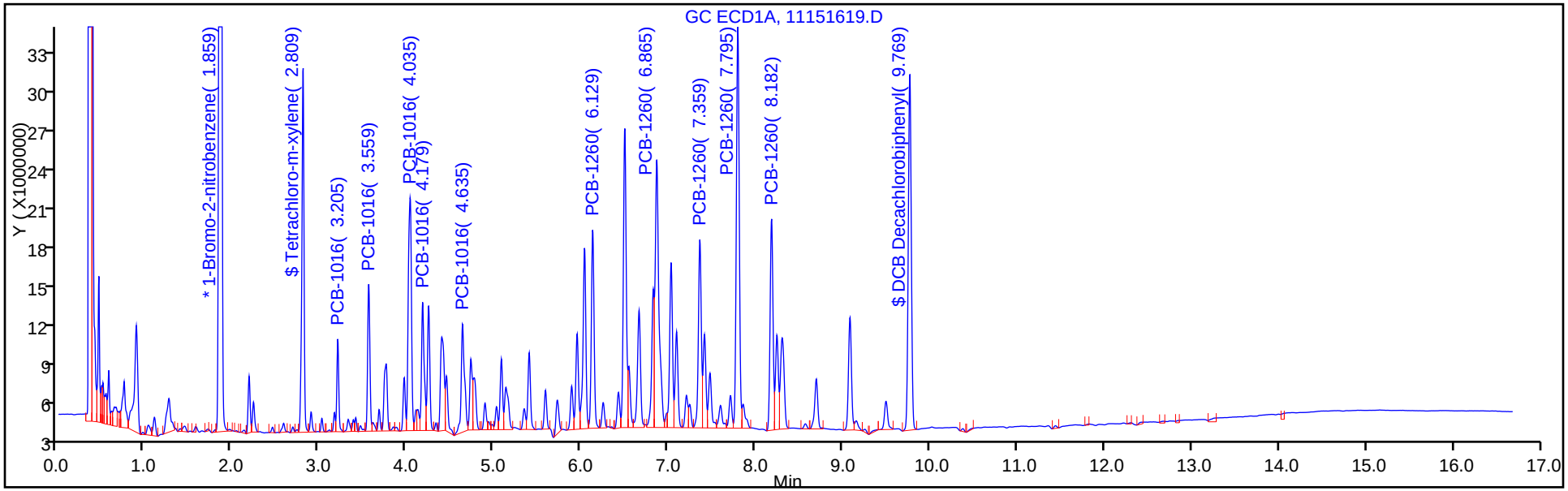
Report Date: 16-Nov-2016 06:57:46 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

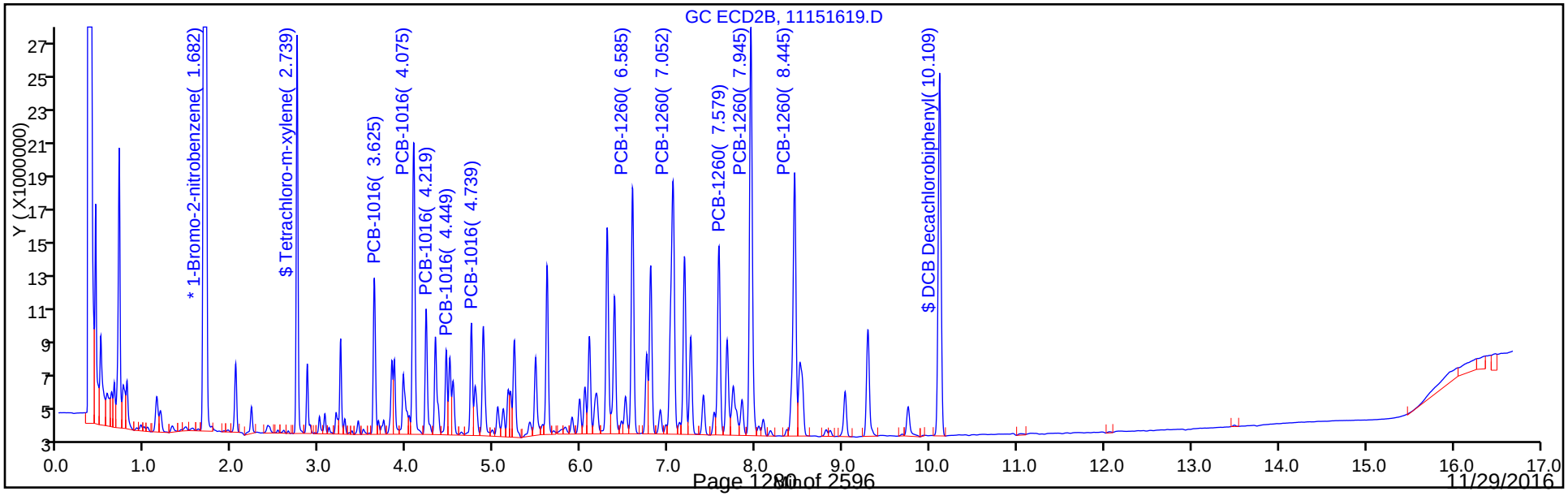
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151619.D

Injection Date:	15-Nov-2016 17:49:57	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	LCS 280-350275/2-A			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151619.D				
Lims ID:	LCS 280-350275/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	15-Nov-2016 17:49:57	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-350275/2				
Misc. Info.:	280-0053145-019				
Operator ID:	jax	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	16-Nov-2016 06:57:39	Calib Date:	08-Oct-2016 23:55:59		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK032				
First Level Reviewer: jacksonto		Date:	16-Nov-2016 06:36:12		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	12.0	60.19
$ 15 DCB Decachlorobiphenyl	20.0	17.0	84.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	9.52	47.60
$ 15 DCB Decachlorobiphenyl	20.0	18.4	91.92

Report Date: 16-Nov-2016 06:57:46 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151619.D

Injection Date: 15-Nov-2016 17:49:57 Instrument ID: SGC_P3

Lims ID: LCS 280-350275/2-A

Client ID:

Operator ID: jax ALS Bottle#: 19 Worklist Smp#: 19

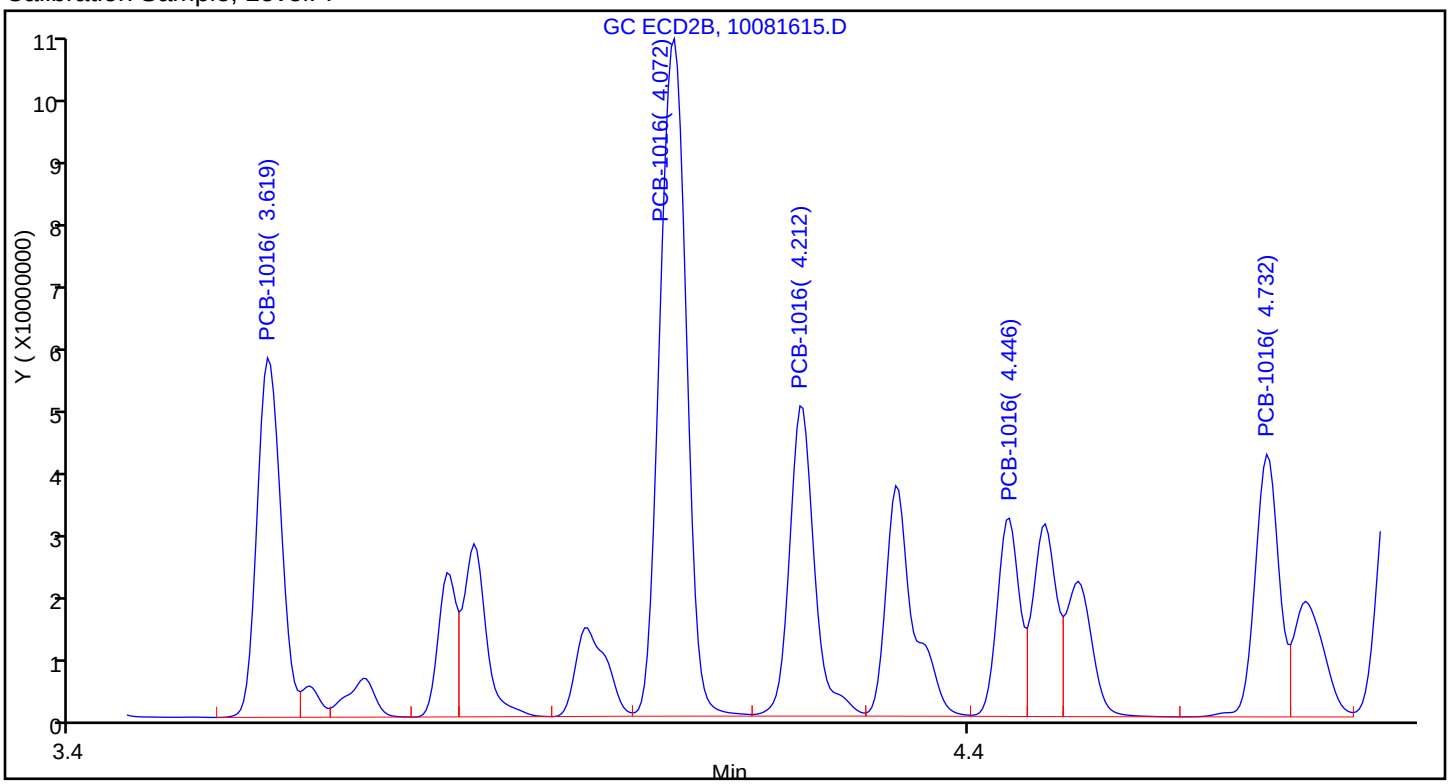
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

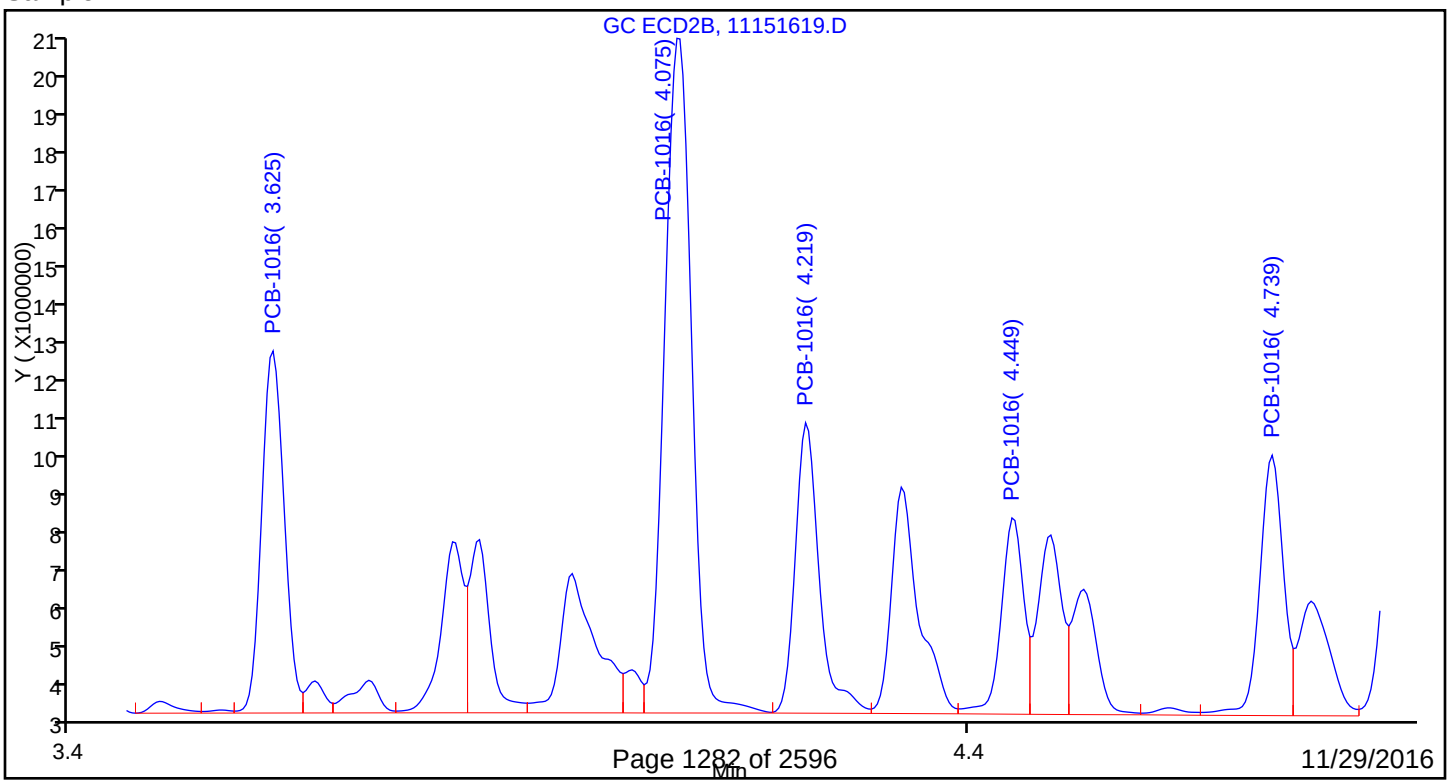
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 16-Nov-2016 06:57:46 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151619.D

Injection Date: 15-Nov-2016 17:49:57 Instrument ID: SGC_P3

Lims ID: LCS 280-350275/2-A

Client ID:

Operator ID: jax ALS Bottle#: 19 Worklist Smp#: 19

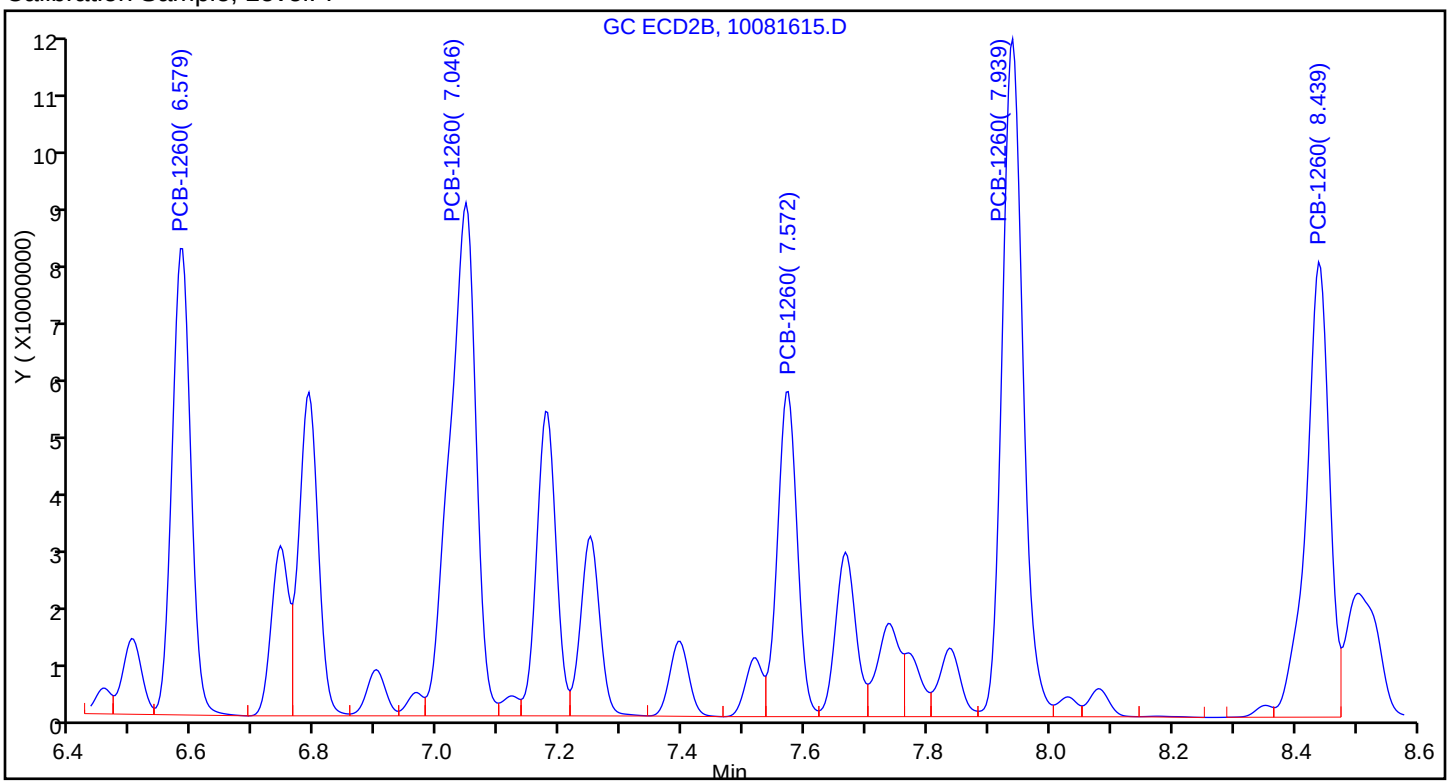
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

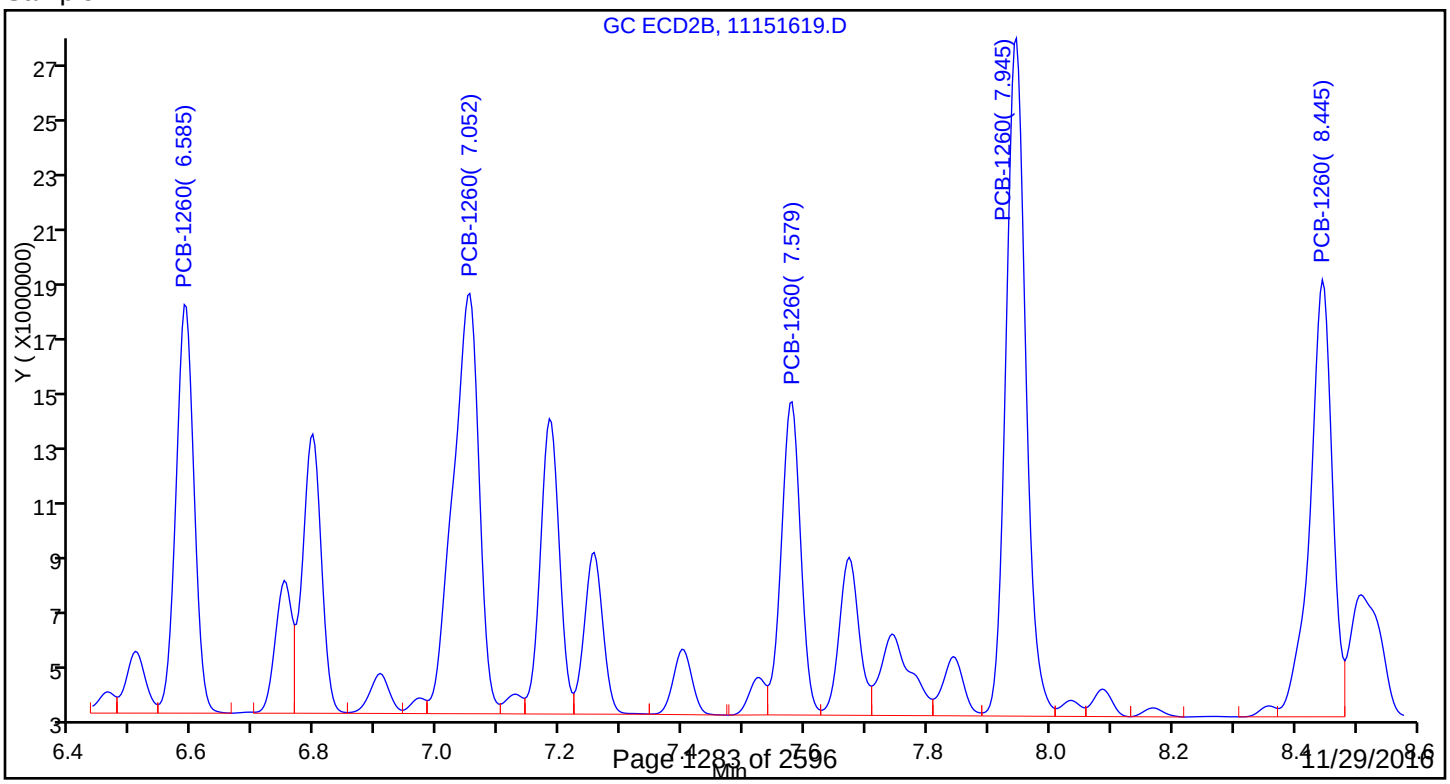
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-350443/2-A

Matrix: Water | Lab File ID: 11171603.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 11/08/2016 13:24

Sample wt/vol: 1000(mL) | Date Analyzed: 11/18/2016 01:02

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351983 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.167		0.15	0.10	0.042
11096-82-5	PCB-1260	0.205		0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	53		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	104		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171603.D
Lims ID: LCS 280-350443/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Nov-2016 01:02:05 ALS Bottle#: 31 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-350443/2-A
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.856	1.859	-0.003	288845076	1000.0	1000.0	
2	1.680	1.682	-0.002	231316872	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.806	2.805	0.001	48818626	20.0	12.7	
2	2.740	2.739	0.001	35783795	20.0	10.7	
						RPD = 16.95	
1 PCB-1016							
1	3.203	3.205	-0.002	12978312	200.0	201.7	
1	3.560	3.559	0.001	21175330	200.0	173.4	
1	4.036	4.035	0.001	46783299	200.0	175.4	
1	4.176	4.179	-0.003	22837289	200.0	192.6	
1	4.636	4.635	0.001	23916200	200.0	201.7	
		Average of Peak Amounts =				188.9	
2	3.623	3.622	0.001	15845982	200.0	149.3	
2	4.076	4.075	0.001	39797493	200.0	186.8	
2	4.220	4.219	0.001	13022948	200.0	140.2	
2	4.450	4.449	0.001	9303050	200.0	182.9	
2	4.736	4.735	0.001	12824082	200.0	177.5	
		Average of Peak Amounts =				167.3	
						RPD = 12.13	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.126	6.128	-0.002	32699351	200.0	180.7	
1	6.863	6.862	0.001	64216985	200.0	192.4	
1	7.356	7.355	0.001	34079881	200.0	210.3	
1	7.793	7.792	0.001	75162233	200.0	210.3	
1	8.180	8.178	0.002	41230071	200.0	209.5	
		Average of Peak Amounts =				200.6	
2	6.583	6.585	-0.002	30401019	200.0	181.7	
2	7.050	7.049	0.001	45850798	200.0	179.4	
2	7.576	7.575	0.001	26028148	200.0	218.6	
2	7.943	7.942	0.001	58511617	200.0	222.5	
2	8.443	8.445	-0.002	43545851	200.0	221.3	
		Average of Peak Amounts =				204.7	
						RPD = 2.02	
$ 15 DCB Decachlorobiphenyl							
1	9.766	9.765	0.001	74274897	20.0	20.2	
2	10.106	10.105	0.001	53890054	20.0	20.8	
						RPD = 3.13	

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

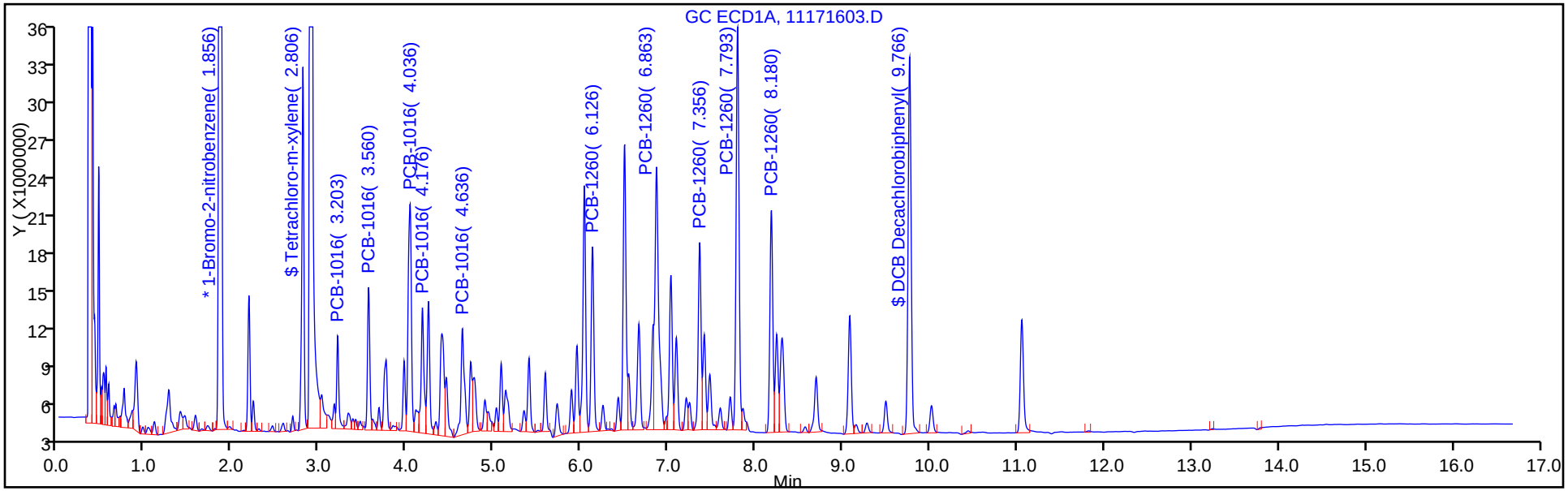
Report Date: 20-Nov-2016 07:51:53 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

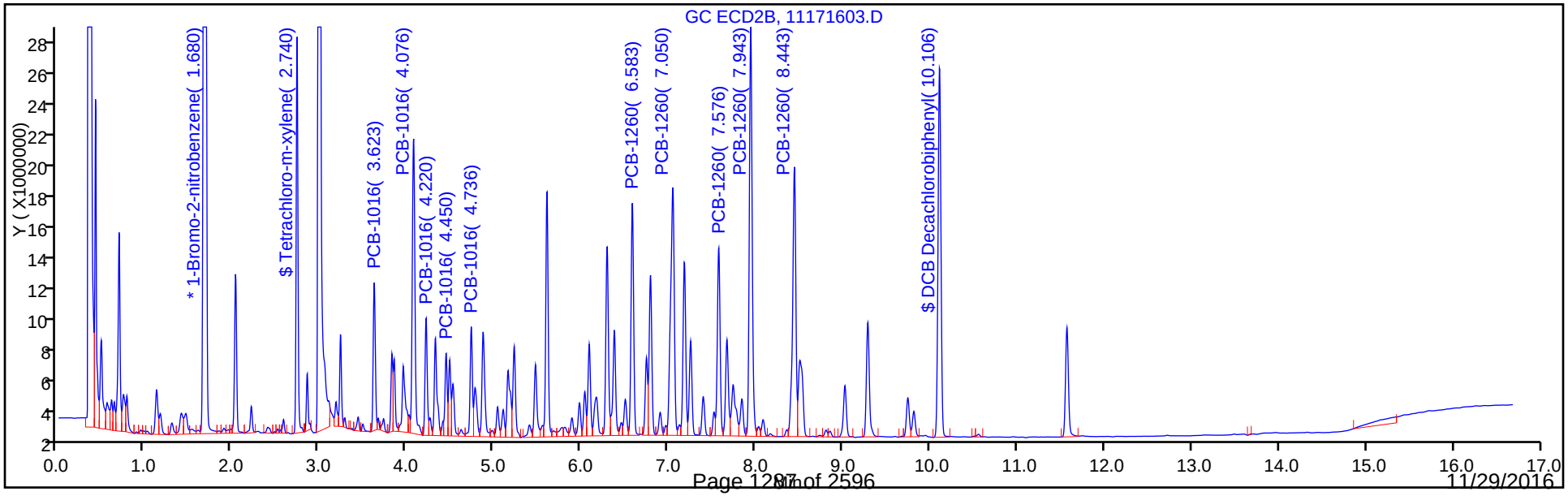
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171603.D

Injection Date:	18-Nov-2016 01:02:05	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	LCS 280-350443/2-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171603.D
Lims ID: LCS 280-350443/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Nov-2016 01:02:05 ALS Bottle#: 31 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-350443/2-A
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 20-Nov-2016 07:51:45 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK023

First Level Reviewer: jacksonto Date: 18-Nov-2016 06:55:32

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	12.7	63.32
$ 15 DCB Decachlorobiphenyl	20.0	20.2	101.02

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	10.7	53.43
$ 15 DCB Decachlorobiphenyl	20.0	20.8	104.23

Report Date: 20-Nov-2016 07:51:53 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171603.D

Injection Date: 18-Nov-2016 01:02:05 Instrument ID: SGC_P3

Lims ID: LCS 280-350443/2-A

Client ID:

Operator ID: jax ALS Bottle#: 31 Worklist Smp#: 3

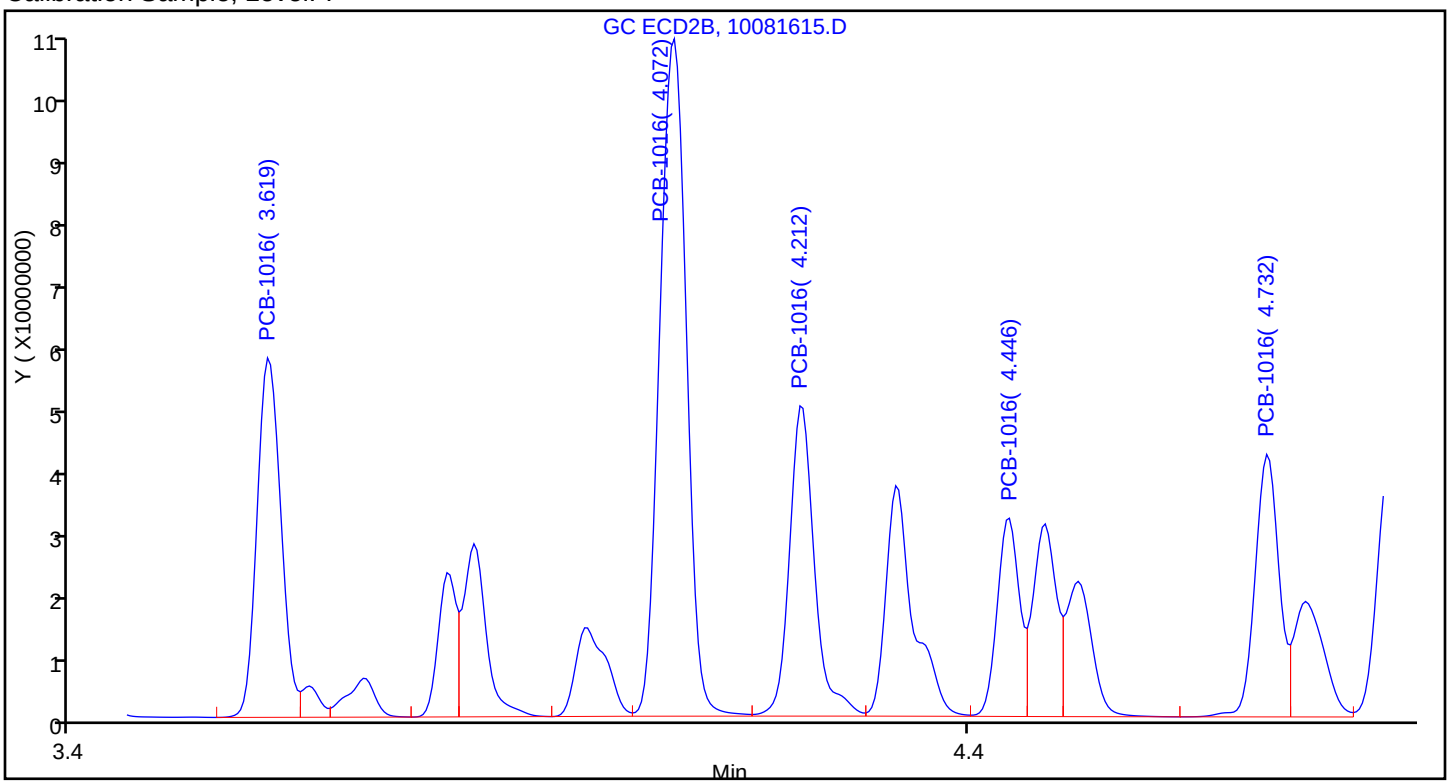
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

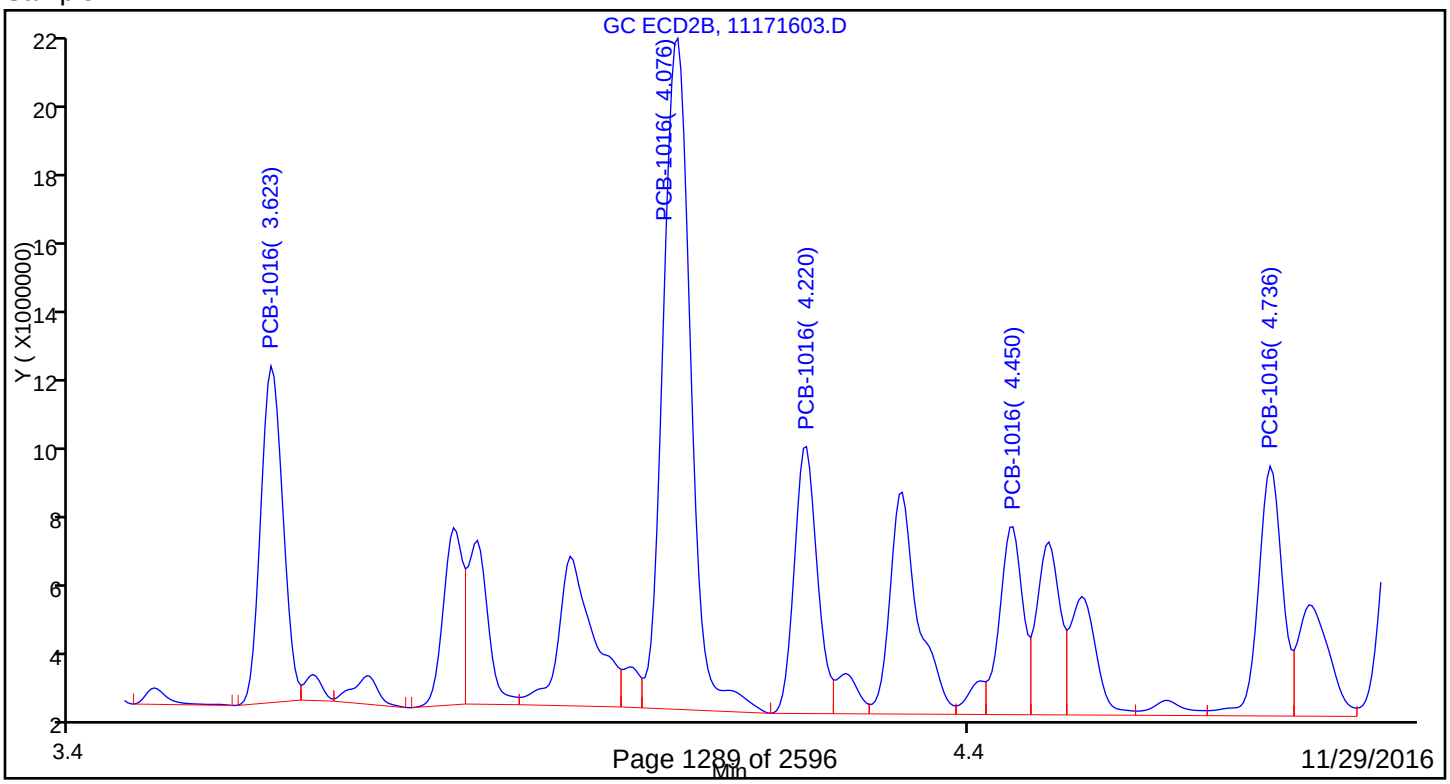
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 20-Nov-2016 07:51:53 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161117-53268.b\11171603.D

Injection Date: 18-Nov-2016 01:02:05 Instrument ID: SGC_P3

Lims ID: LCS 280-350443/2-A

Client ID:

Operator ID: jax ALS Bottle#: 31 Worklist Smp#: 3

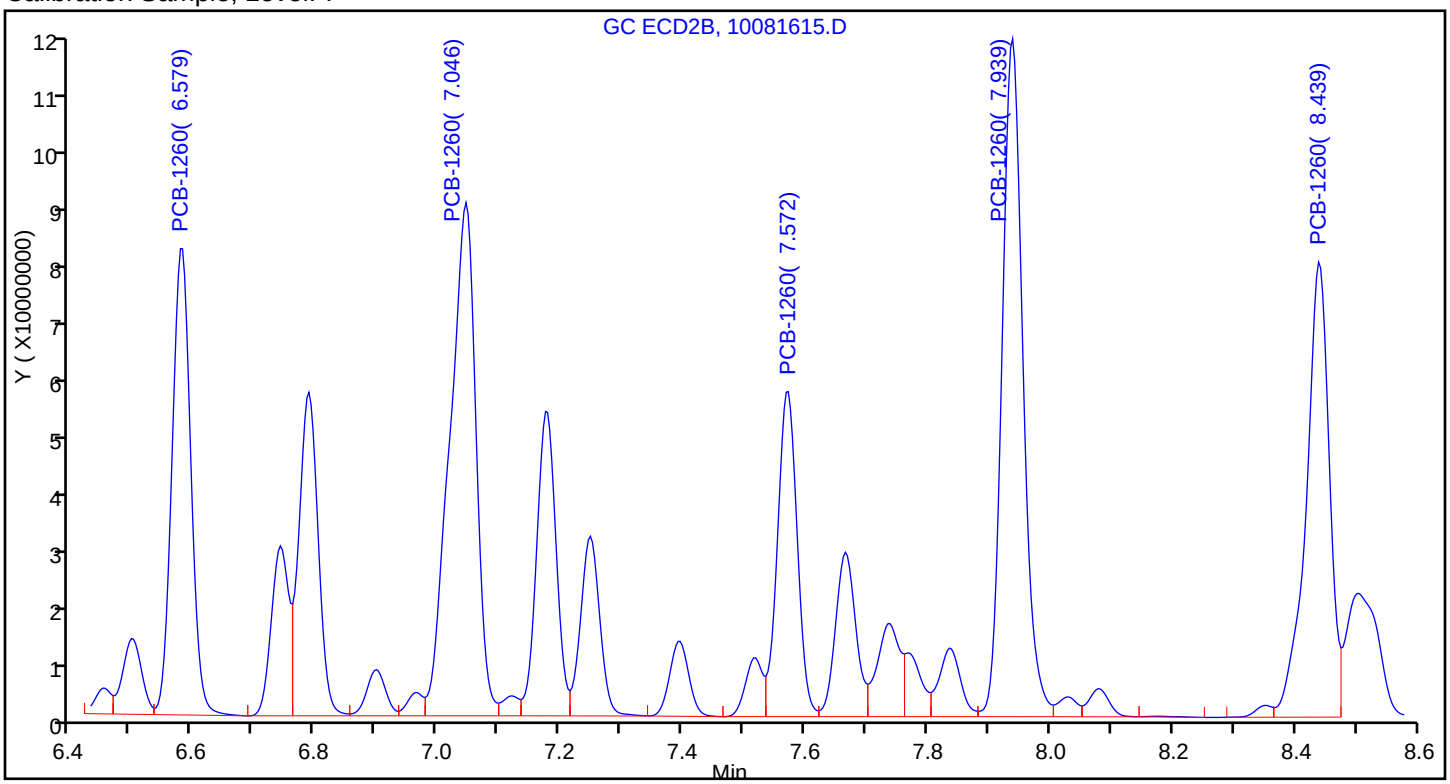
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

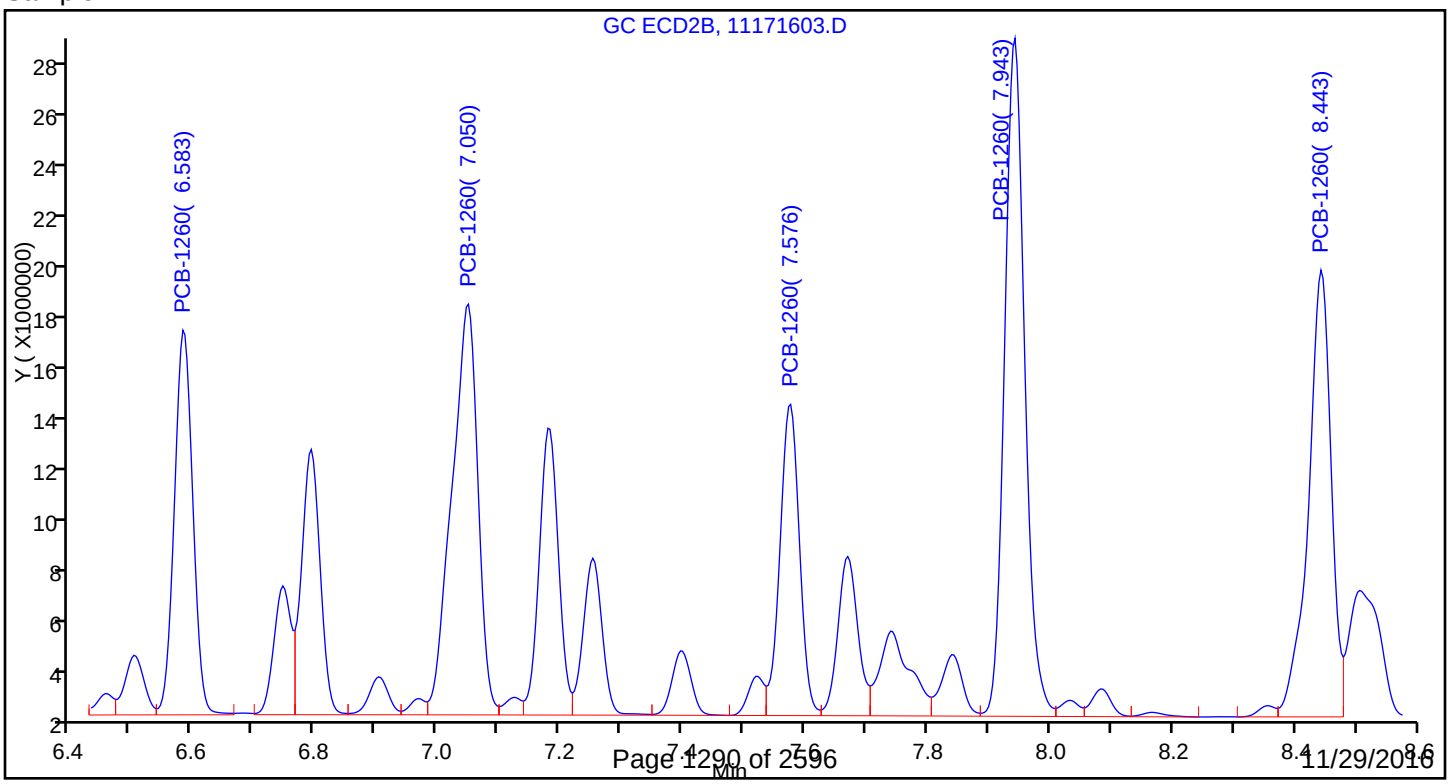
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-350275/3-A

Matrix: Water | Lab File ID: 11151620.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 11/07/2016 22:14

Sample wt/vol: 1000(mL) | Date Analyzed: 11/15/2016 18:11

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351504 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.160		0.15	0.10	0.042
11096-82-5	PCB-1260	0.219		0.15	0.10	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	34		20-143
2051-24-3	DCB Decachlorobiphenyl (Surr)	109		36-140

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151620.D
Lims ID: LCSD 280-350275/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 15-Nov-2016 18:11:41 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-350275/
Misc. Info.: 280-0053145-020
Operator ID: jax Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 16-Nov-2016 06:57:39 Calib Date: 08-Oct-2016 23:55:59
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: XAWRK032

First Level Reviewer: jacksonto Date: 16-Nov-2016 06:37:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	1.857	1.857	0.000	277295473	1000.0	1000.0	
2	1.681	1.680	0.001	233070907	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.807	2.807	0.000	31035392	20.0	8.19	
2	2.737	2.737	0.000	23291461	20.0	6.77	
						RPD = 18.98	
1 PCB-1016							
1	3.204	3.204	0.000	9515890	200.0	150.6	
1	3.561	3.560	0.001	18861828	200.0	159.7	
1	4.037	4.037	0.000	43018539	200.0	167.6	
1	4.177	4.177	0.000	19675176	200.0	171.5	
1	4.637	4.637	0.000	20638403	200.0	180.2	
		Average of Peak Amounts =				165.9	
2	3.624	3.624	0.000	15681380	200.0	146.3	
2	4.077	4.077	0.000	36400890	200.0	168.6	
2	4.221	4.220	0.001	14785157	200.0	159.3	
2	4.451	4.450	0.001	8299708	200.0	160.7	
2	4.737	4.737	0.000	12211938	200.0	167.2	
		Average of Peak Amounts =				160.4	
						RPD = 3.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.131	6.127	0.004	33614813	200.0	194.3	
1	6.864	6.864	0.000	61145451	200.0	190.8	M
1	7.361	7.357	0.004	35929914	200.0	231.6	
1	7.794	7.794	0.000	77114854	200.0	225.6	
1	8.181	8.180	0.001	41626252	200.0	220.8	
		Average of Peak Amounts =				212.6	
2	6.587	6.587	0.000	33701662	200.0	200.9	
2	7.051	7.050	0.001	50091853	200.0	195.3	
2	7.577	7.577	0.000	27778610	200.0	232.0	
2	7.944	7.944	0.000	62273453	200.0	235.4	
2	8.444	8.444	0.000	45942190	200.0	232.1	
		Average of Peak Amounts =				219.2	
						RPD = 3.04	
$ 15 DCB Decachlorobiphenyl							
1	9.767	9.767	0.000	70686013	20.0	20.0	
2	10.111	10.110	0.001	56487028	20.0	21.7	
						RPD = 8.07	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

BNB IS_00008 Amount Added: 1.00 Units: mL Run Reagent

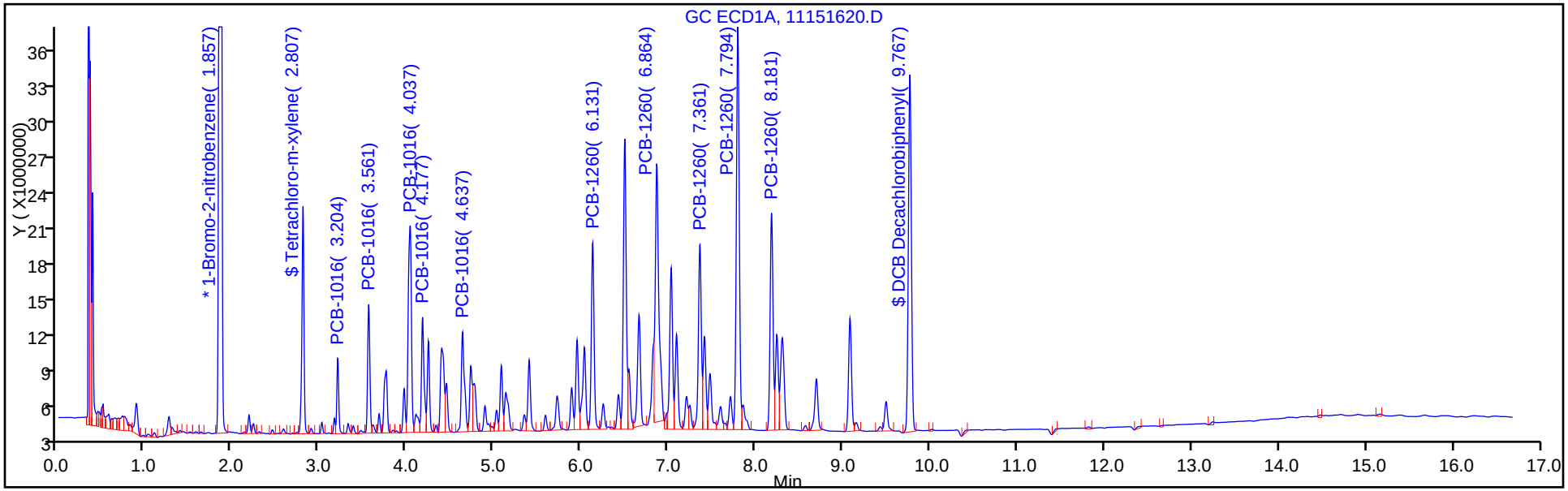
Report Date: 16-Nov-2016 06:57:48 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

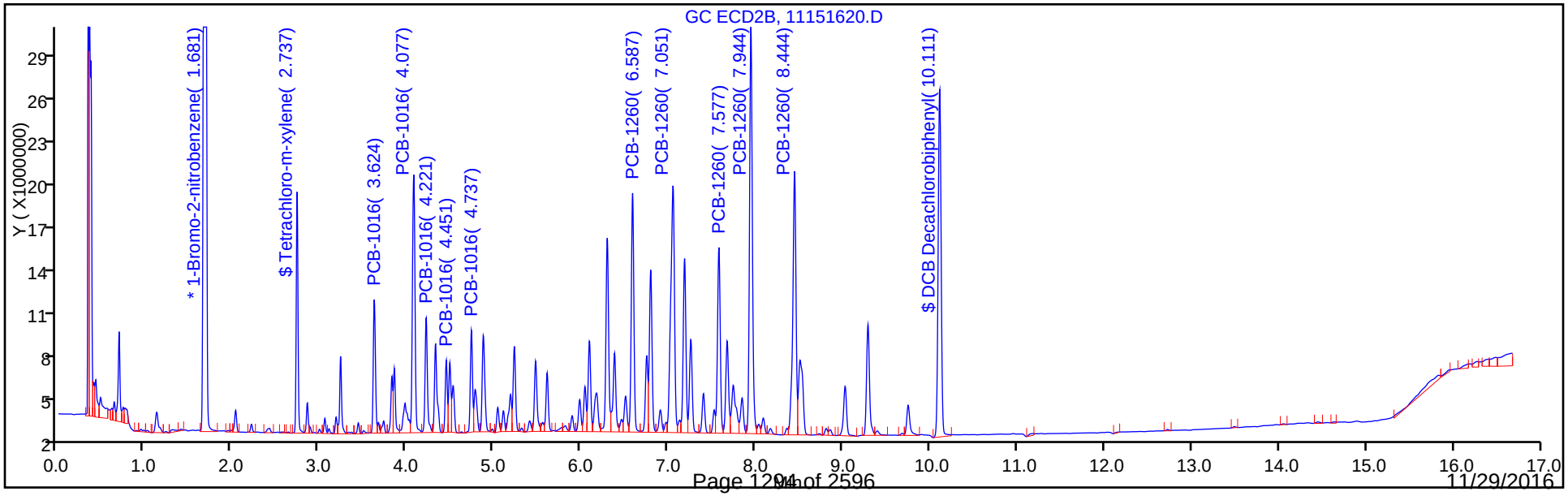
Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151620.D

Injection Date:	15-Nov-2016 18:11:41	Instrument ID:	SGC_P3	Operator ID:	jax
Lims ID:	LCSD 280-350275/3-A			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	PCB_P3	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151620.D				
Lims ID:	LCSD 280-350275/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	15-Nov-2016 18:11:41	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-350275/				
Misc. Info.:	280-0053145-020				
Operator ID:	jax	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	16-Nov-2016 06:57:39	Calib Date:	08-Oct-2016 23:55:59		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20161006-51591.b\10081635.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	XAWRK032				
First Level Reviewer: jacksonto		Date:	16-Nov-2016 06:37:23		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	8.19	40.94
$ 15 DCB Decachlorobiphenyl	20.0	20.0	100.12

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	6.77	33.85
$ 15 DCB Decachlorobiphenyl	20.0	21.7	108.53

Report Date: 16-Nov-2016 06:57:48 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151620.D

Injection Date: 15-Nov-2016 18:11:41 Instrument ID: SGC_P3

Lims ID: LCSD 280-350275/3-A

Client ID:

Operator ID: jax ALS Bottle#: 20 Worklist Smp#: 20

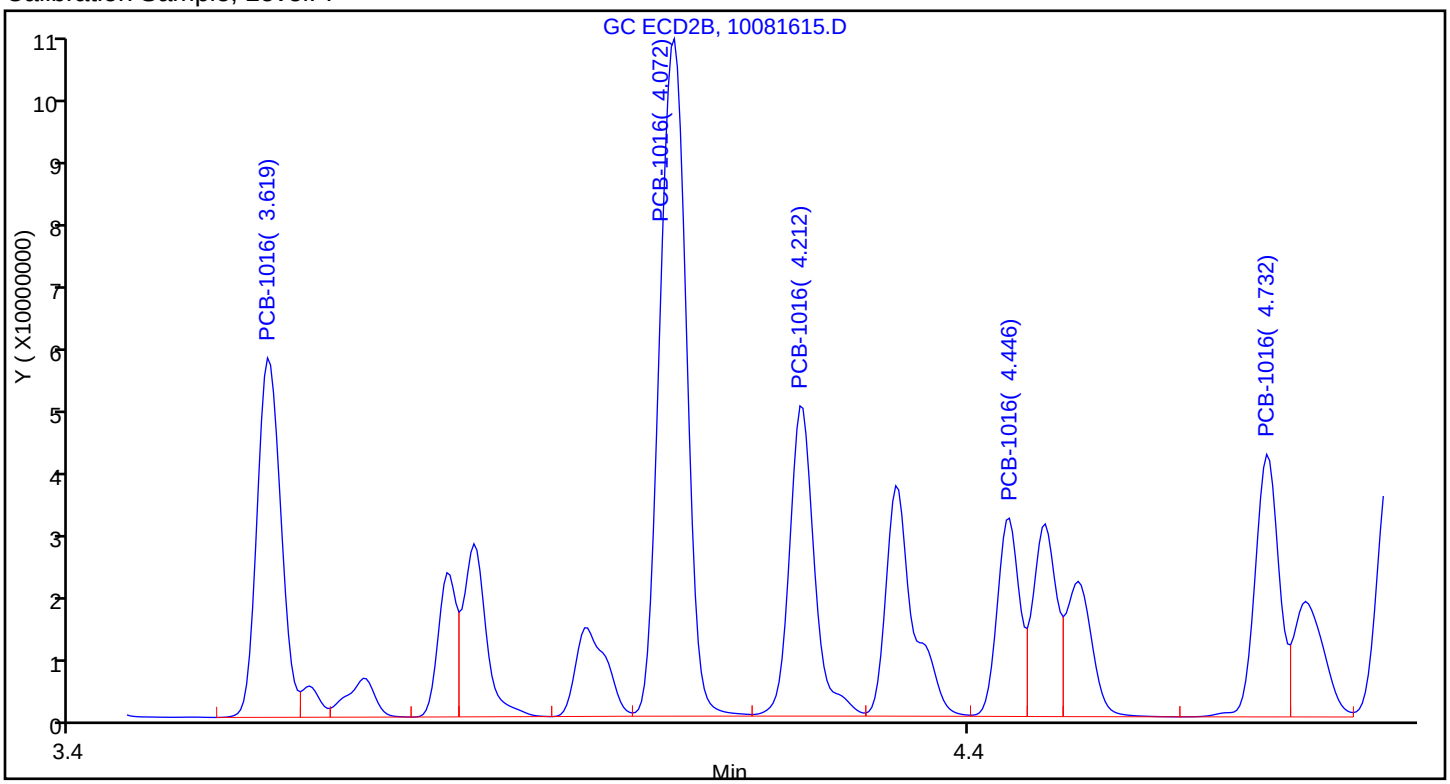
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

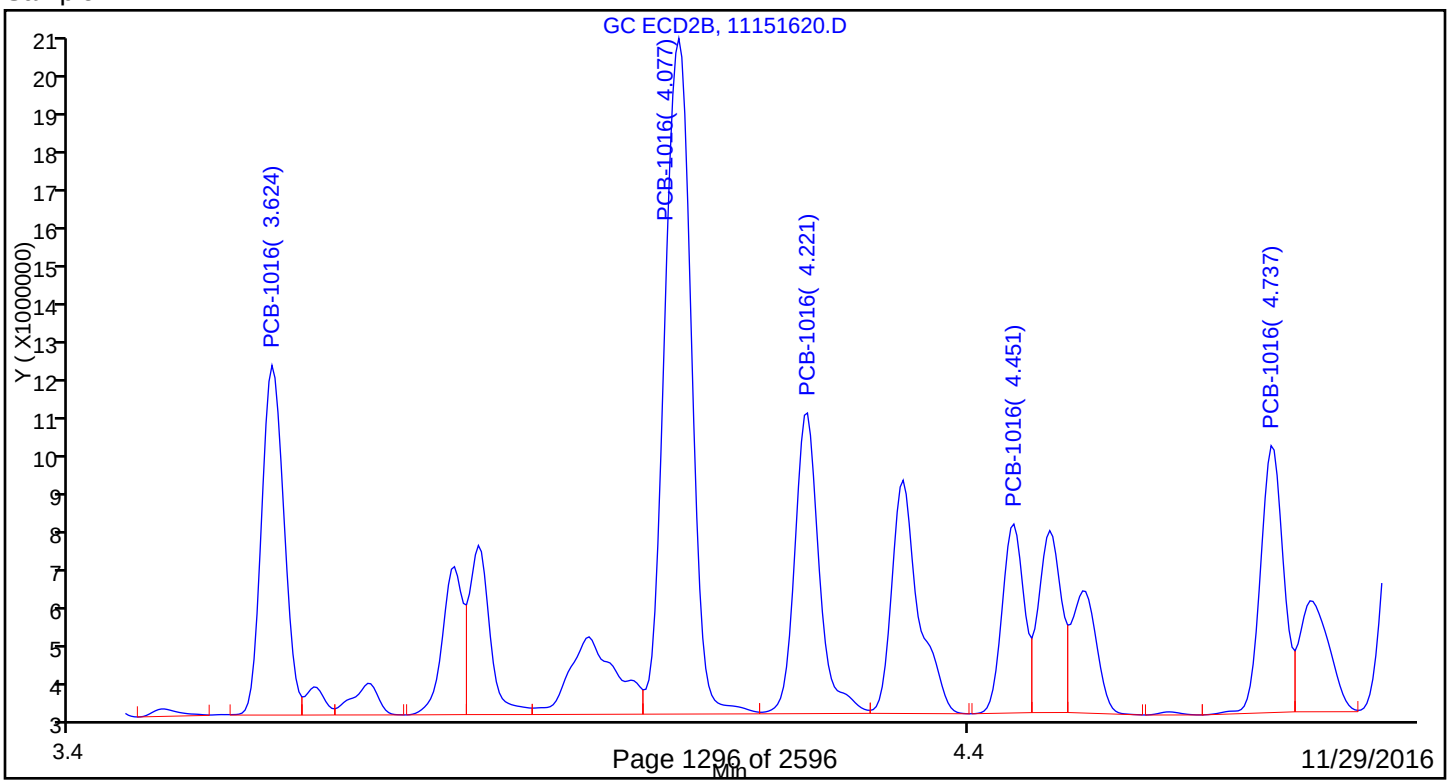
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 16-Nov-2016 06:57:48 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20161115-53145.b\11151620.D

Injection Date: 15-Nov-2016 18:11:41 Instrument ID: SGC_P3

Lims ID: LCSD 280-350275/3-A

Client ID:

Operator ID: jax ALS Bottle#: 20 Worklist Smp#: 20

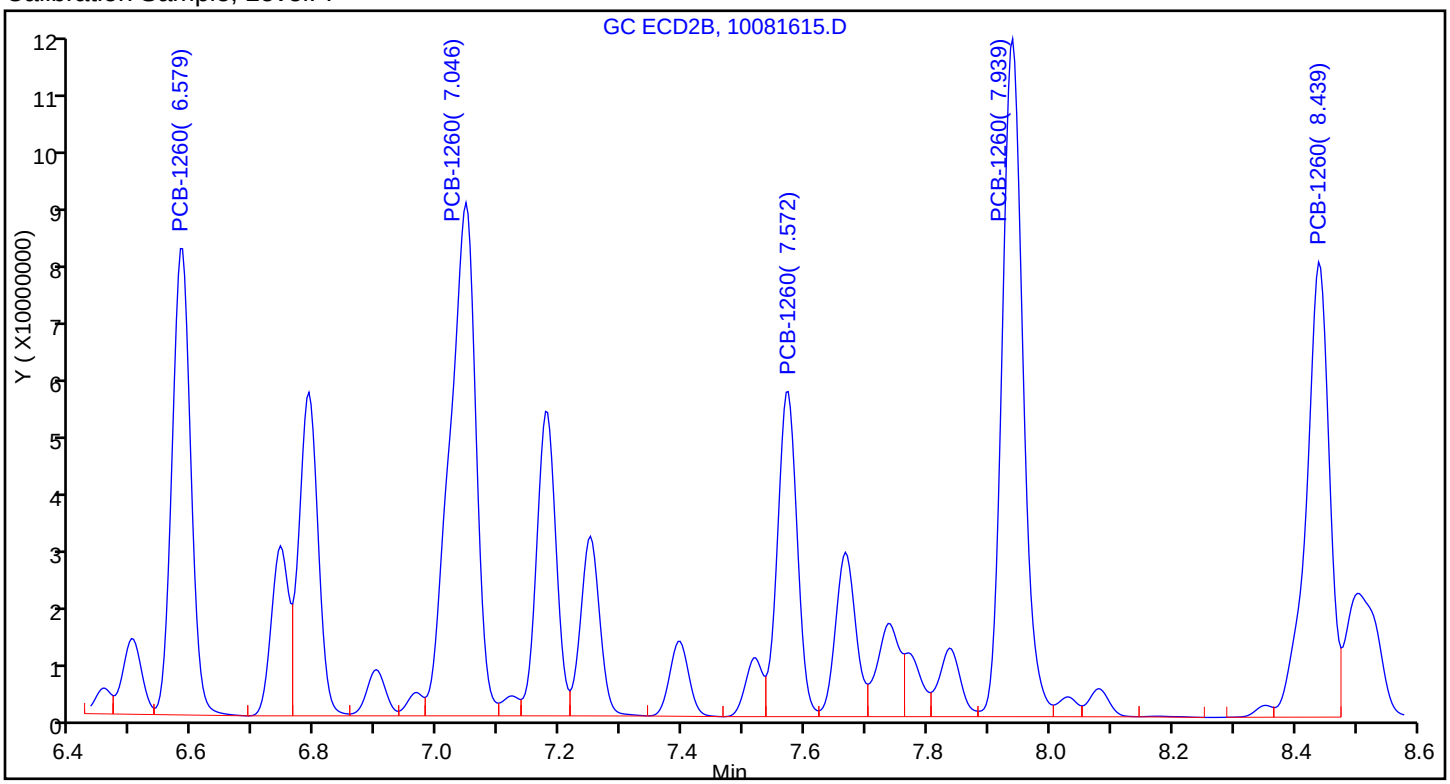
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_P3 Limit Group: GCSV - 8082 - IS

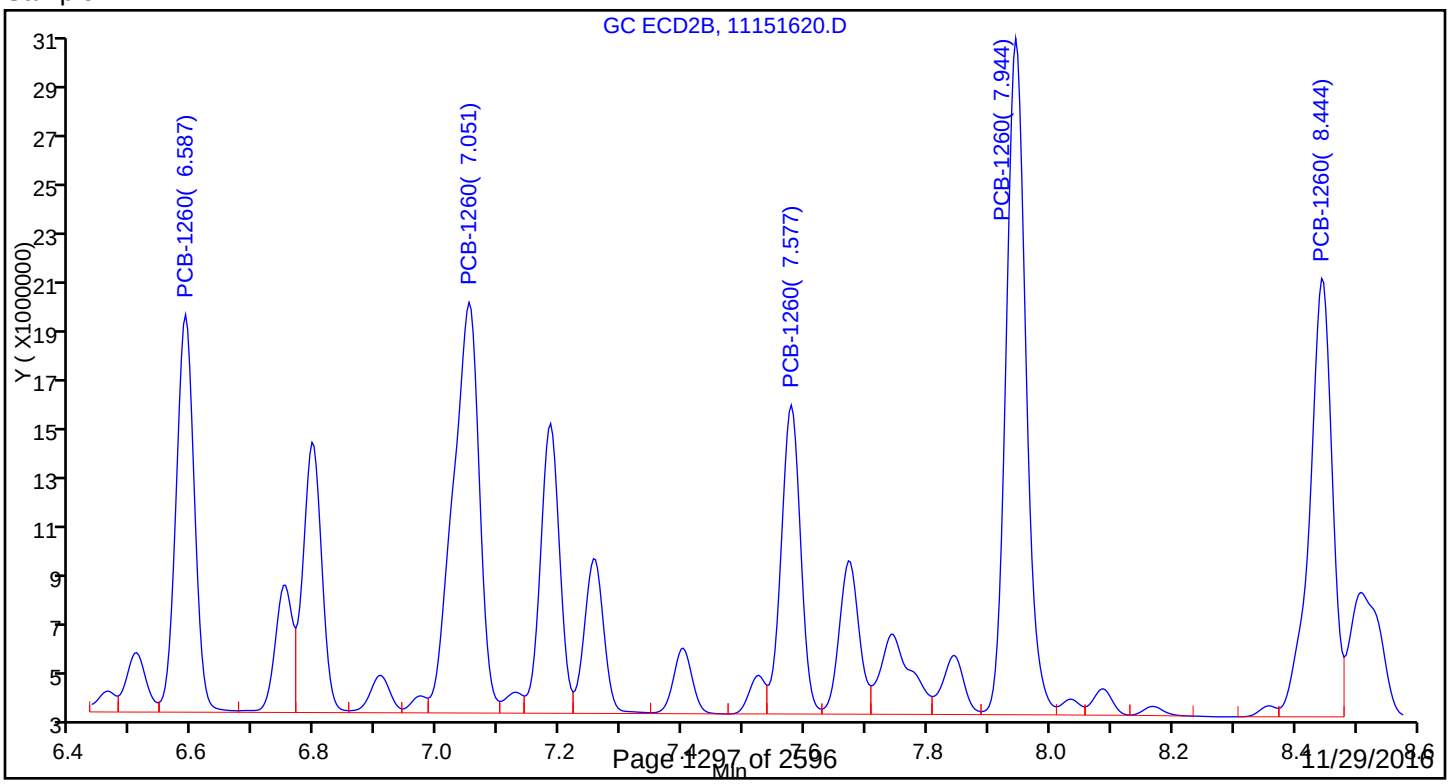
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 10/08/2016 11:39

Analysis Batch Number: 345281 End Date: 10/09/2016 02:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL71248 280-345281/1 IC		10/08/2016 11:39	1	10081601.D	CLP1 0.32(mm)
STDL71248 280-345281/1 IC		10/08/2016 11:39	1	10081601.D	CLP2 0.32(mm)
STDL61248 280-345281/2 IC		10/08/2016 12:01	1	10081602.D	CLP1 0.32(mm)
STDL61248 280-345281/2 IC		10/08/2016 12:01	1	10081602.D	CLP2 0.32(mm)
STDL51248 280-345281/3 IC		10/08/2016 12:22	1	10081603.D	CLP1 0.32(mm)
STDL51248 280-345281/3 IC		10/08/2016 12:22	1	10081603.D	CLP2 0.32(mm)
STDL41248 280-345281/4 IC		10/08/2016 12:44	1	10081604.D	CLP1 0.32(mm)
STDL41248 280-345281/4 IC		10/08/2016 12:44	1	10081604.D	CLP2 0.32(mm)
STDL31248 280-345281/5 IC		10/08/2016 13:06	1	10081605.D	CLP1 0.32(mm)
STDL31248 280-345281/5 IC		10/08/2016 13:06	1	10081605.D	CLP2 0.32(mm)
STDL21248 280-345281/6 IC		10/08/2016 13:27	1	10081606.D	CLP1 0.32(mm)
STDL21248 280-345281/6 IC		10/08/2016 13:27	1	10081606.D	CLP2 0.32(mm)
STDL11248 280-345281/7 IC		10/08/2016 13:49	1	10081607.D	CLP1 0.32(mm)
STDL11248 280-345281/7 IC		10/08/2016 13:49	1	10081607.D	CLP2 0.32(mm)
STDL72154 280-345281/8 IC		10/08/2016 14:11	1	10081608.D	CLP1 0.32(mm)
STDL72154 280-345281/8 IC		10/08/2016 14:11	1	10081608.D	CLP2 0.32(mm)
STDL62154 280-345281/9 IC		10/08/2016 14:32	1	10081609.D	CLP1 0.32(mm)
STDL62154 280-345281/9 IC		10/08/2016 14:32	1	10081609.D	CLP2 0.32(mm)
STDL52154 280-345281/10 IC		10/08/2016 14:54	1	10081610.D	CLP1 0.32(mm)
STDL52154 280-345281/10 IC		10/08/2016 14:54	1	10081610.D	CLP2 0.32(mm)
STDL42154 280-345281/11 IC		10/08/2016 15:16	1	10081611.D	CLP1 0.32(mm)
STDL42154 280-345281/11 IC		10/08/2016 15:16	1	10081611.D	CLP2 0.32(mm)
STDL32154 280-345281/12 IC		10/08/2016 15:37	1	10081612.D	CLP1 0.32(mm)
STDL32154 280-345281/12 IC		10/08/2016 15:37	1	10081612.D	CLP2 0.32(mm)
STDL22154 280-345281/13 IC		10/08/2016 15:59	1	10081613.D	CLP1 0.32(mm)
STDL22154 280-345281/13 IC		10/08/2016 15:59	1	10081613.D	CLP2 0.32(mm)
STDL12154 280-345281/14 IC		10/08/2016 16:21	1	10081614.D	CLP1 0.32(mm)
STDL12154 280-345281/14 IC		10/08/2016 16:21	1	10081614.D	CLP2 0.32(mm)
STDL71660 280-345281/15 IC		10/08/2016 16:42	1	10081615.D	CLP1 0.32(mm)
STDL71660 280-345281/15 IC		10/08/2016 16:42	1	10081615.D	CLP2 0.32(mm)
STDL61660 280-345281/16 IC		10/08/2016 17:04	1	10081616.D	CLP1 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 10/08/2016 11:39

Analysis Batch Number: 345281 End Date: 10/09/2016 02:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL61660 280-345281/16 IC		10/08/2016 17:04	1	10081616.D	CLP2 0.32(mm)
STDL51660 280-345281/17 ICIS		10/08/2016 17:26	1	10081617.D	CLP1 0.32(mm)
STDL51660 280-345281/17 ICIS		10/08/2016 17:26	1	10081617.D	CLP2 0.32(mm)
STDL41660 280-345281/18 IC		10/08/2016 17:47	1	10081618.D	CLP1 0.32(mm)
STDL41660 280-345281/18 IC		10/08/2016 17:47	1	10081618.D	CLP2 0.32(mm)
STDL31660 280-345281/19 IC		10/08/2016 18:09	1	10081619.D	CLP1 0.32(mm)
STDL31660 280-345281/19 IC		10/08/2016 18:09	1	10081619.D	CLP2 0.32(mm)
STDL21660 280-345281/20 IC		10/08/2016 18:31	1	10081620.D	CLP1 0.32(mm)
STDL21660 280-345281/20 IC		10/08/2016 18:31	1	10081620.D	CLP2 0.32(mm)
STDL11660 280-345281/21 IC		10/08/2016 18:52	1	10081621.D	CLP1 0.32(mm)
STDL11660 280-345281/21 IC		10/08/2016 18:52	1	10081621.D	CLP2 0.32(mm)
STDL73262 280-345281/22 IC		10/08/2016 19:14	1	10081622.D	CLP1 0.32(mm)
STDL73262 280-345281/22 IC		10/08/2016 19:14	1	10081622.D	CLP2 0.32(mm)
STDL63262 280-345281/23 IC		10/08/2016 19:36	1	10081623.D	CLP1 0.32(mm)
STDL63262 280-345281/23 IC		10/08/2016 19:36	1	10081623.D	CLP2 0.32(mm)
STDL53262 280-345281/24 IC		10/08/2016 19:57	1	10081624.D	CLP1 0.32(mm)
STDL53262 280-345281/24 IC		10/08/2016 19:57	1	10081624.D	CLP2 0.32(mm)
STDL43262 280-345281/25 IC		10/08/2016 20:19	1	10081625.D	CLP1 0.32(mm)
STDL43262 280-345281/25 IC		10/08/2016 20:19	1	10081625.D	CLP2 0.32(mm)
STDL33262 280-345281/26 IC		10/08/2016 20:41	1	10081626.D	CLP1 0.32(mm)
STDL33262 280-345281/26 IC		10/08/2016 20:41	1	10081626.D	CLP2 0.32(mm)
STDL23262 280-345281/27 IC		10/08/2016 21:02	1	10081627.D	CLP1 0.32(mm)
STDL23262 280-345281/27 IC		10/08/2016 21:02	1	10081627.D	CLP2 0.32(mm)
STDL13262 280-345281/28 IC		10/08/2016 21:24	1	10081628.D	CLP1 0.32(mm)
STDL13262 280-345281/28 IC		10/08/2016 21:24	1	10081628.D	CLP2 0.32(mm)
STDL74268 280-345281/29 IC		10/08/2016 21:46	1	10081629.D	CLP1 0.32(mm)
STDL74268 280-345281/29 IC		10/08/2016 21:46	1	10081629.D	CLP2 0.32(mm)
STDL64268 280-345281/30 IC		10/08/2016 22:07	1	10081630.D	CLP1 0.32(mm)
STDL64268 280-345281/30 IC		10/08/2016 22:07	1	10081630.D	CLP2 0.32(mm)
STDL54268 280-345281/31 IC		10/08/2016 22:29	1	10081631.D	CLP1 0.32(mm)
STDL54268 280-345281/31 IC		10/08/2016 22:29	1	10081631.D	CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 10/08/2016 11:39

Analysis Batch Number: 345281 End Date: 10/09/2016 02:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL44268 280-345281/32 IC		10/08/2016 22:51	1	10081632.D	CLP1 0.32(mm)
STDL44268 280-345281/32 IC		10/08/2016 22:51	1	10081632.D	CLP2 0.32(mm)
STDL34268 280-345281/33 IC		10/08/2016 23:12	1	10081633.D	CLP1 0.32(mm)
STDL34268 280-345281/33 IC		10/08/2016 23:12	1	10081633.D	CLP2 0.32(mm)
STDL24268 280-345281/34 IC		10/08/2016 23:34	1	10081634.D	CLP1 0.32(mm)
STDL24268 280-345281/34 IC		10/08/2016 23:34	1	10081634.D	CLP2 0.32(mm)
STDL14268 280-345281/35 IC		10/08/2016 23:55	1	10081635.D	CLP1 0.32(mm)
STDL14268 280-345281/35 IC		10/08/2016 23:55	1	10081635.D	CLP2 0.32(mm)
ICV 280-345281/36		10/09/2016 00:17	1	10081636.D	CLP1 0.32(mm)
ICV 280-345281/36		10/09/2016 00:17	1	10081636.D	CLP2 0.32(mm)
ICV 280-345281/37		10/09/2016 00:39	1	10081637.D	CLP1 0.32(mm)
ICV 280-345281/37		10/09/2016 00:39	1	10081637.D	CLP2 0.32(mm)
ICV 280-345281/38		10/09/2016 01:00	1	10081638.D	CLP1 0.32(mm)
ICV 280-345281/38		10/09/2016 01:00	1	10081638.D	CLP2 0.32(mm)
ICV 280-345281/39		10/09/2016 01:22	1	10081639.D	CLP1 0.32(mm)
ICV 280-345281/39		10/09/2016 01:22	1	10081639.D	CLP2 0.32(mm)
ICV 280-345281/40		10/09/2016 01:44	1	10081640.D	CLP1 0.32(mm)
ICV 280-345281/40		10/09/2016 01:44	1	10081640.D	CLP2 0.32(mm)
ZZZZZ		10/09/2016 02:05	1		CLP1 0.32(mm)
ZZZZZ		10/09/2016 02:05	1		CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 11/15/2016 00:20

Analysis Batch Number: 351504 End Date: 11/16/2016 06:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/15/2016 00:20	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 00:20	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 00:42	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 00:42	1		CLP2 0.32(mm)
CCVIS 280-351504/3		11/15/2016 12:02	1	11151603.D	CLP1 0.32(mm)
CCVIS 280-351504/3		11/15/2016 12:02	1	11151603.D	CLP2 0.32(mm)
ZZZZZ		11/15/2016 12:23	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 12:23	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 12:45	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 12:45	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 13:07	4		CLP1 0.32(mm)
ZZZZZ		11/15/2016 13:07	4		CLP2 0.32(mm)
ZZZZZ		11/15/2016 13:29	10		CLP1 0.32(mm)
ZZZZZ		11/15/2016 13:29	10		CLP2 0.32(mm)
ZZZZZ		11/15/2016 13:50	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 13:50	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 14:12	2		CLP1 0.32(mm)
ZZZZZ		11/15/2016 14:12	2		CLP2 0.32(mm)
ZZZZZ		11/15/2016 14:34	2		CLP1 0.32(mm)
ZZZZZ		11/15/2016 14:34	2		CLP2 0.32(mm)
ZZZZZ		11/15/2016 14:55	2		CLP1 0.32(mm)
ZZZZZ		11/15/2016 14:55	2		CLP2 0.32(mm)
ZZZZZ		11/15/2016 15:17	4		CLP1 0.32(mm)
ZZZZZ		11/15/2016 15:17	4		CLP2 0.32(mm)
ZZZZZ		11/15/2016 15:39	4		CLP1 0.32(mm)
ZZZZZ		11/15/2016 15:39	4		CLP2 0.32(mm)
ZZZZZ		11/15/2016 16:01	4		CLP1 0.32(mm)
ZZZZZ		11/15/2016 16:01	4		CLP2 0.32(mm)
ZZZZZ		11/15/2016 16:22	5		CLP1 0.32(mm)
ZZZZZ		11/15/2016 16:22	5		CLP2 0.32(mm)
ZZZZZ		11/15/2016 16:44	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 16:44	1		CLP2 0.32(mm)
CCV 280-351504/17		11/15/2016 17:06	1	11151617.D	CLP1 0.32(mm)
CCV 280-351504/17		11/15/2016 17:06	1	11151617.D	CLP2 0.32(mm)
MB 280-350275/1-A		11/15/2016 17:28	1	11151618.D	CLP1 0.32(mm)
MB 280-350275/1-A		11/15/2016 17:28	1	11151618.D	CLP2 0.32(mm)
LCS 280-350275/2-A		11/15/2016 17:49	1	11151619.D	CLP1 0.32(mm)
LCS 280-350275/2-A		11/15/2016 17:49	1	11151619.D	CLP2 0.32(mm)
LCSD 280-350275/3-A		11/15/2016 18:11	1	11151620.D	CLP1 0.32(mm)
LCSD 280-350275/3-A		11/15/2016 18:11	1	11151620.D	CLP2 0.32(mm)
ZZZZZ		11/15/2016 18:33	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 18:33	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 18:55	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 18:55	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 19:16	1		CLP1 0.32(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 11/15/2016 00:20

Analysis Batch Number: 351504 End Date: 11/16/2016 06:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/15/2016 19:16	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 19:38	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 19:38	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 20:00	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 20:00	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 20:22	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 20:22	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 20:43	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 20:43	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 21:05	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 21:05	1		CLP2 0.32(mm)
280-90409-2		11/15/2016 21:27	1	11151629.D	CLP1 0.32(mm)
280-90409-2		11/15/2016 21:27	1	11151629.D	CLP2 0.32(mm)
CCV 280-351504/30		11/15/2016 21:48	1	11151630.D	CLP1 0.32(mm)
CCV 280-351504/30		11/15/2016 21:48	1	11151630.D	CLP2 0.32(mm)
ZZZZZ		11/15/2016 22:32	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 22:32	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 22:54	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 22:54	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 23:15	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 23:15	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 23:37	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 23:37	1		CLP2 0.32(mm)
ZZZZZ		11/15/2016 23:59	1		CLP1 0.32(mm)
ZZZZZ		11/15/2016 23:59	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 01:04	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 01:04	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 01:25	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 01:25	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 01:47	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 01:47	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 02:09	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 02:09	1		CLP2 0.32(mm)
CCV 280-351504/43		11/16/2016 02:30	1		CLP1 0.32(mm)
CCV 280-351504/43		11/16/2016 02:30	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 02:52	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 02:52	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 03:14	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 03:14	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 03:36	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 03:36	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 03:57	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 03:57	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 04:19	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 04:19	1		CLP2 0.32(mm)

8082A

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 11/15/2016 00:20

Analysis Batch Number: 351504 End Date: 11/16/2016 06:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/16/2016 04:41	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 04:41	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 05:02	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 05:02	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 05:24	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 05:24	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 05:46	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 05:46	1		CLP2 0.32(mm)
ZZZZZ		11/16/2016 06:07	1		CLP1 0.32(mm)
ZZZZZ		11/16/2016 06:07	1		CLP2 0.32(mm)
CCV 280-351504/55		11/16/2016 06:51	1		CLP1 0.32(mm)
CCV 280-351504/55		11/16/2016 06:51	1		CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: SGC_P3 Start Date: 11/18/2016 00:18

Analysis Batch Number: 351983 End Date: 11/18/2016 05:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 280-351983/1		11/18/2016 00:18	1	11171601.D	CLP1 0.32(mm)
CCVIS 280-351983/1		11/18/2016 00:18	1	11171601.D	CLP2 0.32(mm)
MB 280-350443/1-A		11/18/2016 00:40	1	11171602.D	CLP1 0.32(mm)
MB 280-350443/1-A		11/18/2016 00:40	1	11171602.D	CLP2 0.32(mm)
LCS 280-350443/2-A		11/18/2016 01:02	1	11171603.D	CLP1 0.32(mm)
LCS 280-350443/2-A		11/18/2016 01:02	1	11171603.D	CLP2 0.32(mm)
280-90409-1		11/18/2016 01:23	1	11171604.D	CLP1 0.32(mm)
280-90409-1		11/18/2016 01:23	1	11171604.D	CLP2 0.32(mm)
ZZZZZ		11/18/2016 01:45	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 01:45	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 02:07	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 02:07	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 02:28	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 02:28	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 02:50	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 02:50	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 03:12	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 03:12	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 03:33	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 03:33	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 03:55	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 03:55	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 04:17	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 04:17	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 04:38	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 04:38	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 05:00	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 05:00	1		CLP2 0.32(mm)
ZZZZZ		11/18/2016 05:22	1		CLP1 0.32(mm)
ZZZZZ		11/18/2016 05:22	1		CLP2 0.32(mm)
CCV 280-351983/16		11/18/2016 05:43	1	11171616.D	CLP1 0.32(mm)
CCV 280-351983/16		11/18/2016 05:43	1	11171616.D	CLP2 0.32(mm)

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350275 Batch Start Date: 11/07/16 22:14 Batch Analyst: Anderson, Brittney J

Batch Method: 3510C Batch End Date: 11/12/16 13:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	GrossWeight	TareWeight	InitialAmount	FinalAmount	8081/82 Surr 00089
MB 280-350275/1		3510C, 8082A		7			1000 mL	1 mL	0.1 mL
LCS 280-350275/2		3510C, 8082A		7			1000 mL	1 mL	0.1 mL
LCSD 280-350275/3		3510C, 8082A		7			1000 mL	1 mL	0.1 mL
280-90409-A-2	LL2mw-261-103116-GW	3510C, 8082A	T	7	1486.6 g	498.2 g	988.4 mL	1 mL	0.1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8082 LCS 00044					
MB 280-350275/1		3510C, 8082A							
LCS 280-350275/2		3510C, 8082A		0.1 mL					
LCSD 280-350275/3		3510C, 8082A		0.1 mL					
280-90409-A-2	LL2mw-261-103116-GW	3510C, 8082A	T						

Batch Notes	
Batch Comment	DV-OP-0006/0007 H2O: S. Elga
Analyst ID - Concentration	MAVJr
Exchange Solvent ID	Hexane_Cycl_00039
Exchange Solvent Name	Hexane
Na2SO4 ID	0000145160_00003
Oven, Bath or Block Temperature 1	B@88 Degrees C
Prep Solvent ID	MeCl2_Cycl_00308/309
Prep Solvent Name	MeCl2
Prep Solvent Volume Used	180 mL
Person's name who did the prep	BJA(Trainee)/JRA
Analyst ID - Reagent Drop Witness	Reviewer: CH
Sufficient volume for MS/MSD?	NO
Uncorrected Temperature	88 Degrees C

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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350275 Batch Start Date: 11/07/16 22:14 Batch Analyst: Anderson, Brittney J

Batch Method: 3510C Batch End Date: 11/12/16 13:27

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.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350443 Batch Start Date: 11/08/16 13:24 Batch Analyst: Isberg, Kyle

Batch Method: 3510C Batch End Date: 11/14/16 21:12

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	GrossWeight	TareWeight	InitialAmount	FinalAmount	8081/82 Surr 00089
MB 280-350443/1		3510C, 8082A		7			1000 mL	1 mL	0.1 mL
LCS 280-350443/2		3510C, 8082A		7			1000 mL	1 mL	0.1 mL
280-90409-A-1	LL2mw-271-110116-GW	3510C, 8082A	T	7	1472.4 g	497.9 g	974.5 mL	1 mL	0.1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8082 LCS 00044					
MB 280-350443/1		3510C, 8082A							
LCS 280-350443/2		3510C, 8082A		0.1 mL					
280-90409-A-1	LL2mw-271-110116-GW	3510C, 8082A	T						

Batch Notes	
Batch Comment	DV-OP-0006/0007 H2O: S. Elga NaCl: 164935
Exchange Solvent ID	Hexane_Cycl_00039
Exchange Solvent Name	Hexane
Na2SO4 ID	0000148788_00003
Oven, Bath or Block Temperature 1	B@88 Celsius
Prep Solvent ID	MeCl2_Cycl_00308/310
Prep Solvent Name	MeCl2
Prep Solvent Volume Used	180 mL
Person's name who did the prep	KI/JRA
Analyst ID - Reagent Drop Witness	Reviewer: JRA
Sufficient volume for MS/MSD?	Yes
Uncorrected Temperature	88 Celsius

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.

8330B_DOD5

Nitroaromatics and Nitramines (HPLC)

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm) GC Column (2): Luna-phenyl 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #	12DNB2 #
LL2mw-271-110116-GW	280-90409-1		92
LL2mw-271-110116-GW	280-90409-1	88	
LL2mw-261-103116-GW	280-90409-2		101
LL2mw-261-103116-GW	280-90409-2	98	
	MB 280-349987/1-A		99
	MB 280-349987/1-A	98	
	LCS 280-349987/2-A		107
	LCS 280-349987/2-A	95	
	LCSD 280-349987/3-A		104
	LCSD 280-349987/3-A	97	

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	83-119

Column to be used to flag recovery values

FORM II 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 028-2801.D

Lab ID: LCS 280-349987/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	1.82	91	73-125	
1,3-Dinitrobenzene	2.00	1.89	95	78-120	
2,4,6-Trinitrotoluene	2.00	1.99	100	71-123	
2,4-Dinitrotoluene	2.00	1.69	85	78-120	
2,6-Dinitrotoluene	2.00	1.70	85	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.57	78	79-120	Q
2-Nitrotoluene	2.00	1.21	61	70-127	Q
3-Nitrotoluene	2.00	1.25	62	73-125	Q
4-Amino-2,6-dinitrotoluene	2.00	1.55	77	76-125	
4-Nitrotoluene	2.00	1.38	69	71-127	Q
HMX	2.00	1.92	96	65-135	
Nitrobenzene	2.00	1.47	73	65-134	
Nitroglycerin	20.0	20.4	102	74-127	
PETN	20.0	20.4	102	73-127	
RDX	2.00	2.12	106	68-130	
Tetryl	2.00	1.80	90	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11231609.D

Lab ID: LCS 280-349987/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.08	104	73-125	
1,3-Dinitrobenzene	2.00	1.87	93	78-120	
2,4,6-Trinitrotoluene	2.00	2.33	116	71-123	
2,4-Dinitrotoluene	2.00	1.74	87	78-120	
2,6-Dinitrotoluene	2.00	1.64	82	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.51	75	79-120	Q
2-Nitrotoluene	2.00	1.27	64	70-127	Q
3-Nitrotoluene	2.00	1.26	63	73-125	Q
4-Amino-2,6-dinitrotoluene	2.00	1.45	73	76-125	Q
4-Nitrotoluene	2.00	1.26	63	71-127	Q
HMX	2.00	1.87	94	65-135	
Nitrobenzene	2.00	1.87	94	65-134	
Nitroglycerin	20.0	20.0	100	74-127	
PETN	20.0	21.1	106	73-127	
RDX	2.00	2.03	101	68-130	
Tetryl	2.00	1.79	89	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 029-2901.D

Lab ID: LCSD 280-349987/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	1.80	90	1	20	73-125	
1,3-Dinitrobenzene	2.00	1.98	99	5	20	78-120	
2,4,6-Trinitrotoluene	2.00	1.99	99	0	20	71-123	
2,4-Dinitrotoluene	2.00	1.86	93	9	20	78-120	
2,6-Dinitrotoluene	2.00	1.76	88	3	20	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.68	84	7	20	79-120	
2-Nitrotoluene	2.00	1.56	78	25	20	70-127	Q
3-Nitrotoluene	2.00	1.62	81	26	20	73-125	Q
4-Amino-2,6-dinitrotoluene	2.00	1.61	80	4	20	76-125	
4-Nitrotoluene	2.00	1.72	86	22	20	71-127	Q
HMX	2.00	1.81	91	6	20	65-135	
Nitrobenzene	2.00	1.74	87	17	20	65-134	
Nitroglycerin	20.0	20.0	100	2	20	74-127	
PETN	20.0	19.3	97	5	20	73-127	
RDX	2.00	2.04	102	4	20	68-130	
Tetryl	2.00	1.66	83	8	20	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11231610.D

Lab ID: LCSD 280-349987/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.25	113	8	20	73-125	
1,3-Dinitrobenzene	2.00	1.95	98	4	20	78-120	
2,4,6-Trinitrotoluene	2.00	2.30	115	1	20	71-123	
2,4-Dinitrotoluene	2.00	1.98	99	13	20	78-120	
2,6-Dinitrotoluene	2.00	1.77	88	8	20	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.63	81	8	20	79-120	
2-Nitrotoluene	2.00	1.69	84	28	20	70-127	Q
3-Nitrotoluene	2.00	1.70	85	29	20	73-125	Q
4-Amino-2,6-dinitrotoluene	2.00	1.57	78	7	20	76-125	
4-Nitrotoluene	2.00	1.76	88	33	20	71-127	Q
HMX	2.00	1.79	90	4	20	65-135	
Nitrobenzene	2.00	2.23	111	17	20	65-134	
Nitroglycerin	20.0	20.4	102	2	20	74-127	
PETN	20.0	20.3	101	4	20	73-127	
RDX	2.00	2.05	102	1	20	68-130	
Tetryl	2.00	1.67	83	7	20	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: MB 280-349987/1-A

Matrix: Water Date Extracted: 11/04/2016 20:12

Lab File ID:(1) Lab File ID:(2) 11231608.D

Date Analyzed:(1) Date Analyzed:(2) 11/23/2016 14:59

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-349987/2-A		11/23/2016 15:34
	LCSD 280-349987/3-A		11/23/2016 16:09

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: MB 280-349987/1-A

Matrix: Water Date Extracted: 11/04/2016 20:12

Lab File ID:(1) 027-2701.D Lab File ID:(2)

Date Analyzed:(1) 11/16/2016 21:31 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-349987/2-A	11/16/2016 21:54	
	LCSD 280-349987/3-A	11/16/2016 22:17	
LL2mw-271-110116-GW	280-90409-1	11/17/2016 02:08	11/23/2016 19:04
LL2mw-261-103116-GW	280-90409-2	11/17/2016 02:31	11/23/2016 19:39

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-271-110116-GW | Lab Sample ID: 280-90409-1

Matrix: Water | Lab File ID: 039-3901.D

Analysis Method: 8330B | Date Collected: 11/01/2016 10:13

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 443(mL) | Date Analyzed: 11/17/2016 02:08

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 50(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351752 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.45	U	1.1	0.45	0.23
99-65-0	1,3-Dinitrobenzene	0.23	U	0.45	0.23	0.10
118-96-7	2,4,6-Trinitrotoluene	0.23	U	0.45	0.23	0.082
121-14-2	2,4-Dinitrotoluene	0.23	U	0.45	0.23	0.095
606-20-2	2,6-Dinitrotoluene	0.23	U	0.23	0.23	0.073
35572-78-2	2-Amino-4,6-dinitrotoluene	0.14	U Q	0.23	0.14	0.057
88-72-2	2-Nitrotoluene	0.23	U Q	0.45	0.23	0.097
99-08-1	3-Nitrotoluene	0.23	U Q	0.45	0.23	0.094
19406-51-0	4-Amino-2,6-dinitrotoluene	0.14	U	0.23	0.14	0.065
99-99-0	4-Nitrotoluene	0.45	U Q	1.1	0.45	0.23
2691-41-0	HMX	0.23	U	0.45	0.23	0.099
98-95-3	Nitrobenzene	0.23	U	0.45	0.23	0.10
55-63-0	Nitroglycerin	2.3	U	3.4	2.3	1.0
78-11-5	PETN	1.4	U	2.3	1.4	0.47
479-45-8	Tetryl	0.23	U	0.27	0.23	0.090

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	88		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\039-3901.D
Lims ID: 280-90409-C-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 17-Nov-2016 02:08:48 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-C-1-A
Misc. Info.: 280-0053110-040
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:54:20 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:18:58

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.727			ND	
	5 RDX	1	7.876	7.900	-0.024	5654	0.0511	
$	7 1,2-Dinitrobenzene	1	8.969	8.967	0.002	24768	0.1757	
	8 1,3,5-Trinitrobenzene	1		9.107			ND	
	9 1,3-Dinitrobenzene	1		9.794			ND	
	11 Nitrobenzene	1		10.187			ND	
	12 Tetryl	1		10.580			ND	
	13 Nitroglycerin	2		11.100			ND	
	14 2,4,6-Trinitrotoluene	1		11.547			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.760			ND	
	16 2-Amino-4,6-dinitrotoluene	1		12.047			ND	
	17 2,6-Dinitrotoluene	1		12.187			ND	
	18 2,4-Dinitrotoluene	1		12.380			ND	
	19 o-Nitrotoluene	1		13.240			ND	
	20 p-Nitrotoluene	1		13.700			ND	
	21 m-Nitrotoluene	1		14.314			ND	
	22 PETN	2		15.507			ND	

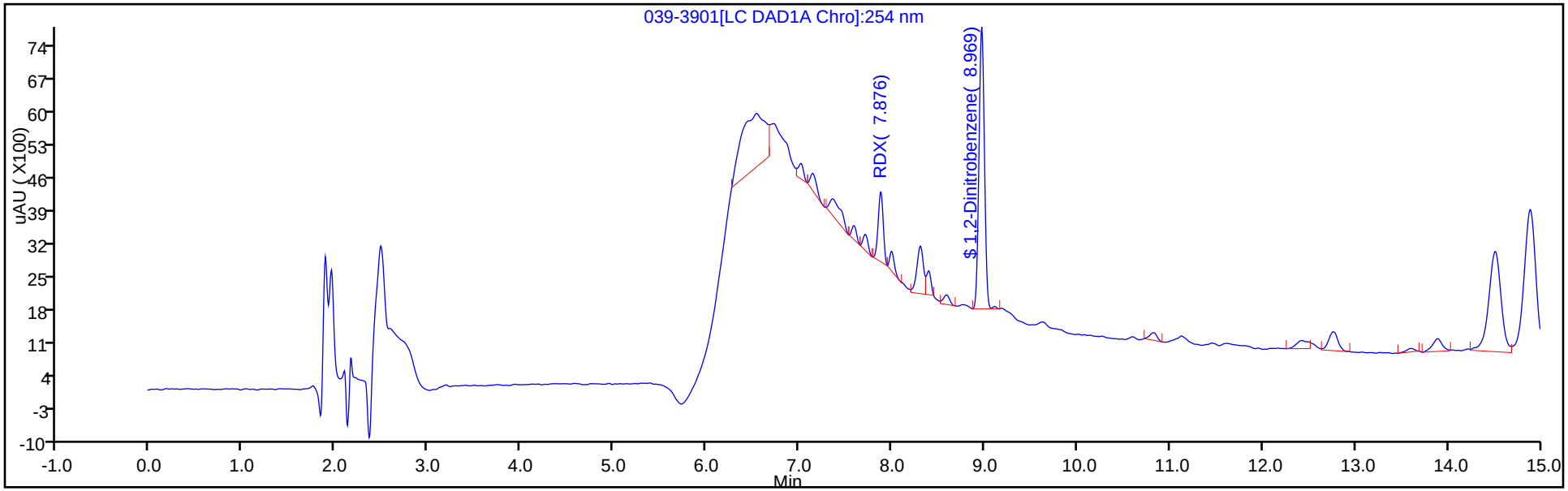
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TestAmerica Denver

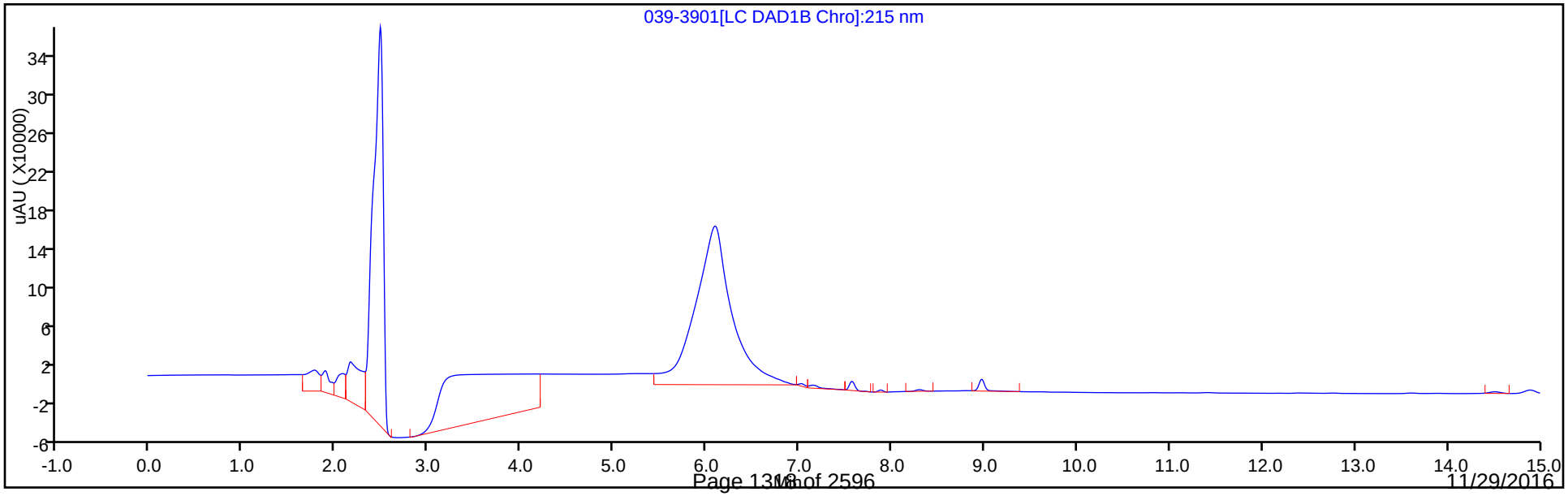
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\039-3901.D

Injection Date:	17-Nov-2016 02:08:48	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	280-90409-C-1-A	Lab Sample ID:	280-90409-1	Worklist Smp#:	39
Client ID:	LL2mw-271-110116-GW				
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\039-3901.D				
Lims ID:	280-90409-C-1-A				
Client ID:	LL2mw-271-110116-GW				
Sample Type:	Client				
Inject. Date:	17-Nov-2016 02:08:48	ALS Bottle#:	39	Worklist Smp#:	39
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-90409-C-1-A				
Misc. Info.:	280-0053110-040				
Operator ID:	ACF	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	22-Nov-2016 20:54:20	Calib Date:	28-Oct-2016 23:49:21		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK031				
First Level Reviewer: freya		Date:	17-Nov-2016 11:18:58		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1757	87.85

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-271-110116-GW | Lab Sample ID: 280-90409-1

Matrix: Water | Lab File ID: 11231615.D

Analysis Method: 8330B | Date Collected: 11/01/2016 10:13

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 443(mL) | Date Analyzed: 11/23/2016 19:04

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 352866 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	0.14	U	0.23	0.14	0.059

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	92		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231615.D
Lims ID: 280-90409-C-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 23-Nov-2016 19:04:50 ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-C-1-A
Misc. Info.: 280-0053490-015
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:43:53

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	5 HMX	1		6.642			ND	
	7 RDX	1		8.635			ND	
	8 Nitrobenzene	1		11.335			ND	
$	9 1,2-Dinitrobenzene	1	12.378	12.308	0.070	50824	0.1844	
	11 1,3-Dinitrobenzene	1		14.635			ND	
	12 Nitroglycerin	2		14.722			ND	
	13 o-Nitrotoluene	1	15.564	15.502	0.062	34068	0.1364	M
	14 p-Nitrotoluene	1		15.802			ND	
	15 4-Amino-2,6-dinitrotoluene	1		16.262			ND	
	16 m-Nitrotoluene	1		16.688			ND	
	17 2-Amino-4,6-dinitrotoluene	1		17.242			ND	
	18 1,3,5-Trinitrobenzene	1		17.675			ND	
	19 2,6-Dinitrotoluene	1		18.648			ND	
	20 2,4-Dinitrotoluene	1		19.188			ND	
	21 Tetryl	1		22.395			ND	
	22 2,4,6-Trinitrotoluene	1	23.351	23.322	0.029	22312	0.0541	
	23 PETN	2		24.049			ND	

QC Flag Legend

Review Flags
M - Manually Integrated

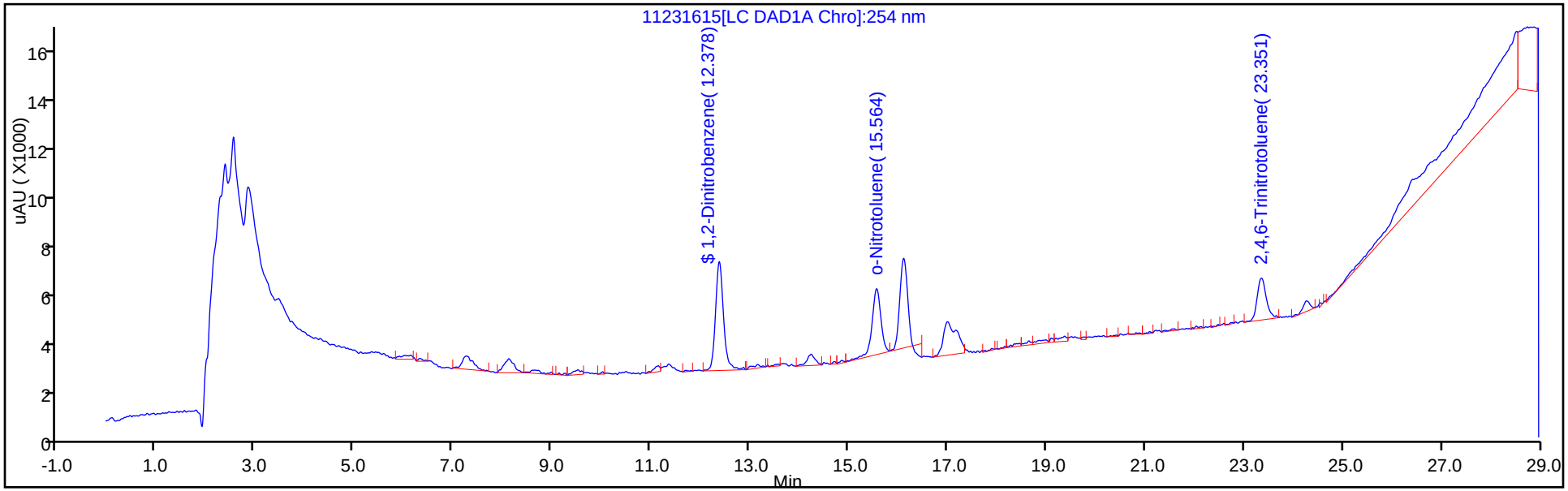
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TestAmerica Denver

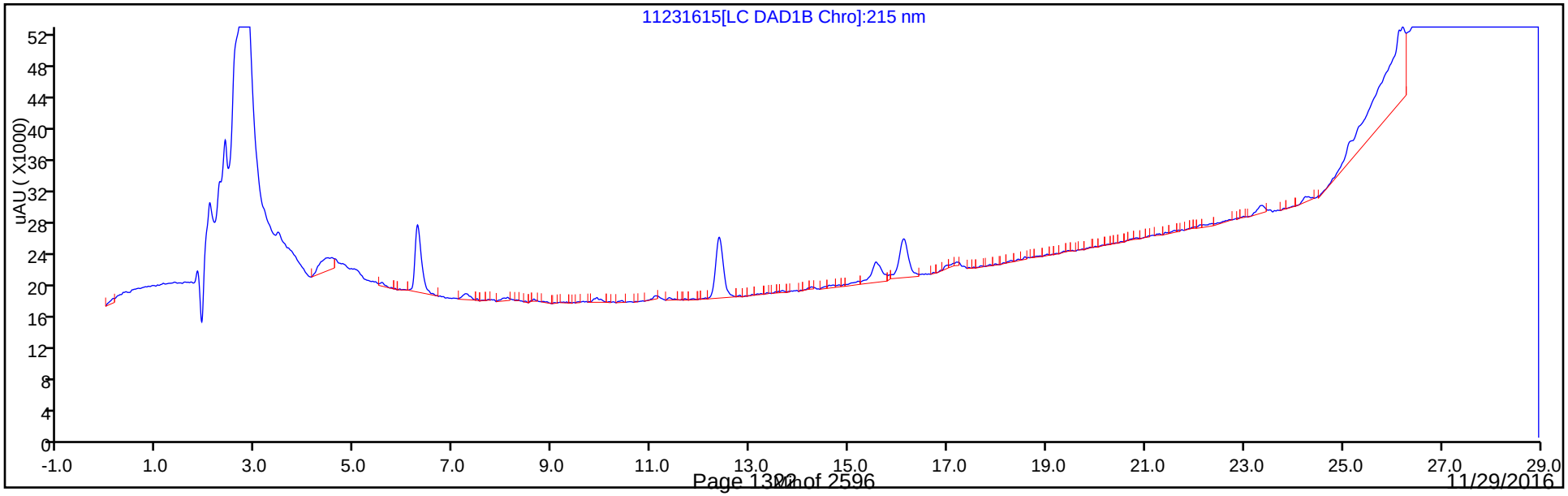
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Injection Date:	23-Nov-2016 19:04:50	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	280-90409-C-1-A	Lab Sample ID:	280-90409-1	Worklist Smp#:	15
Client ID:	LL2mw-271-110116-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231615.D
Lims ID: 280-90409-C-1-A
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 23-Nov-2016 19:04:50 ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-C-1-A
Misc. Info.: 280-0053490-015
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:43:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1844	92.19

Manual Integration/User Assign Peak Report

TestAmerica Denver

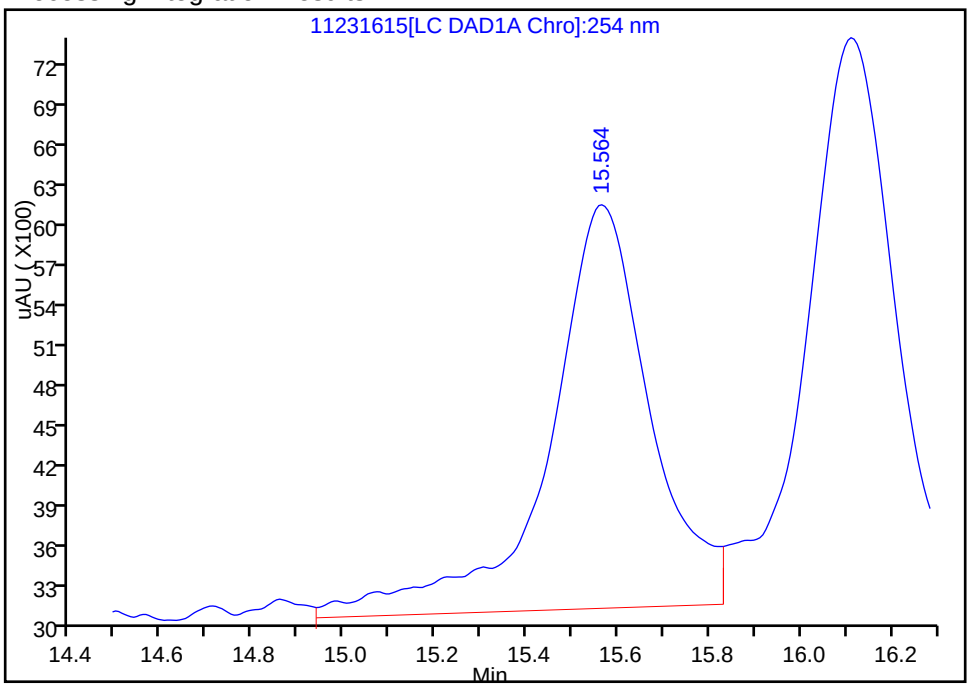
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Injection Date:	23-Nov-2016 19:04:50	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-90409-C-1-A	Lab Sample ID:	280-90409-1		
Client ID:	LL2mw-271-110116-GW				
Operator ID:	DMJ	ALS Bottle#:	10	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

13 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

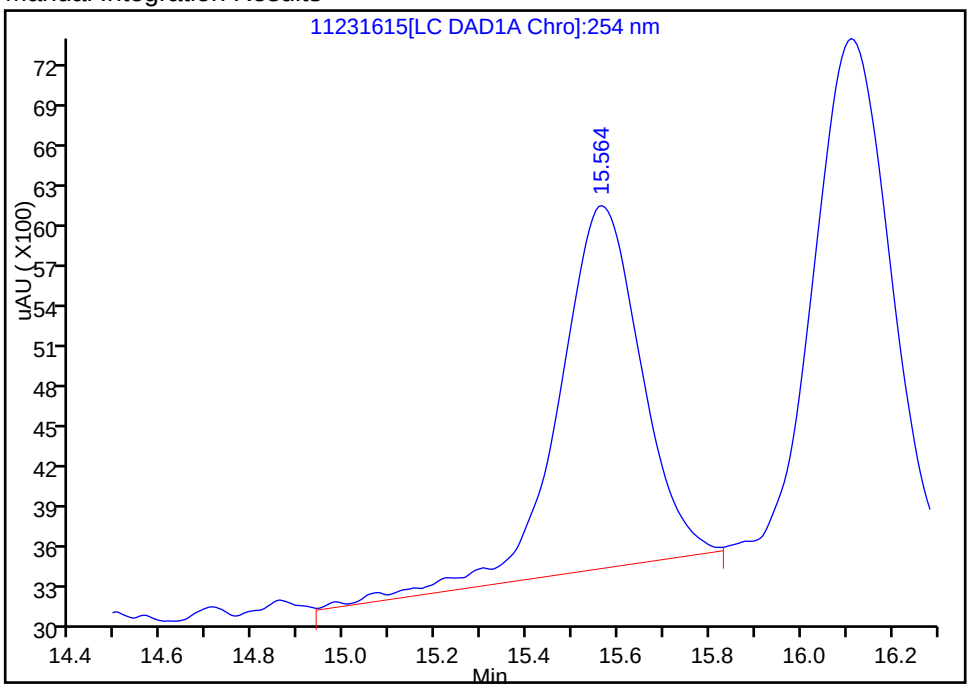
Processing Integration Results

RT: 15.56
Area: 46611
Amount: 0.187693
Amount Units: ug/ml



Manual Integration Results

RT: 15.56
Area: 34068
Amount: 0.136437
Amount Units: ug/ml



Reviewer: jonsrudd, 24-Nov-2016 18:43:53

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-261-103116-GW | Lab Sample ID: 280-90409-2

Matrix: Water | Lab File ID: 040-4001.D

Analysis Method: 8330B | Date Collected: 10/31/2016 14:40

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 449.8(mL) | Date Analyzed: 11/17/2016 02:31

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 50(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351752 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.44	U	1.1	0.44	0.22
99-65-0	1,3-Dinitrobenzene	0.22	U	0.44	0.22	0.099
118-96-7	2,4,6-Trinitrotoluene	0.22	U	0.44	0.22	0.080
121-14-2	2,4-Dinitrotoluene	0.22	U	0.44	0.22	0.093
606-20-2	2,6-Dinitrotoluene	0.22	U	0.22	0.22	0.072
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U Q	0.22	0.13	0.056
88-72-2	2-Nitrotoluene	0.22	U Q	0.44	0.22	0.095
99-08-1	3-Nitrotoluene	0.22	U Q	0.44	0.22	0.093
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.22	0.13	0.064
99-99-0	4-Nitrotoluene	0.44	U Q	1.1	0.44	0.22
2691-41-0	HMX	0.22	U	0.44	0.22	0.097
98-95-3	Nitrobenzene	0.22	U	0.44	0.22	0.10
55-63-0	Nitroglycerin	2.2	U	3.3	2.2	1.0
78-11-5	PETN	1.3	U	2.2	1.3	0.46
479-45-8	Tetryl	0.22	U	0.27	0.22	0.088

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\040-4001.D
Lims ID: 280-90409-D-2-A
Client ID: LL2mw-261-103116-GW
Sample Type: Client
Inject. Date: 17-Nov-2016 02:31:56 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-D-2-A
Misc. Info.: 280-0053110-041
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:54:20 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:19:07

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 HMX	1		6.727			ND	
5 RDX	1	7.875	7.900	-0.025	3654	0.0325	
$ 7 1,2-Dinitrobenzene	1	8.955	8.967	-0.012	27504	0.1952	
8 1,3,5-Trinitrobenzene	1		9.107			ND	
9 1,3-Dinitrobenzene	1		9.794			ND	
11 Nitrobenzene	1		10.187			ND	
12 Tetryl	1		10.580			ND	
13 Nitroglycerin	2		11.100			ND	
14 2,4,6-Trinitrotoluene	1		11.547			ND	
15 4-Amino-2,6-dinitrotoluene	1		11.760			ND	
16 2-Amino-4,6-dinitrotoluene	1		12.047			ND	
17 2,6-Dinitrotoluene	1		12.187			ND	
18 2,4-Dinitrotoluene	1		12.380			ND	
19 o-Nitrotoluene	1		13.240			ND	
20 p-Nitrotoluene	1		13.700			ND	
21 m-Nitrotoluene	1		14.314			ND	
22 PETN	2		15.507			ND	

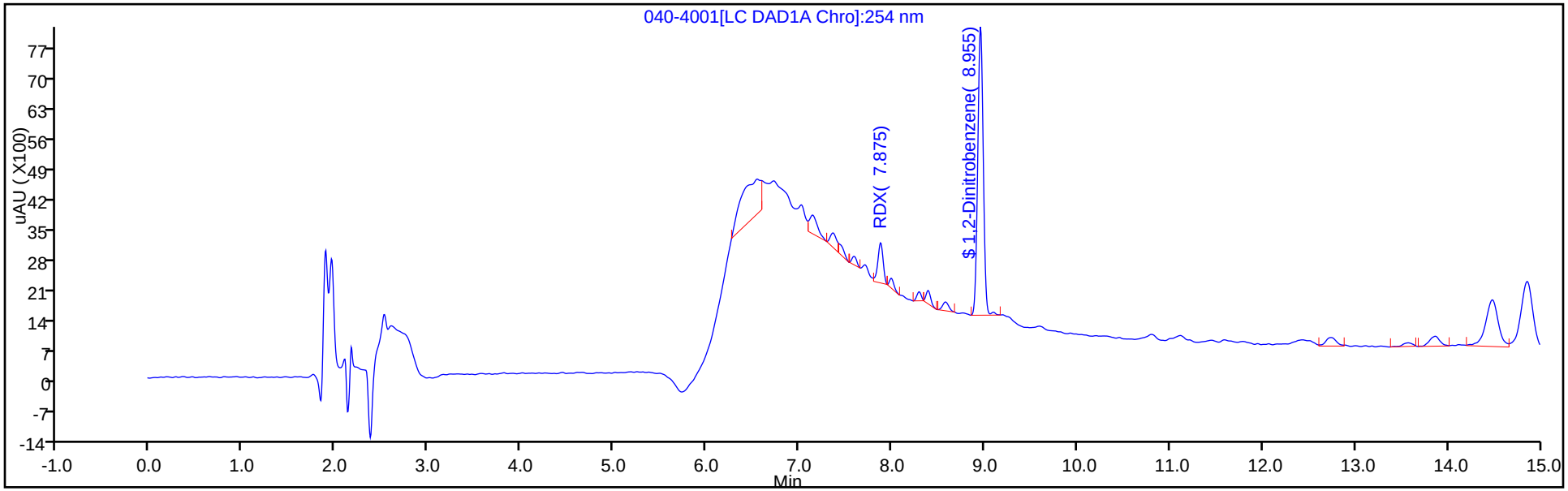
Report Date: 22-Nov-2016 20:54:27 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

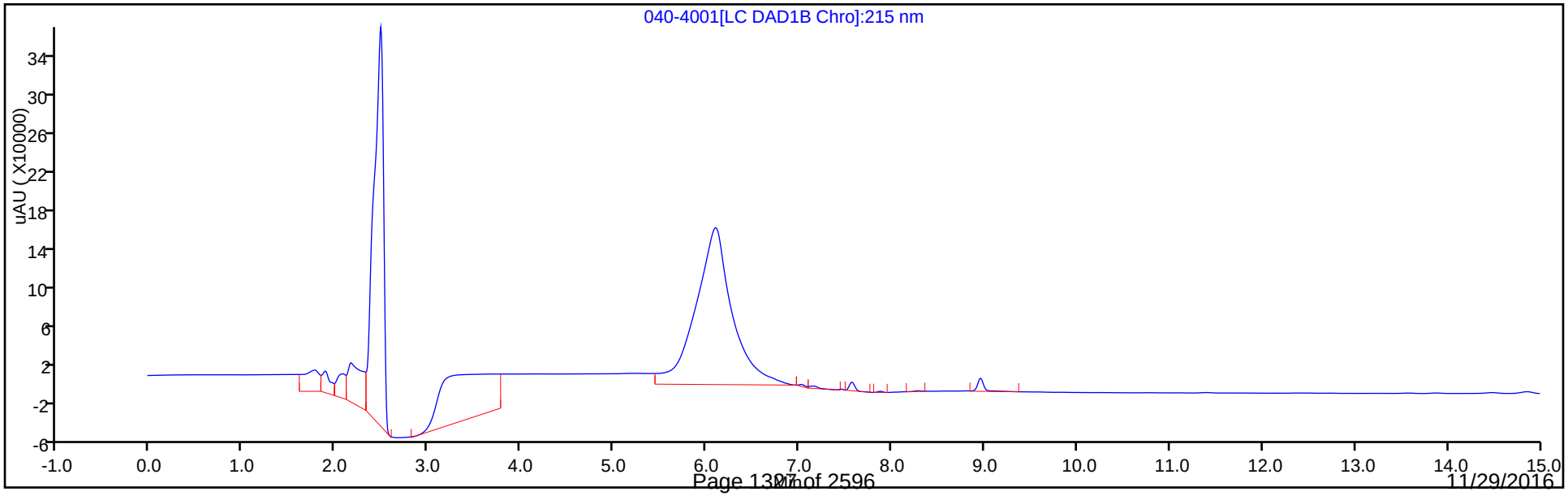
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Injection Date:	17-Nov-2016 02:31:56	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	280-90409-D-2-A	Lab Sample ID:	280-90409-2	Worklist Smp#:	40
Client ID:	LL2mw-261-103116-GW				
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\040-4001.D				
Lims ID:	280-90409-D-2-A				
Client ID:	LL2mw-261-103116-GW				
Sample Type:	Client				
Inject. Date:	17-Nov-2016 02:31:56	ALS Bottle#:	40	Worklist Smp#:	40
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-90409-D-2-A				
Misc. Info.:	280-0053110-041				
Operator ID:	ACF	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	22-Nov-2016 20:54:20	Calib Date:	28-Oct-2016 23:49:21		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK031				
First Level Reviewer: freya		Date:	17-Nov-2016 11:19:07		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1952	97.62

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-261-103116-GW | Lab Sample ID: 280-90409-2

Matrix: Water | Lab File ID: 11231616.D

Analysis Method: 8330B | Date Collected: 10/31/2016 14:40

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 449.8(mL) | Date Analyzed: 11/23/2016 19:39

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 352866 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	0.13	U	0.22	0.13	0.058

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	101		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231616.D
Lims ID: 280-90409-D-2-A
Client ID: LL2mw-261-103116-GW
Sample Type: Client
Inject. Date: 23-Nov-2016 19:39:48 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-D-2-A
Misc. Info.: 280-0053490-016
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:45:05

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	5 HMX	1	6.557	6.642	-0.085	2651	0.0104	
	7 RDX	1		8.635			ND	
	8 Nitrobenzene	1		11.335			ND	
$	9 1,2-Dinitrobenzene	1	12.357	12.308	0.049	55760	0.2028	
	11 1,3-Dinitrobenzene	1		14.635			ND	
	12 Nitroglycerin	2		14.722			ND	
	13 o-Nitrotoluene	1	15.537	15.502	0.035	20971	0.0829	
	14 p-Nitrotoluene	1		15.802			ND	
	15 4-Amino-2,6-dinitrotoluene	1		16.262			ND	
	16 m-Nitrotoluene	1		16.688			ND	
	17 2-Amino-4,6-dinitrotoluene	1		17.242			ND	
	18 1,3,5-Trinitrobenzene	1		17.675			ND	
	19 2,6-Dinitrotoluene	1		18.648			ND	
	20 2,4-Dinitrotoluene	1		19.188			ND	
	21 Tetryl	1		22.395			ND	
	22 2,4,6-Trinitrotoluene	1	23.324	23.322	0.002	25271	0.0617	M
	23 PETN	2		24.049			ND	

QC Flag Legend

Review Flags
M - Manually Integrated

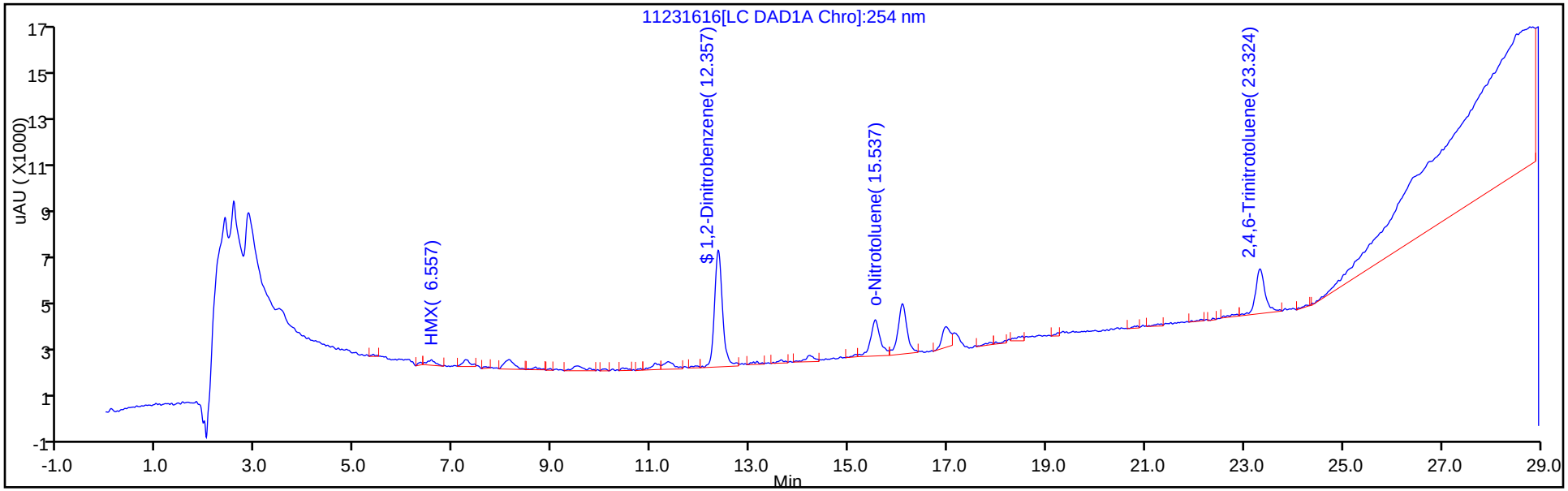
Report Date: 24-Nov-2016 19:17:10 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

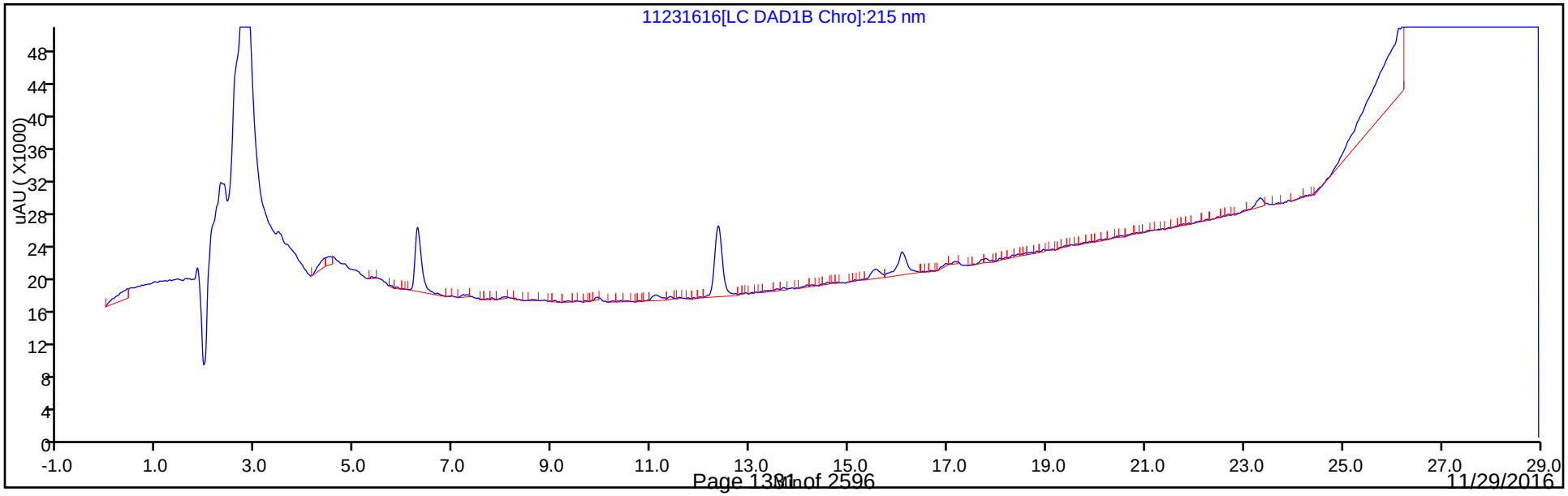
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Injection Date:	23-Nov-2016 19:39:48	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	280-90409-D-2-A	Lab Sample ID:	280-90409-2	Worklist Smp#:	16
Client ID:	LL2mw-261-103116-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231616.D				
Lims ID:	280-90409-D-2-A				
Client ID:	LL2mw-261-103116-GW				
Sample Type:	Client				
Inject. Date:	23-Nov-2016 19:39:48	ALS Bottle#:	11	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-90409-D-2-A				
Misc. Info.:	280-0053490-016				
Operator ID:	DMJ	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	24-Nov-2016 19:15:49	Calib Date:	19-Oct-2016 16:18:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	XAWRK004				
First Level Reviewer: jonsrudd		Date:	24-Nov-2016 18:45:05		

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.2028	101.38

Manual Integration/User Assign Peak Report

TestAmerica Denver

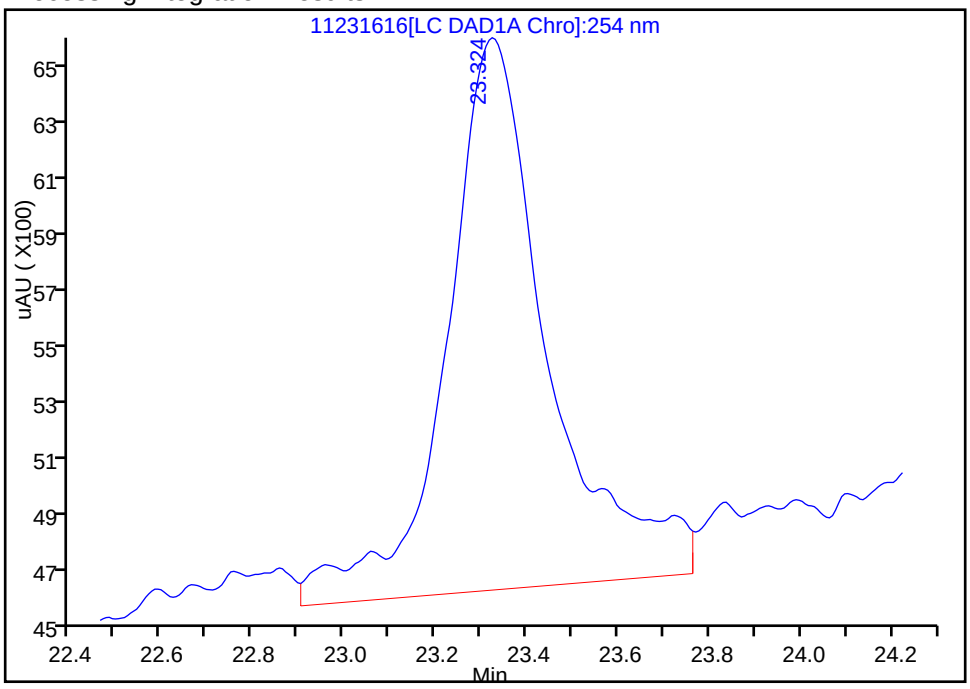
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Injection Date:	23-Nov-2016 19:39:48	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-90409-D-2-A	Lab Sample ID:	280-90409-2		
Client ID:	LL2mw-261-103116-GW				
Operator ID:	DMJ	ALS Bottle#:	11	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

22 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

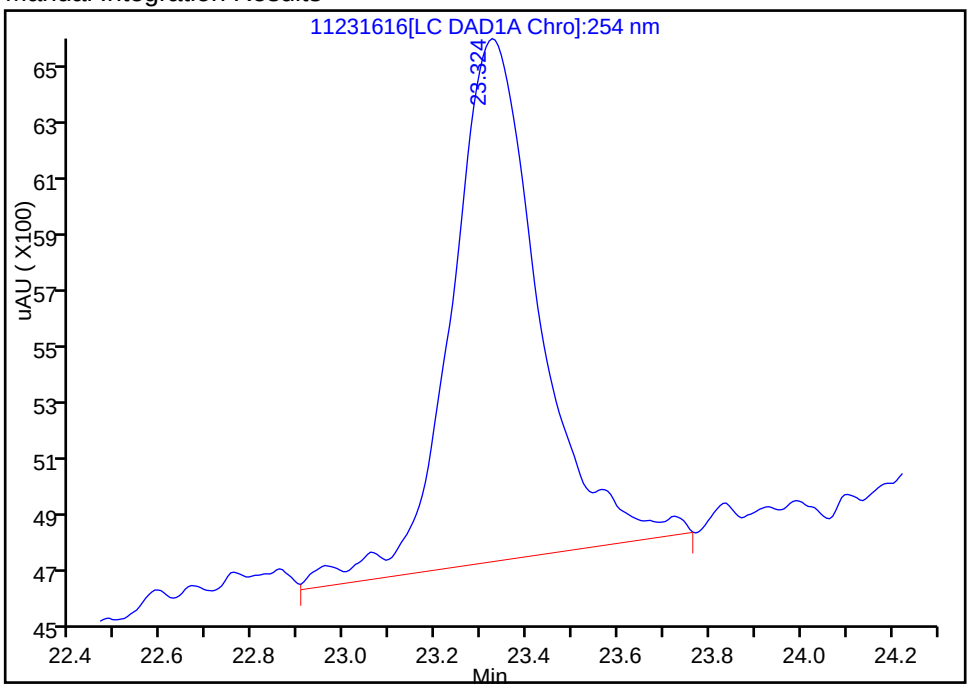
Processing Integration Results

RT: 23.32
Area: 30740
Amount: 0.075829
Amount Units: ug/ml



Manual Integration Results

RT: 23.32
Area: 25271
Amount: 0.061713
Amount Units: ug/ml



Reviewer: jonsrudd, 24-Nov-2016 18:45:05

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 348785

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/28/2016 17:40 Calibration End Date: 10/28/2016 20:21 Calibration ID: 27419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-348785/17	070-1701.D
Level 2	IC 280-348785/16	069-1601.D
Level 3	IC 280-348785/15	068-1501.D
Level 4	IC 280-348785/14	067-1401.D
Level 5	IC 280-348785/13	066-1301.D
Level 6	IC 280-348785/12	065-1201.D
Level 7	IC 280-348785/11	064-1101.D
Level 8	IC 280-348785/10	063-1001.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
HMX	6.704	6.703	6.707	6.709	6.704	6.705	6.700	6.708			6.609 - 6.809	6.705
RDX	7.870	7.863	7.867	7.869	7.857	7.872	7.853	7.875			7.769 - 7.969	7.866
Picric acid	8.190	8.170	8.174	8.169	8.144	8.145	8.113	8.095			8.069 - 8.269	8.150
1,3,5-Trinitrobenzene	9.077	9.063	9.067	9.069	9.044	9.072	9.046	9.068			8.969 - 9.169	9.063
1,3-Dinitrobenzene	9.764	9.743	9.747	9.755	9.724	9.758	9.726	9.755			9.655 - 9.855	9.747
Nitrobenzene	10.164	10.143	10.147	10.148	10.117	10.151	10.119	10.155			10.048 - 10.248	10.143
Tetryl	10.550	10.523	10.527	10.542	10.491	10.545	10.499	10.541			10.442 - 10.642	10.527
Nitroglycerin	11.070	11.043	11.047	11.055	11.004	11.058	11.006	11.055			10.955 - 11.155	11.042
2,4,6-Trinitrotoluene	11.517	11.483	11.487	11.495	11.444	11.498	11.446	11.501			11.395 - 11.595	11.484
4-Amino-2,6-dinitrotoluene	11.730	11.697	11.694	11.708	11.651	11.711	11.646	11.715			11.608 - 11.808	11.694
2-Amino-4,6-dinitrotoluene	12.010	11.977	11.981	11.995	11.931	11.998	11.926	11.995			11.895 - 12.095	11.977
2,6-Dinitrotoluene	12.157	12.117	12.121	12.135	12.071	12.138	12.073	12.141			12.035 - 12.235	12.119
2,4-Dinitrotoluene	12.344	12.303	12.307	12.322	12.257	12.325	12.253	12.328			12.222 - 12.422	12.305
2-Nitrotoluene	13.197	13.157	13.154	13.175	13.104	13.185	13.099	13.181			13.075 - 13.275	13.157
4-Nitrotoluene	13.650	13.610	13.607	13.628	13.551	13.631	13.539	13.628			13.528 - 13.728	13.606
3-Nitrotoluene	14.270	14.217	14.214	14.235	14.157	14.245	14.146	14.241			14.135 - 14.335	14.216
PETN	15.464	15.403	15.407	15.435	15.344	15.438	15.319	15.441			15.335 - 15.535	15.406
1,2-Dinitrobenzene	8.930	8.917	8.921	8.929	8.904	8.925	8.900	8.928			8.829 - 9.029	8.919

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 348785

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/28/2016 17:40 Calibration End Date: 10/28/2016 20:21 Calibration ID: 27419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-348785/17	070-1701.D
Level 2	IC 280-348785/16	069-1601.D
Level 3	IC 280-348785/15	068-1501.D
Level 4	IC 280-348785/14	067-1401.D
Level 5	IC 280-348785/13	066-1301.D
Level 6	IC 280-348785/12	065-1201.D
Level 7	IC 280-348785/11	064-1101.D
Level 8	IC 280-348785/10	063-1001.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
HMX	96300 91435	99300 91860	94250 92245	91440 89676	Lin2	50.7463896	92429.4473							0.9990		0.9900
RDX	122100 106668	116900 106126	111610 106661	108152 103371	Lin2	161.652312	107383.079							0.9990		0.9900
Picric acid	94300 84115	86660 83977	85120 84886	84844 82398	Lin2	104.855908	83961.3899							1.0000		0.9900
1,3,5-Trinitrobenzene	237300 226413	247800 230046	236750 229302	228516 223825	Lin2	97.2993763	230799.354							0.9990		0.9900
1,3-Dinitrobenzene	286600 290983	305300 291383	298510 292916	293328 285722	Lin2	-44.554461	293868.583							0.9990		0.9900
Nitrobenzene	193500 200278	198720 202374	205800 203479	203600 198357	Lin2	-86.760341	202274.473							1.0000		0.9900
Tetryl	184200 175170	187380 179663	181090 179879	175856 173397	Lin2	74.7274008	178277.924							0.9990		0.9900
Nitroglycerin	77470 70851	79846 70510	73823 70620	70996 67740	Lin2	750.782671	71424.5144							0.9980		0.9900
2,4,6-Trinitrotoluene	247800 199690	222460 200471	211230 201419	201424 197610	Lin2	483.722079	201838.565							0.9990		0.9900
4-Amino-2,6-dinitrotoluene	196400 153763	173120 151763	162860 152057	155944 148057	Lin2	448.395085	153936.164							0.9990		0.9900
2-Amino-4,6-dinitrotoluene	235000 208683	236360 209903	218440 213727	211612 207799	Lin2	252.623405	213290.687							0.9980		0.9900
2,6-Dinitrotoluene	155600 148418	154160 149294	155320 145859	149552 142883	Lin2	81.9555152	148708.355							0.9990		0.9900
2,4-Dinitrotoluene	309800 284148	305640 285213	297220 287229	286856 282178	Lin2	247.765906	287970.311							0.9990		0.9900
2-Nitrotoluene	137000 128460	132160 128954	135970 129607	130272 126531	Lin2	79.1356947	129741.078							1.0000		0.9900

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

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 348785

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/28/2016 17:40 Calibration End Date: 10/28/2016 20:21 Calibration ID: 27419

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
4-Nitrotoluene	108800 110620	119000 110610	115450 110885	112060 108724	Lin2	-19.226835	112353.481							0.9990		0.9900
3-Nitrotoluene	168000 144640	159960 144946	153290 145050	147200 141684	Lin2	235.702133	146491.259							0.9990		0.9900
PETN	85170 71836	72342 72183	72482 73056	71948 70501	Lin2	1349.99266	71338.4699							1.0000		0.9900
1,2-Dinitrobenzene	154200 138160	151780 138514	145500 139797	139460 135398	Lin2	160.815233	140050.391							0.9990		0.9900

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

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 348785

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/28/2016 17:40 Calibration End Date: 10/28/2016 20:21 Calibration ID: 27419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-348785/17	070-1701.D
Level 2	IC 280-348785/16	069-1601.D
Level 3	IC 280-348785/15	068-1501.D
Level 4	IC 280-348785/14	067-1401.D
Level 5	IC 280-348785/13	066-1301.D
Level 6	IC 280-348785/12	065-1201.D
Level 7	IC 280-348785/11	064-1101.D
Level 8	IC 280-348785/10	063-1001.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
HMX	Lin2	963 64302	4965 92245	9425 224190	22860	36574	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
RDX	Lin2	1221 74288	5845 106661	11161 258428	27038	42667	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Picric acid	Lin2	943 58784	4333 84886	8512 205996	21211	33646	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3,5-Trinitrobenzene	Lin2	2373 161032	12390 229302	23675 559563	57129	90565	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3-Dinitrobenzene	Lin2	2866 203968	15265 292916	29851 714304	73332	116393	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitrobenzene	Lin2	1935 141662	9936 203479	20580 495892	50900	80111	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Tetryl	Lin2	1842 125764	9369 179879	18109 433493	43964	70068	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitroglycerin	Lin2	7747 493571	39923 706204	73823 1693493	177491	283404	0.100 7.00	0.500 10.0	1.00 25.0	2.50	4.00
2,4,6-Trinitrotoluene	Lin2	2478 140330	11123 201419	21123 494026	50356	79876	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
4-Amino-2,6-dinitrotoluene	Lin2	1964 106234	8656 152057	16286 370143	38986	61505	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2-Amino-4,6-dinitrotoluene	Lin2	2350 146932	11818 213727	21844 519497	52903	83473	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,6-Dinitrotoluene	Lin2	1556 104506	7708 145859	15532 357207	37388	59367	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,4-Dinitrotoluene	Lin2	3098 199649	15282 287229	29722 705445	71714	113659	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2-Nitrotoluene	Lin2	1370 90268	6608 129607	13597 316328	32568	51384	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
4-Nitrotoluene	Lin2	1088 77427	5950 110885	11545 271810	28015	44248	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 348785

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/28/2016 17:40 Calibration End Date: 10/28/2016 20:21 Calibration ID: 27419

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/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
3-Nitrotoluene	Lin2	1680 101462	7998 145050	15329 354211	36800	57856	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
PETN	Lin2	8517 505279	36171 730560	72482 1762520	179870	287342	0.100 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,2-Dinitrobenzene	Lin2	1542 96960	7589 139797	14550 338495	34865	55264	0.0100 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

Curve Type Legend:
Lin2 = Linear 1/conc^2

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\063-1001.D
Lims ID: IC MAIN L8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 28-Oct-2016 17:40:15 ALS Bottle#: 63 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 8
Misc. Info.: 280-0051662-009
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:47:52 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 07:53:51

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.708	6.709	-0.001	224190	2.50	2.42	
	4 MNX	1	7.435	7.435	0.000	329218	2.49	2.40	
	5 RDX	1	7.875	7.869	0.006	258428	2.50	2.41	
	6 2,4,6-Trinitrophenol	1	8.095	8.169	-0.074	205996	2.50	2.45	
$	7 1,2-Dinitrobenzene	1	8.928	8.929	-0.001	338495	2.50	2.42	
	8 1,3,5-Trinitrobenzene	1	9.068	9.069	-0.001	559563	2.50	2.42	
	9 1,3-Dinitrobenzene	1	9.755	9.755	0.000	714304	2.50	2.43	
	11 Nitrobenzene	1	10.155	10.148	0.007	495892	2.50	2.45	
	12 Tetryl	1	10.541	10.542	-0.001	433493	2.50	2.43	
	13 Nitroglycerin	2	11.055	11.055	0.000	1693493	25.0	23.7	
	14 2,4,6-Trinitrotoluene	1	11.501	11.495	0.006	494026	2.50	2.45	
	15 4-Amino-2,6-dinitrotoluene	1	11.715	11.708	0.007	370143	2.50	2.40	
	16 2-Amino-4,6-dinitrotoluene	1	11.995	11.995	0.000	519497	2.50	2.43	
	17 2,6-Dinitrotoluene	1	12.141	12.135	0.006	357207	2.50	2.40	
	18 2,4-Dinitrotoluene	1	12.328	12.322	0.006	705445	2.50	2.45	
	19 o-Nitrotoluene	1	13.181	13.175	0.006	316328	2.50	2.44	
	20 p-Nitrotoluene	1	13.628	13.628	0.000	271810	2.50	2.42	
	21 m-Nitrotoluene	1	14.241	14.235	0.006	354211	2.50	2.42	
	22 PETN	2	15.441	15.435	0.006	1762520	25.0	24.7	

Reagents:

8330IntermStk_00041 Amount Added: 0.13 Units: mL

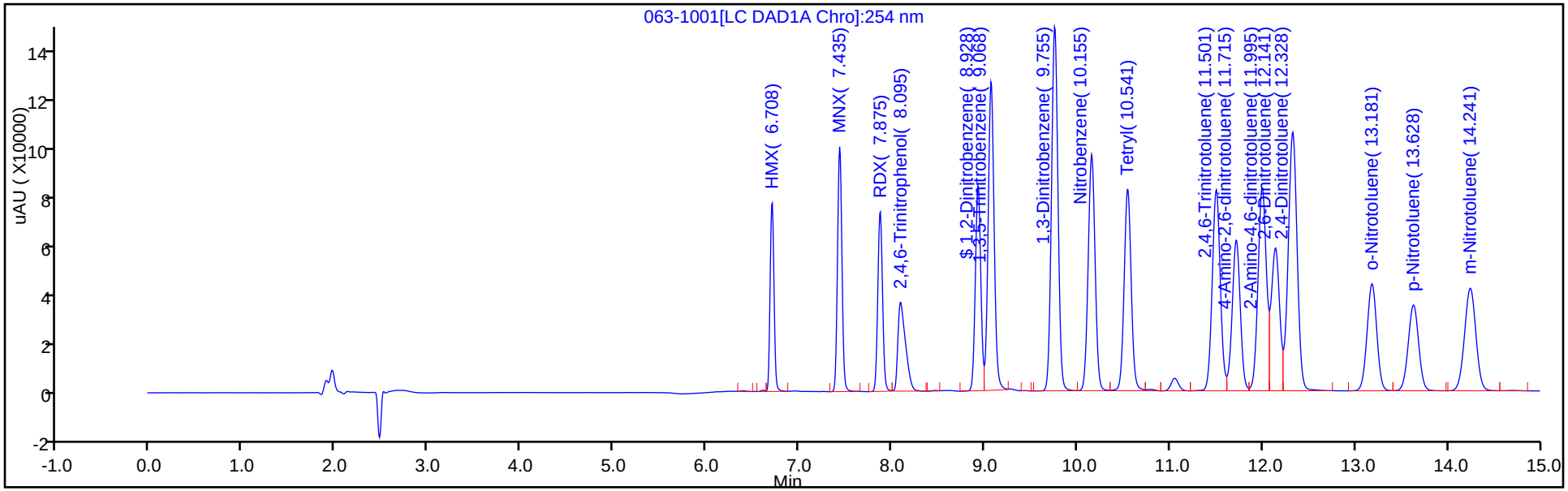
Report Date: 29-Oct-2016 09:47:53 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

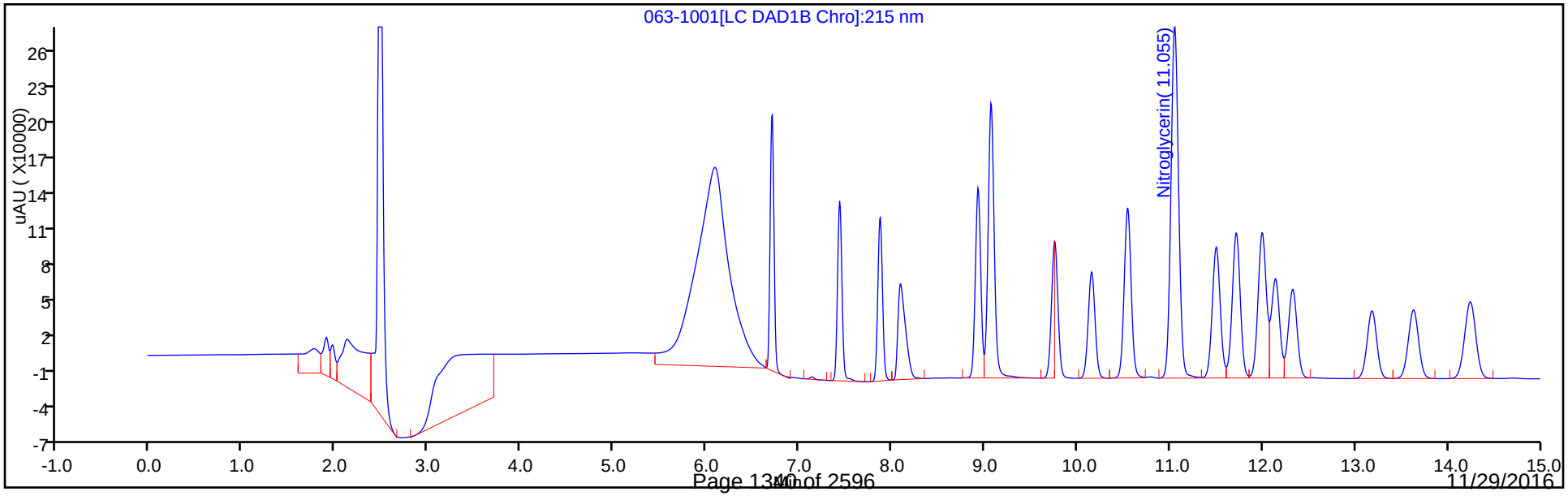
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\063-1001.D

Injection Date:	28-Oct-2016 17:40:15	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L8			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	63
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\064-1101.D
Lims ID: IC MAIN L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 28-Oct-2016 18:03:18 ALS Bottle#: 64 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 7
Misc. Info.: 280-0051662-010
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:47:55 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 07:59:37

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.700	6.709	-0.009	92245	1.00	1.00	
4 MNX	1	7.420	7.435	-0.015	135605	0.99	0.99	
5 RDX	1	7.853	7.869	-0.016	106661	1.00	0.99	
6 2,4,6-Trinitrophenol	1	8.113	8.169	-0.056	84886	1.00	1.01	
$ 7 1,2-Dinitrobenzene	1	8.900	8.929	-0.029	139797	1.00	1.00	
8 1,3,5-Trinitrobenzene	1	9.046	9.069	-0.023	229302	1.00	0.99	
9 1,3-Dinitrobenzene	1	9.726	9.755	-0.029	292916	1.00	1.00	
11 Nitrobenzene	1	10.119	10.148	-0.029	203479	1.00	1.01	
12 Tetryl	1	10.499	10.542	-0.043	179879	1.00	1.01	
13 Nitroglycerin	2	11.006	11.055	-0.049	706204	10.0	9.88	
14 2,4,6-Trinitrotoluene	1	11.446	11.495	-0.049	201419	1.00	1.00	
15 4-Amino-2,6-dinitrotoluene	1	11.646	11.708	-0.062	152057	1.00	0.9849	
16 2-Amino-4,6-dinitrotoluene	1	11.926	11.995	-0.069	213727	1.00	1.00	
17 2,6-Dinitrotoluene	1	12.073	12.135	-0.062	145859	1.00	0.9803	
18 2,4-Dinitrotoluene	1	12.253	12.322	-0.069	287229	1.00	1.00	
19 o-Nitrotoluene	1	13.099	13.175	-0.076	129607	1.00	1.00	
20 p-Nitrotoluene	1	13.539	13.628	-0.089	110885	1.00	0.9871	
21 m-Nitrotoluene	1	14.146	14.235	-0.089	145050	1.00	0.9886	
22 PETN	2	15.319	15.435	-0.116	730560	10.0	10.2	

Reagents:

8330IntermStk_00041 Amount Added: 0.05 Units: mL

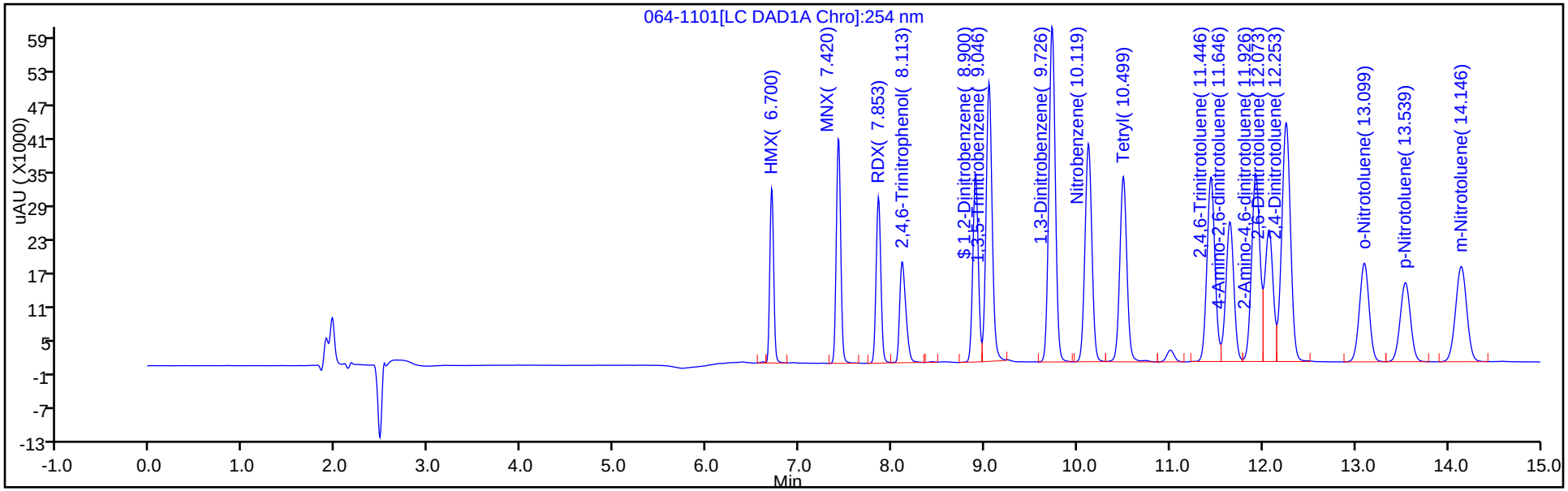
Report Date: 29-Oct-2016 09:47:56 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

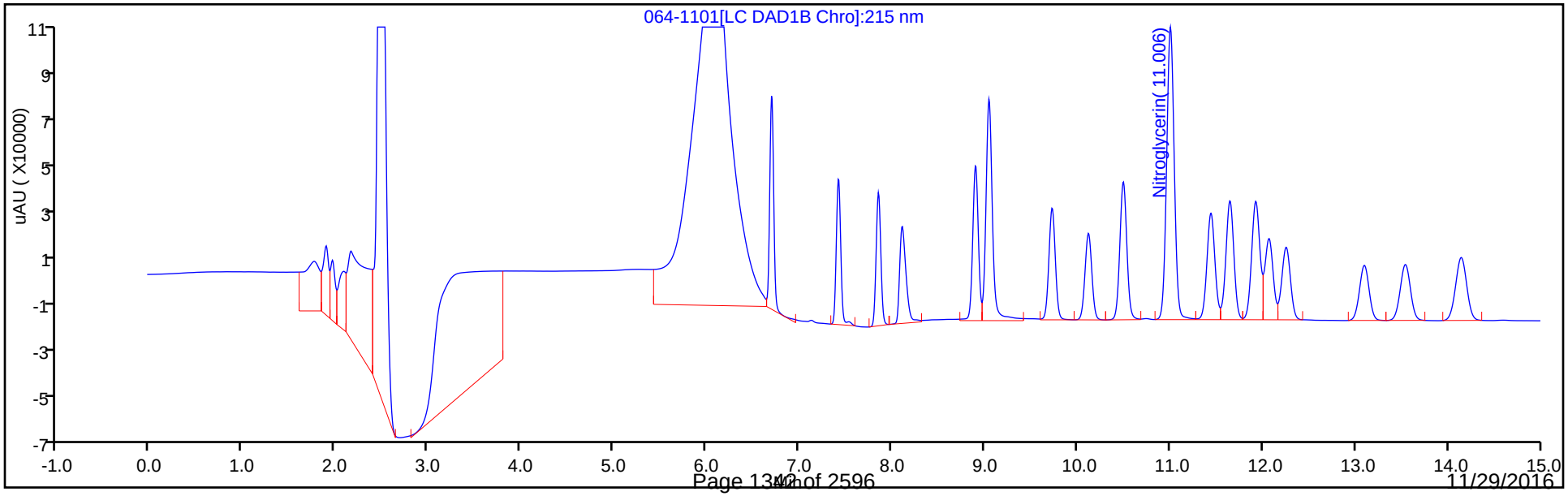
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\064-1101.D

Injection Date:	28-Oct-2016 18:03:18	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L7			Worklist Smp#:	11
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	64
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\065-1201.D
Lims ID: IC MAIN L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 28-Oct-2016 18:26:26 ALS Bottle#: 65 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 6
Misc. Info.: 280-0051662-011
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:47:57 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 07:59:44

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.705	6.709	-0.004	64302	0.7000	0.6951	
4 MNX	1	7.438	7.435	0.003	94315	0.6963	0.6885	
5 RDX	1	7.872	7.869	0.003	74288	0.7000	0.6903	
6 2,4,6-Trinitrophenol	1	8.145	8.169	-0.024	58784	0.7000	0.6989	
$ 7 1,2-Dinitrobenzene	1	8.925	8.929	-0.004	96960	0.7000	0.6912	
8 1,3,5-Trinitrobenzene	1	9.072	9.069	0.003	161032	0.7000	0.6973	
9 1,3-Dinitrobenzene	1	9.758	9.755	0.003	203968	0.7000	0.6942	
11 Nitrobenzene	1	10.151	10.148	0.003	141662	0.7000	0.7008	
12 Tetryl	1	10.545	10.542	0.003	125764	0.7000	0.7050	
13 Nitroglycerin	2	11.058	11.055	0.003	493571	7.00	6.90	
14 2,4,6-Trinitrotoluene	1	11.498	11.495	0.003	140330	0.7000	0.6929	
15 4-Amino-2,6-dinitrotoluene	1	11.711	11.708	0.003	106234	0.7000	0.6872	
16 2-Amino-4,6-dinitrotoluene	1	11.998	11.995	0.003	146932	0.7000	0.6877	
17 2,6-Dinitrotoluene	1	12.138	12.135	0.003	104506	0.7000	0.7022	
18 2,4-Dinitrotoluene	1	12.325	12.322	0.003	199649	0.7000	0.6924	
19 o-Nitrotoluene	1	13.185	13.175	0.010	90268	0.7000	0.6951	
20 p-Nitrotoluene	1	13.631	13.628	0.003	77427	0.7000	0.6893	
21 m-Nitrotoluene	1	14.245	14.235	0.010	101462	0.7000	0.6910	
22 PETN	2	15.438	15.435	0.003	505279	7.00	7.06	

Reagents:

8330IntermStk_00041 Amount Added: 0.04 Units: mL

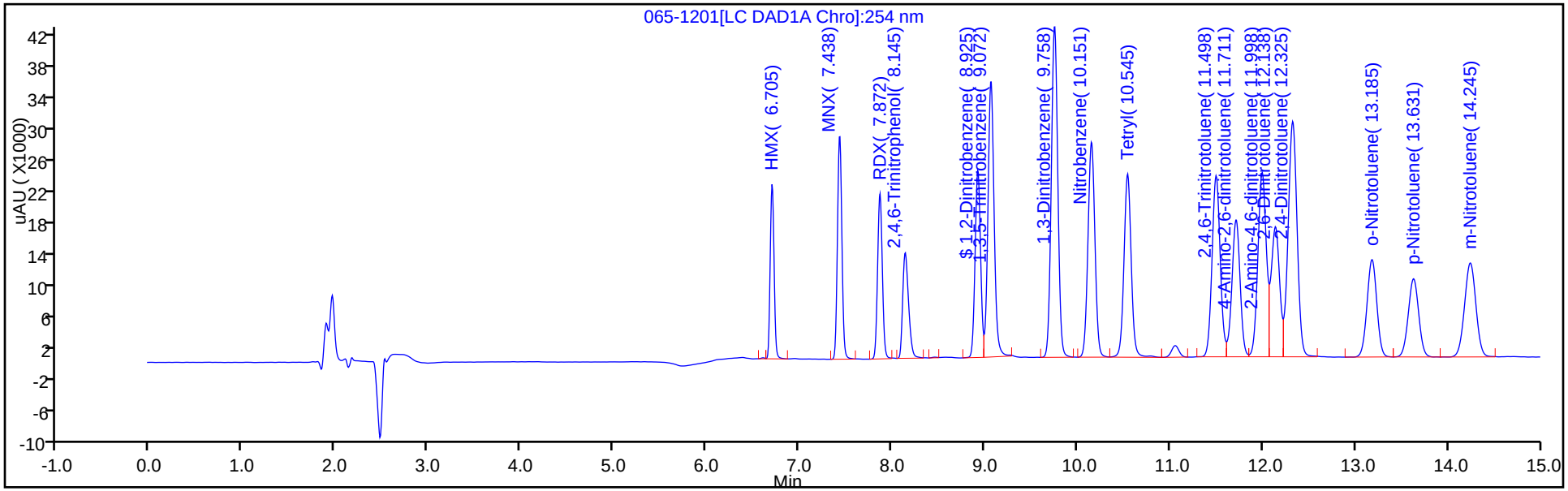
Report Date: 29-Oct-2016 09:47:59 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

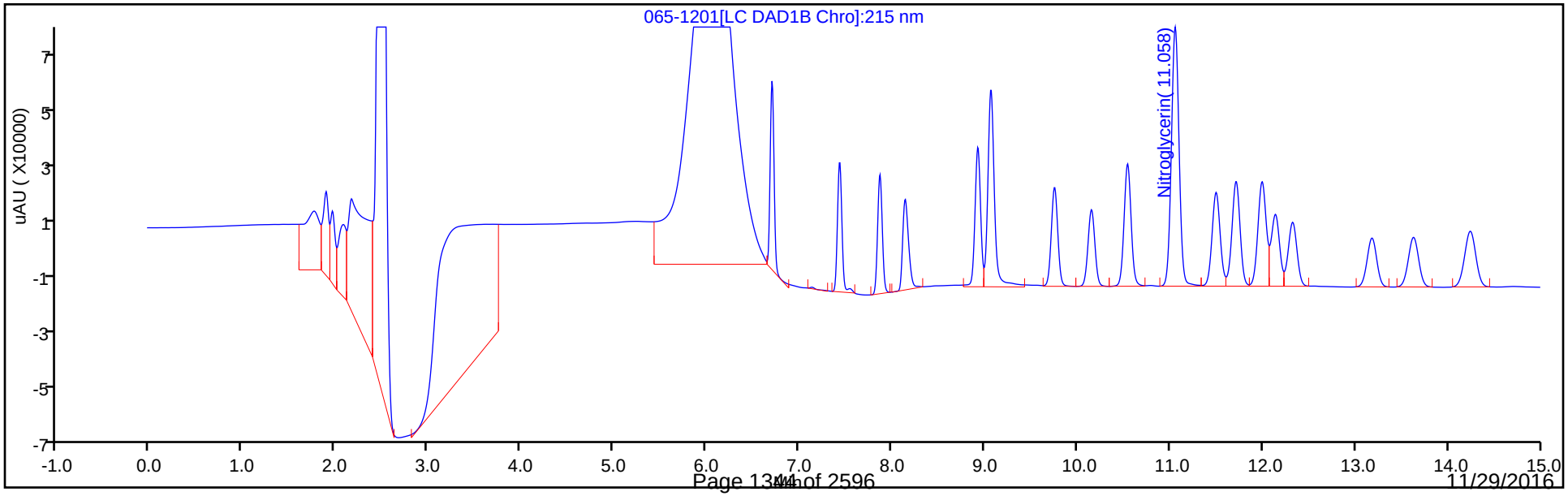
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\065-1201.D

Injection Date:	28-Oct-2016 18:26:26	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L6			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	65
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\066-1301.D
Lims ID: IC MAIN L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 28-Oct-2016 18:49:30 ALS Bottle#: 66 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 5
Misc. Info.: 280-0051662-012
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:01 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 07:59:49

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.704	6.709	-0.005	36574	0.4000	0.3951	
4 MNX	1	7.431	7.435	-0.004	53893	0.3979	0.3932	
5 RDX	1	7.857	7.869	-0.012	42667	0.4000	0.3958	
6 2,4,6-Trinitrophenol	1	8.144	8.169	-0.025	33646	0.4000	0.3995	
$ 7 1,2-Dinitrobenzene	1	8.904	8.929	-0.025	55264	0.4000	0.3935	
8 1,3,5-Trinitrobenzene	1	9.044	9.069	-0.025	90565	0.4000	0.3920	
9 1,3-Dinitrobenzene	1	9.724	9.755	-0.031	116393	0.4000	0.3962	
11 Nitrobenzene	1	10.117	10.148	-0.031	80111	0.4000	0.3965	
12 Tetryl	1	10.491	10.542	-0.051	70068	0.4000	0.3926	
13 Nitroglycerin	2	11.004	11.055	-0.051	283404	4.00	3.96	
14 2,4,6-Trinitrotoluene	1	11.444	11.495	-0.051	79876	0.4000	0.3933	
15 4-Amino-2,6-dinitrotoluene	1	11.651	11.708	-0.057	61505	0.4000	0.3966	
16 2-Amino-4,6-dinitrotoluene	1	11.931	11.995	-0.064	83473	0.4000	0.3902	
17 2,6-Dinitrotoluene	1	12.071	12.135	-0.064	59367	0.4000	0.3987	
18 2,4-Dinitrotoluene	1	12.257	12.322	-0.065	113659	0.4000	0.3938	
19 o-Nitrotoluene	1	13.104	13.175	-0.071	51384	0.4000	0.3954	
20 p-Nitrotoluene	1	13.551	13.628	-0.077	44248	0.4000	0.3940	
21 m-Nitrotoluene	1	14.157	14.235	-0.078	57856	0.4000	0.3933	
22 PETN	2	15.344	15.435	-0.091	287342	4.00	4.01	

Reagents:

8330IntermStk_00041 Amount Added: 0.02 Units: mL

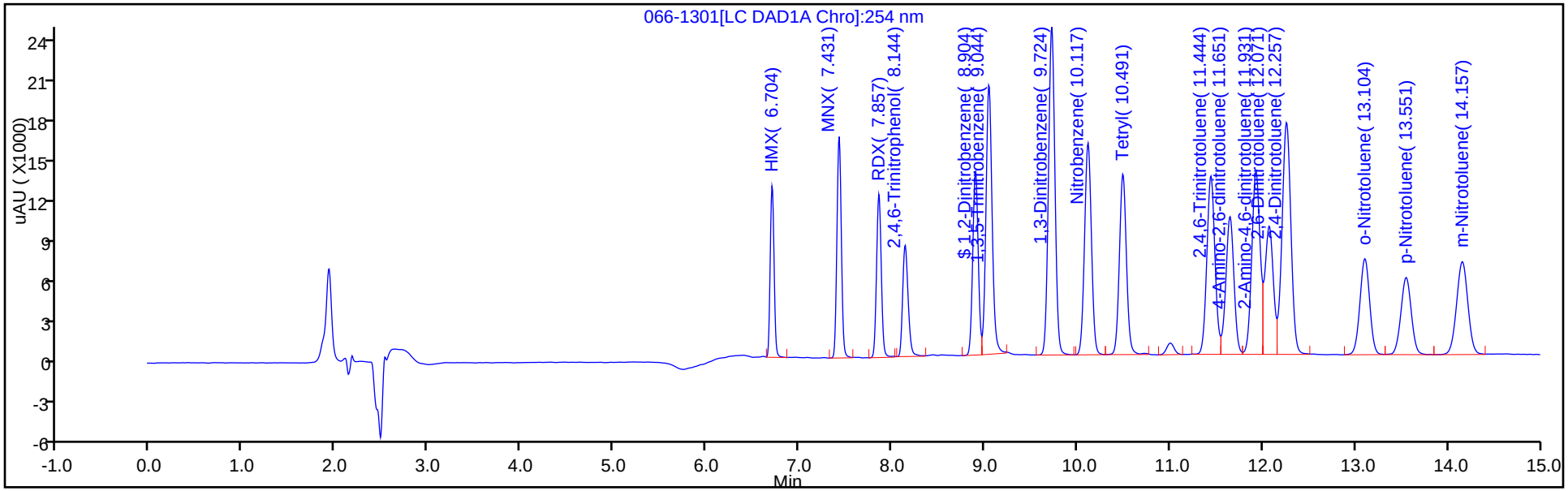
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TestAmerica Denver

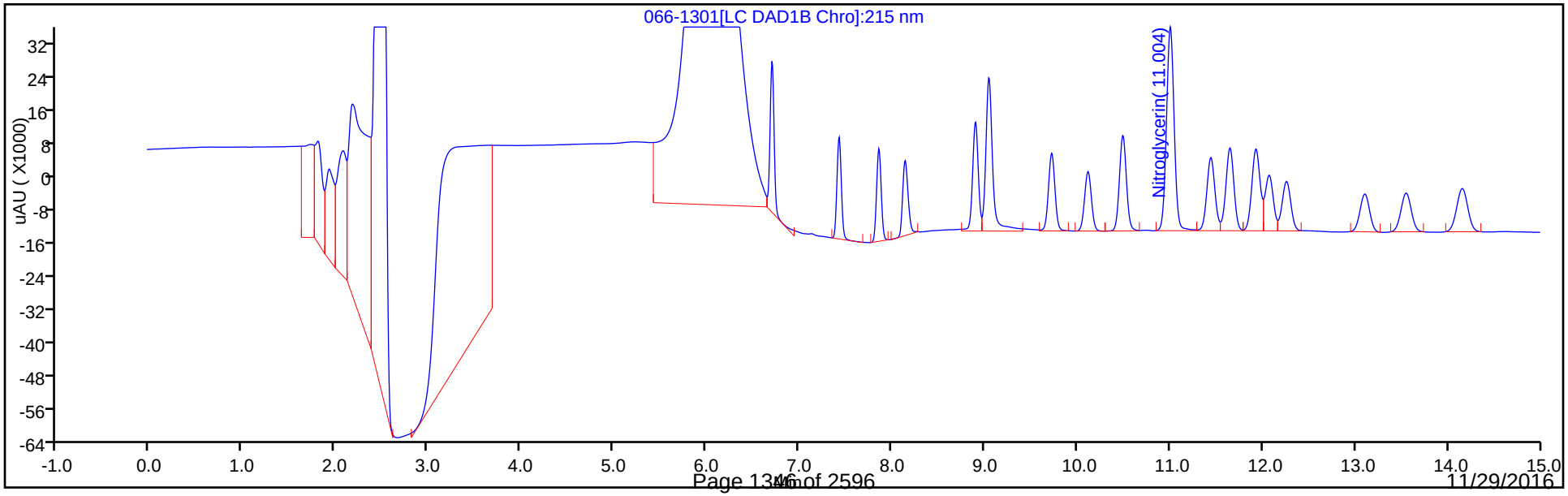
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Injection Date:	28-Oct-2016 18:49:30	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L5			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	66
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\067-1401.D
Lims ID: IC MAIN L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 28-Oct-2016 19:12:34 ALS Bottle#: 67 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 4
Misc. Info.: 280-0051662-013
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:05 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 07:59:53

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.709	6.709	0.000	22860	0.2500	0.2468	
4 MNX	1	7.435	7.435	0.000	33827	0.2487	0.2466	
5 RDX	1	7.869	7.869	0.000	27038	0.2500	0.2503	
6 2,4,6-Trinitrophenol	1	8.169	8.169	0.000	21211	0.2500	0.2514	
$ 7 1,2-Dinitrobenzene	1	8.929	8.929	0.000	34865	0.2500	0.2478	
8 1,3,5-Trinitrobenzene	1	9.069	9.069	0.000	57129	0.2500	0.2471	
9 1,3-Dinitrobenzene	1	9.755	9.755	0.000	73332	0.2500	0.2497	
11 Nitrobenzene	1	10.148	10.148	0.000	50900	0.2500	0.2521	
12 Tetryl	1	10.542	10.542	0.000	43964	0.2500	0.2462	
13 Nitroglycerin	2	11.055	11.055	0.000	177491	2.50	2.47	
14 2,4,6-Trinitrotoluene	1	11.495	11.495	0.000	50356	0.2500	0.2471	
15 4-Amino-2,6-dinitrotoluene	1	11.708	11.708	0.000	38986	0.2500	0.2503	
16 2-Amino-4,6-dinitrotoluene	1	11.995	11.995	0.000	52903	0.2500	0.2468	
17 2,6-Dinitrotoluene	1	12.135	12.135	0.000	37388	0.2500	0.2509	
18 2,4-Dinitrotoluene	1	12.322	12.322	0.000	71714	0.2500	0.2482	
19 o-Nitrotoluene	1	13.175	13.175	0.000	32568	0.2500	0.2504	
20 p-Nitrotoluene	1	13.628	13.628	0.000	28015	0.2500	0.2495	
21 m-Nitrotoluene	1	14.235	14.235	0.000	36800	0.2500	0.2496	
22 PETN	2	15.435	15.435	0.000	179870	2.50	2.50	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

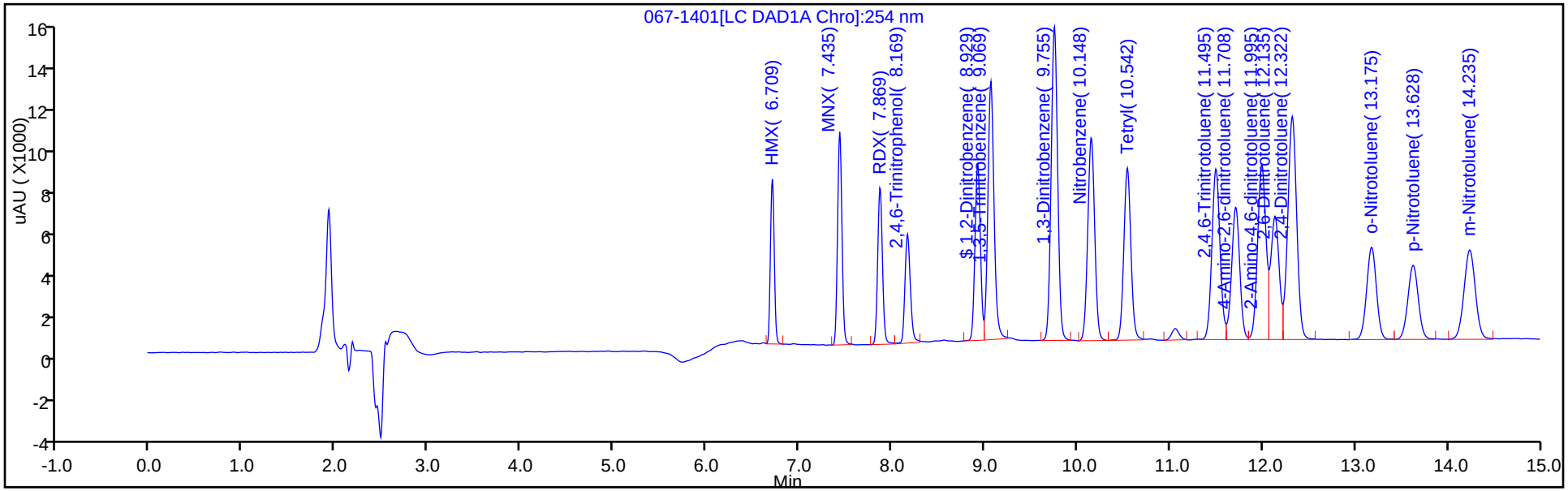
Report Date: 29-Oct-2016 09:48:05 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

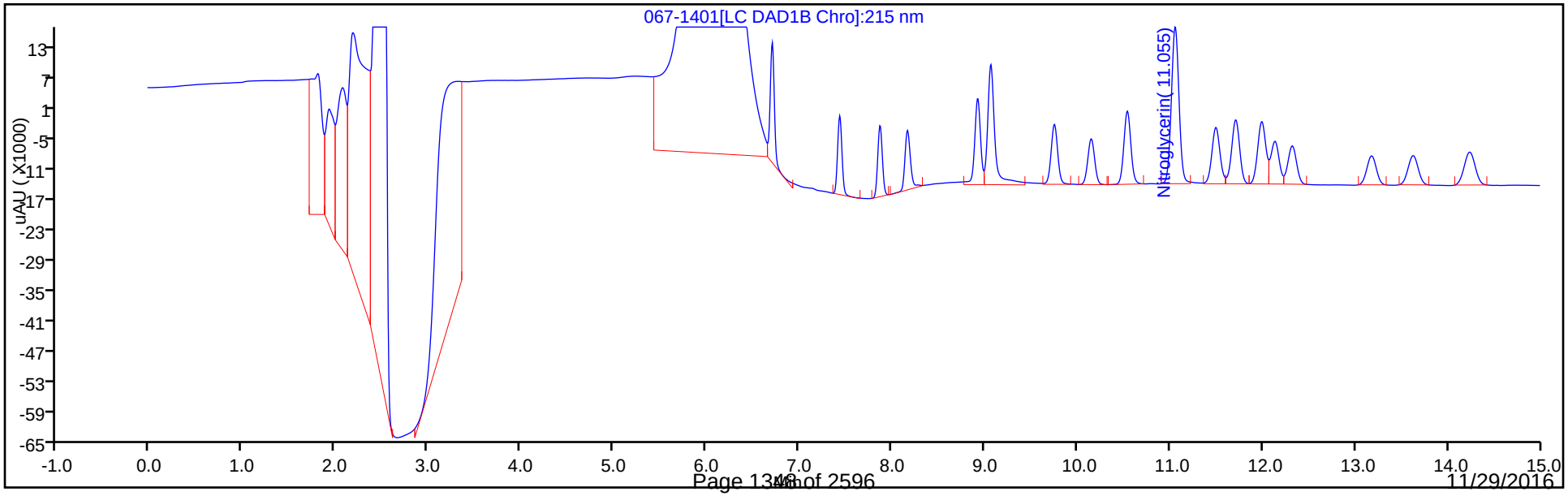
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\067-1401.D

Injection Date:	28-Oct-2016 19:12:34	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L4			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	67
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\068-1501.D
Lims ID: IC MAIN L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 28-Oct-2016 19:35:35 ALS Bottle#: 68 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 3
Misc. Info.: 280-0051662-014
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:06 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 08:00:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.707	6.709	-0.002	9425	0.1000	0.1014	
4 MNX	1	7.434	7.435	-0.001	13971	0.0995	0.1015	
5 RDX	1	7.867	7.869	-0.002	11161	0.1000	0.1024	
6 2,4,6-Trinitrophenol	1	8.174	8.169	0.005	8512	0.1000	0.1001	
$ 7 1,2-Dinitrobenzene	1	8.921	8.929	-0.008	14550	0.1000	0.1027	
8 1,3,5-Trinitrobenzene	1	9.067	9.069	-0.002	23675	0.1000	0.1022	
9 1,3-Dinitrobenzene	1	9.747	9.755	-0.008	29851	0.1000	0.1017	
11 Nitrobenzene	1	10.147	10.148	-0.001	20580	0.1000	0.1022	
12 Tetryl	1	10.527	10.542	-0.015	18109	0.1000	0.1012	
13 Nitroglycerin	2	11.047	11.055	-0.008	73823	1.00	1.02	
14 2,4,6-Trinitrotoluene	1	11.487	11.495	-0.008	21123	0.1000	0.1023	
15 4-Amino-2,6-dinitrotoluene	1	11.694	11.708	-0.014	16286	0.1000	0.1029	
16 2-Amino-4,6-dinitrotoluene	1	11.981	11.995	-0.014	21844	0.1000	0.1012	
17 2,6-Dinitrotoluene	1	12.121	12.135	-0.014	15532	0.1000	0.1039	
18 2,4-Dinitrotoluene	1	12.307	12.322	-0.015	29722	0.1000	0.1024	
19 o-Nitrotoluene	1	13.154	13.175	-0.021	13597	0.1000	0.1042	
20 p-Nitrotoluene	1	13.607	13.628	-0.021	11545	0.1000	0.1029	
21 m-Nitrotoluene	1	14.214	14.235	-0.021	15329	0.1000	0.1030	
22 PETN	2	15.407	15.435	-0.028	72482	1.00	1.00	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

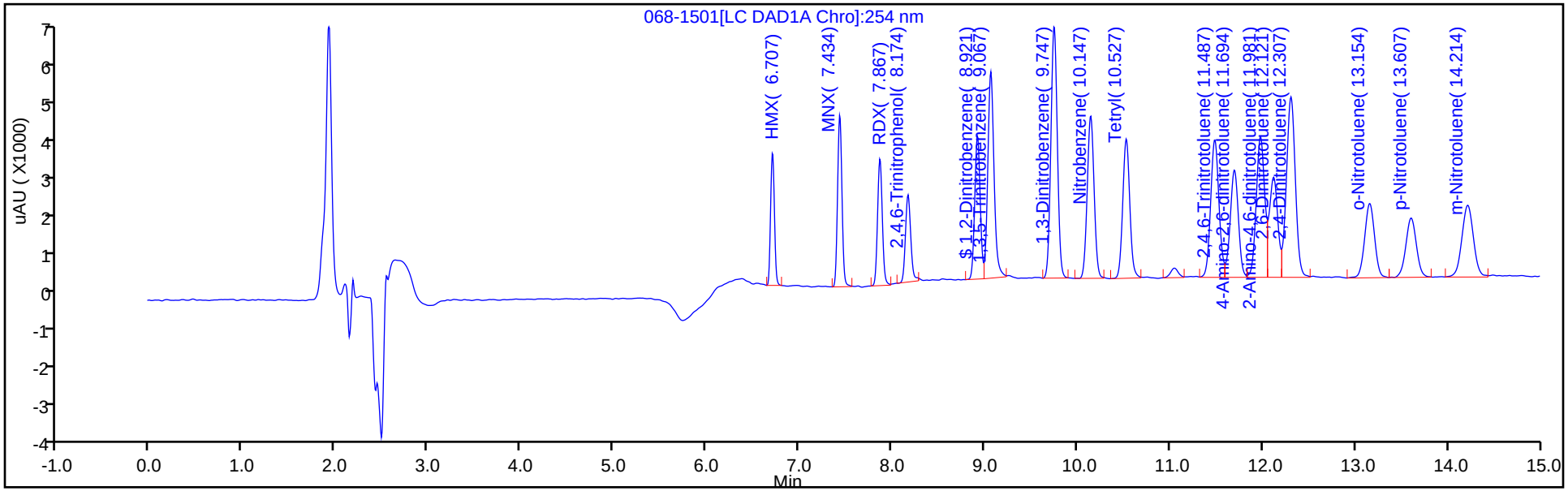
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TestAmerica Denver

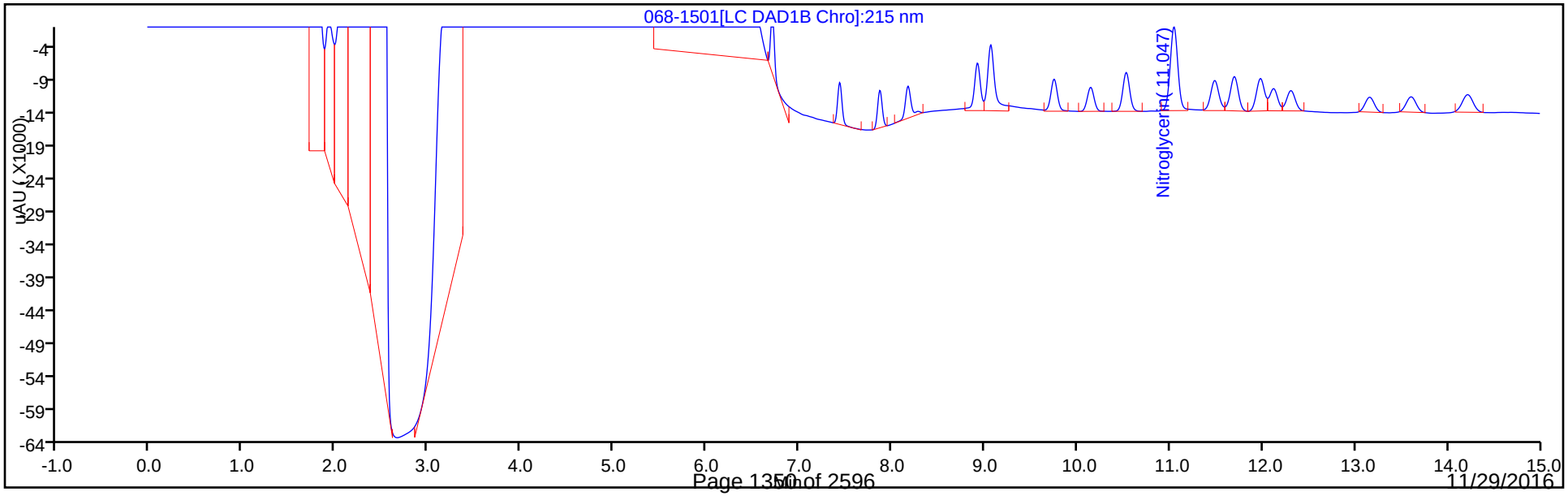
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Injection Date:	28-Oct-2016 19:35:35	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L3			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	68
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\069-1601.D
Lims ID: IC MAIN L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 28-Oct-2016 19:58:37 ALS Bottle#: 69 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 2
Misc. Info.: 280-0051662-015
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:08 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 08:00:06

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.703	6.709	-0.006	4965	0.0500	0.0532	
4 MNX	1	7.430	7.435	-0.005	7310	0.0497	0.0528	
5 RDX	1	7.863	7.869	-0.006	5845	0.0500	0.0529	
6 2,4,6-Trinitrophenol	1	8.170	8.169	0.001	4333	0.0500	0.0504	
$ 7 1,2-Dinitrobenzene	1	8.917	8.929	-0.012	7589	0.0500	0.0530	
8 1,3,5-Trinitrobenzene	1	9.063	9.069	-0.006	12390	0.0500	0.0533	
9 1,3-Dinitrobenzene	1	9.743	9.755	-0.012	15265	0.0500	0.0521	
11 Nitrobenzene	1	10.143	10.148	-0.005	9936	0.0500	0.0496	
12 Tetryl	1	10.523	10.542	-0.019	9369	0.0500	0.0521	
13 Nitroglycerin	2	11.043	11.055	-0.012	39923	0.5000	0.5484	
14 2,4,6-Trinitrotoluene	1	11.483	11.495	-0.012	11123	0.0500	0.0527	
15 4-Amino-2,6-dinitrotoluene	1	11.697	11.708	-0.011	8656	0.0500	0.0533	
16 2-Amino-4,6-dinitrotoluene	1	11.977	11.995	-0.018	11818	0.0500	0.0542	
17 2,6-Dinitrotoluene	1	12.117	12.135	-0.018	7708	0.0500	0.0513	
18 2,4-Dinitrotoluene	1	12.303	12.322	-0.019	15282	0.0500	0.0522	
19 o-Nitrotoluene	1	13.157	13.175	-0.018	6608	0.0500	0.0503	
20 p-Nitrotoluene	1	13.610	13.628	-0.018	5950	0.0500	0.0531	
21 m-Nitrotoluene	1	14.217	14.235	-0.018	7998	0.0500	0.0530	
22 PETN	2	15.403	15.435	-0.032	36171	0.5000	0.4881	

Reagents:

8330IntermStk_00041 Amount Added: 0.00 Units: mL

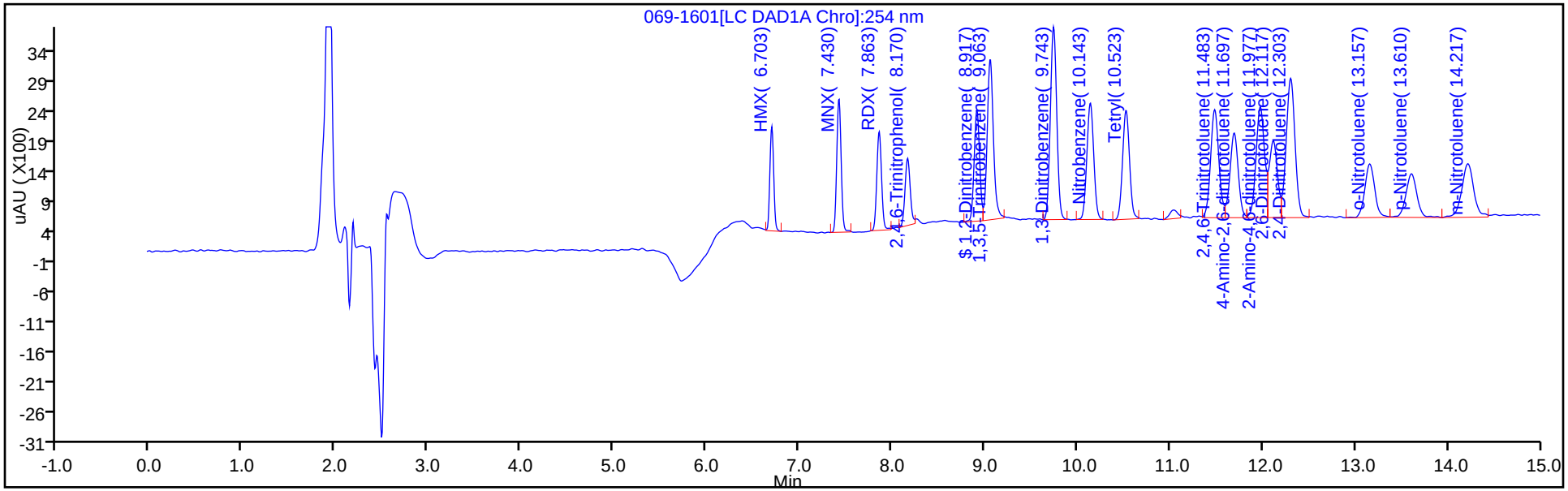
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TestAmerica Denver

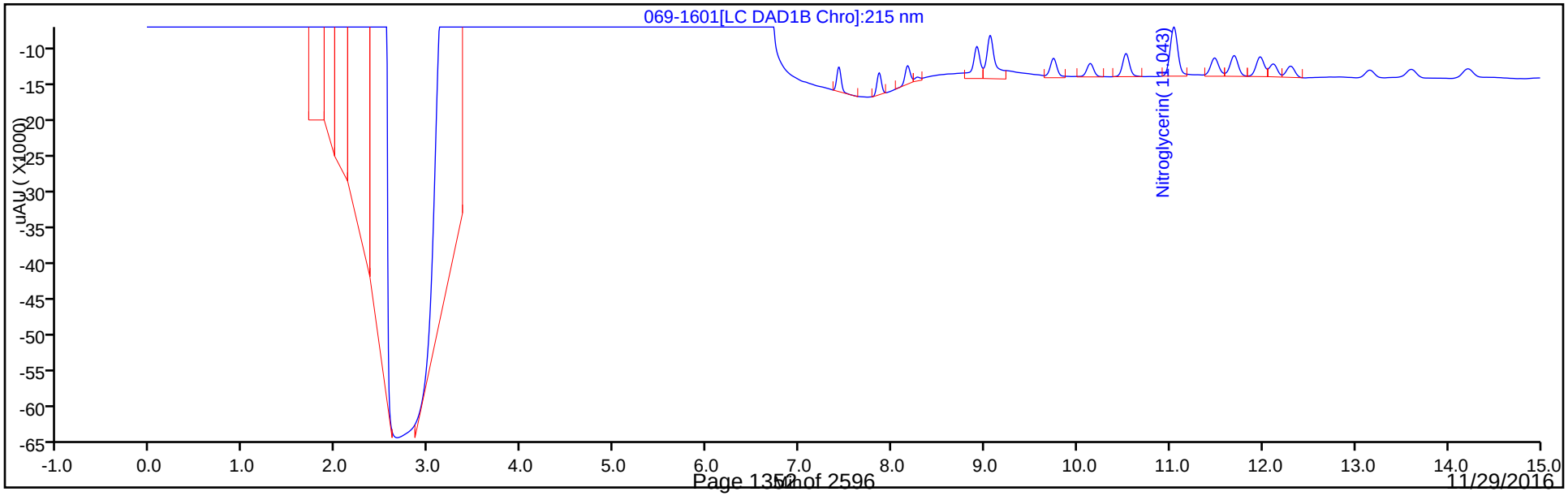
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\069-1601.D

Injection Date:	28-Oct-2016 19:58:37	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L2			Worklist Smp#:	16
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	69
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D
Lims ID: IC MAIN L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 28-Oct-2016 20:21:37 ALS Bottle#: 70 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Lv 1
Misc. Info.: 280-0051662-021
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:10 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 08:03:10

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.704	6.709	-0.005	963	0.0100	0.009870	
	4 MNX	1	7.437	7.435	0.002	1422	0.0099	0.009813	
	5 RDX	1	7.870	7.869	0.001	1221	0.0100	0.009865	
	6 2,4,6-Trinitrophenol	1	8.190	8.169	0.021	943	0.0100	0.0100	M
$	7 1,2-Dinitrobenzene	1	8.930	8.929	0.001	1542	0.0100	0.009862	
	8 1,3,5-Trinitrobenzene	1	9.077	9.069	0.008	2373	0.0100	0.009860	
	9 1,3-Dinitrobenzene	1	9.764	9.755	0.009	2866	0.0100	0.0099	
	11 Nitrobenzene	1	10.164	10.148	0.016	1935	0.0100	0.0100	
	12 Tetryl	1	10.550	10.542	0.008	1842	0.0100	0.0099	
	13 Nitroglycerin	2	11.070	11.055	0.015	7747	0.1000	0.0980	M
	14 2,4,6-Trinitrotoluene	1	11.517	11.495	0.022	2478	0.0100	0.009881	
	15 4-Amino-2,6-dinitrotoluene	1	11.730	11.708	0.022	1964	0.0100	0.009846	
	16 2-Amino-4,6-dinitrotoluene	1	12.010	11.995	0.015	2350	0.0100	0.009833	M
	17 2,6-Dinitrotoluene	1	12.157	12.135	0.022	1556	0.0100	0.0099	M
	18 2,4-Dinitrotoluene	1	12.344	12.322	0.022	3098	0.0100	0.009898	
	19 o-Nitrotoluene	1	13.197	13.175	0.022	1370	0.0100	0.0099	
	20 p-Nitrotoluene	1	13.650	13.628	0.022	1088	0.0100	0.009855	
	21 m-Nitrotoluene	1	14.270	14.235	0.035	1680	0.0100	0.009859	
	22 PETN	2	15.464	15.435	0.029	8517	0.1000	0.1005	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00041 Amount Added: 0.00 Units: mL

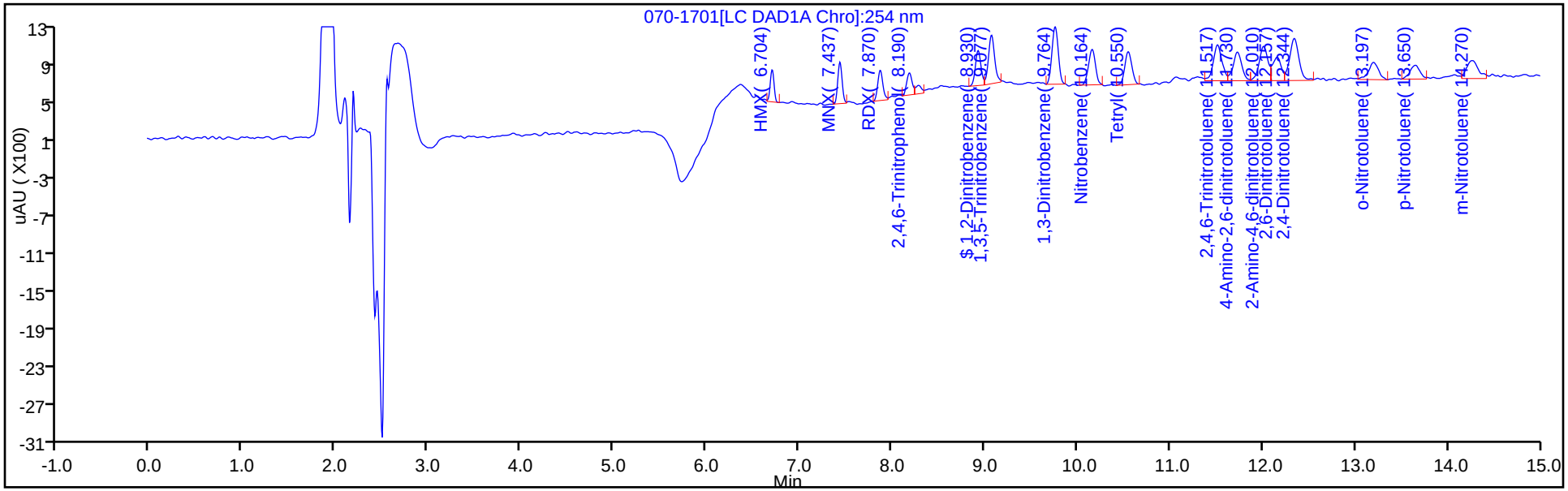
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TestAmerica Denver

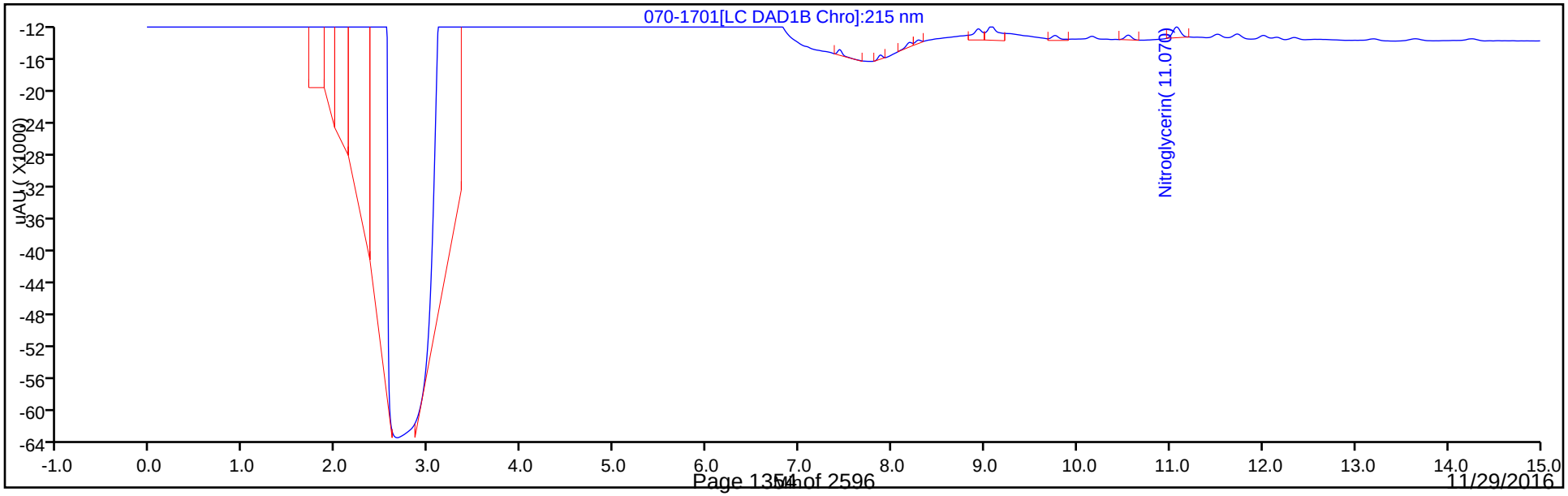
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Injection Date:	28-Oct-2016 20:21:37	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	IC MAIN L1			Worklist Smp#:	17
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	70
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

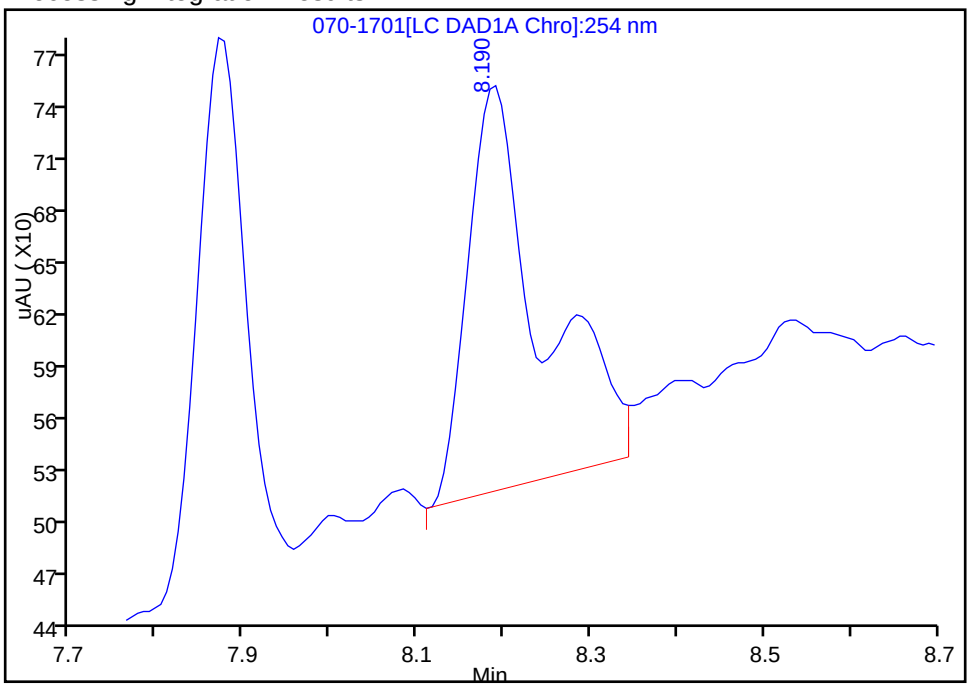
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Lims ID:	IC MAIN L1				
Client ID:					
Operator ID:	ACF	ALS Bottle#:	70	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

6 2,4,6-Trinitrophenol, CAS: 88-89-1

Signal: 1

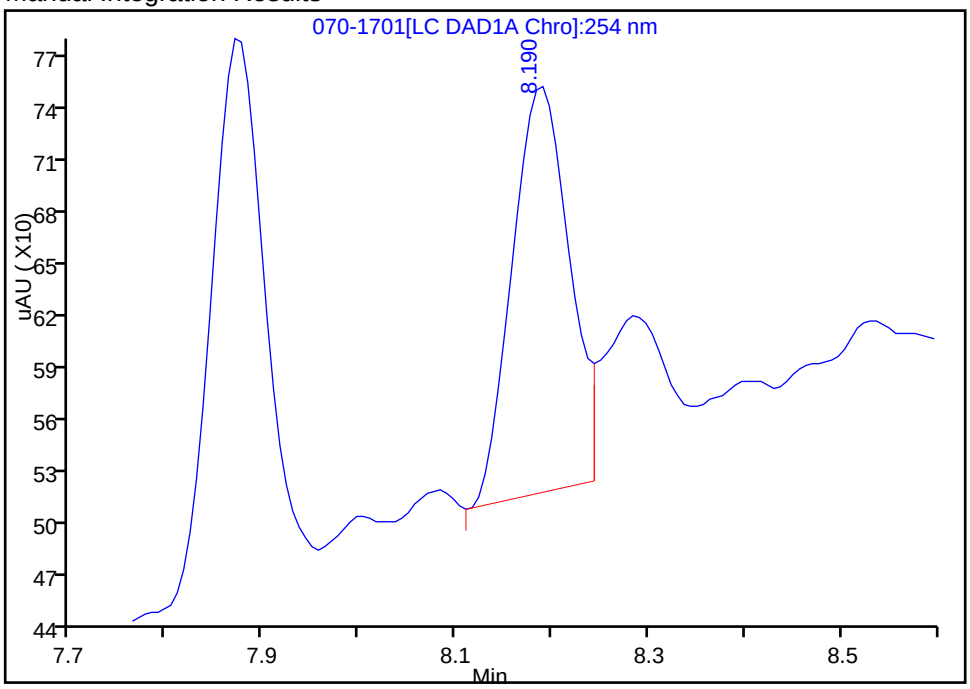
Processing Integration Results

RT: 8.19
Area: 1334
Amount: 0.010682
Amount Units: ug/mL



Manual Integration Results

RT: 8.19
Area: 943
Amount: 0.009982
Amount Units: ug/mL



Reviewer: freya, 29-Oct-2016 09:35:15
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

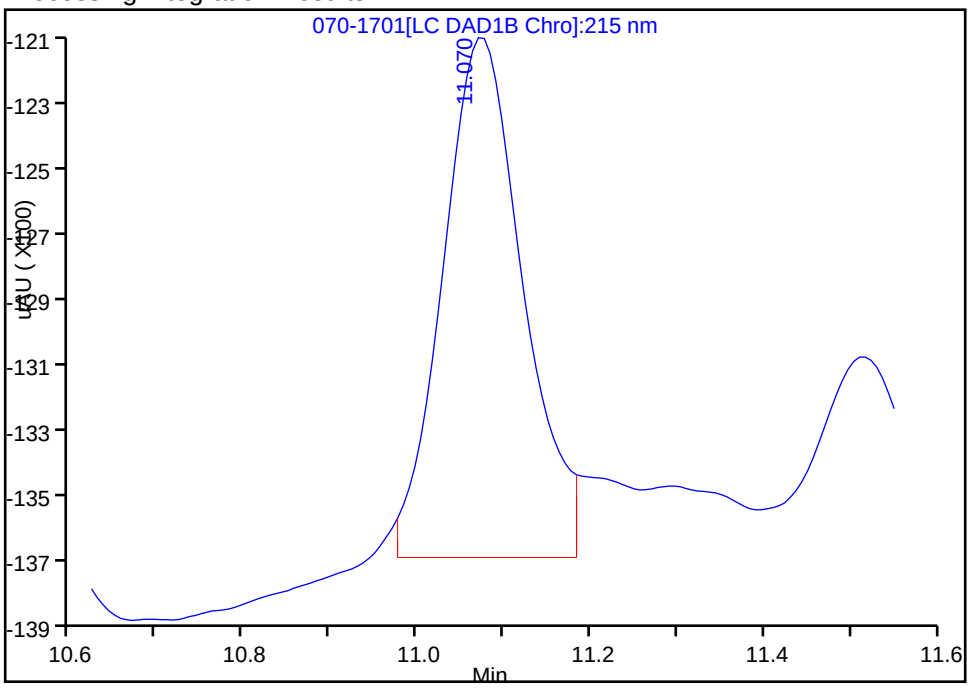
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Injection Date: 28-Oct-2016 20:21:37 Instrument ID: CHHPLC_X3
Lims ID: IC MAIN L1
Client ID:
Operator ID: ACF ALS Bottle#: 70 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

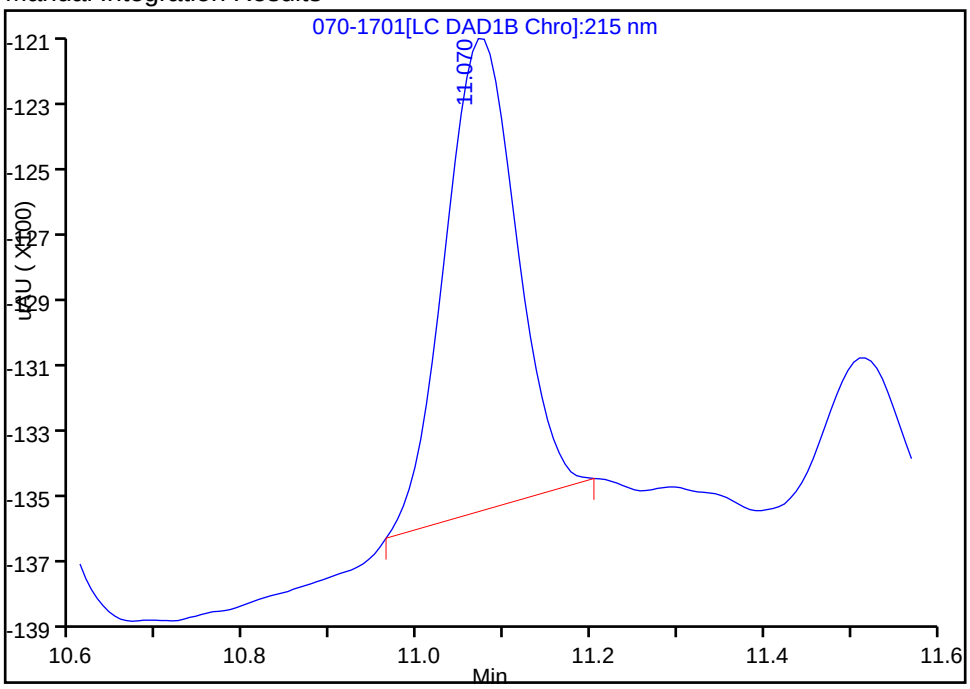
Processing Integration Results

RT: 11.07
Area: 9443
Amount: 0.122086
Amount Units: ug/mL



Manual Integration Results

RT: 11.07
Area: 7747
Amount: 0.097953
Amount Units: ug/mL



Reviewer: freya, 29-Oct-2016 09:29:26
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

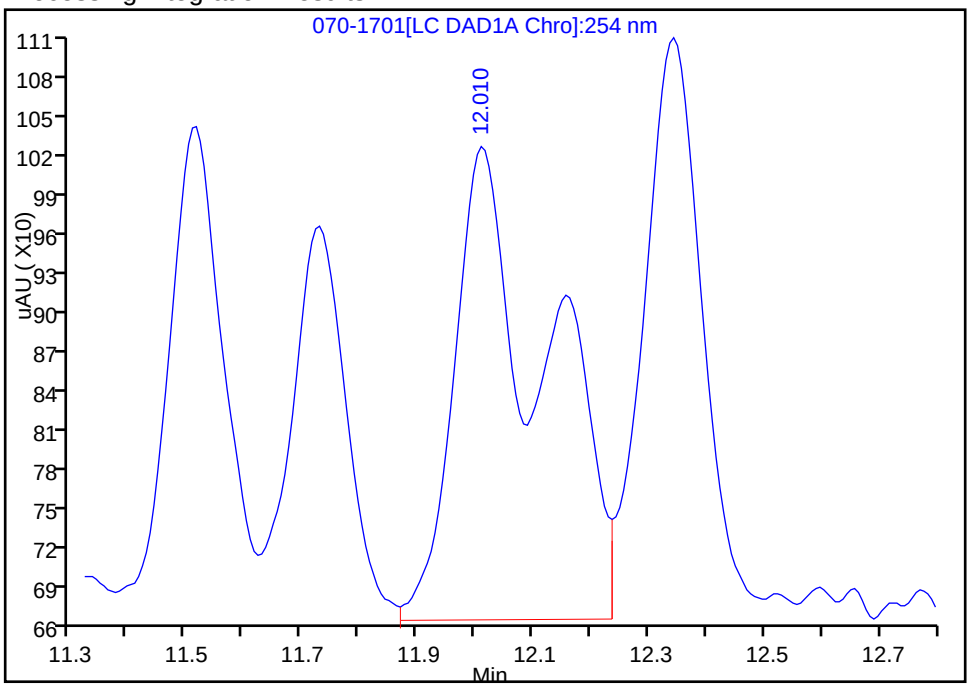
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D
Injection Date: 28-Oct-2016 20:21:37 Instrument ID: CHHPLC_X3
Lims ID: IC MAIN L1
Client ID:
Operator ID: ACF ALS Bottle#: 70 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

16 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

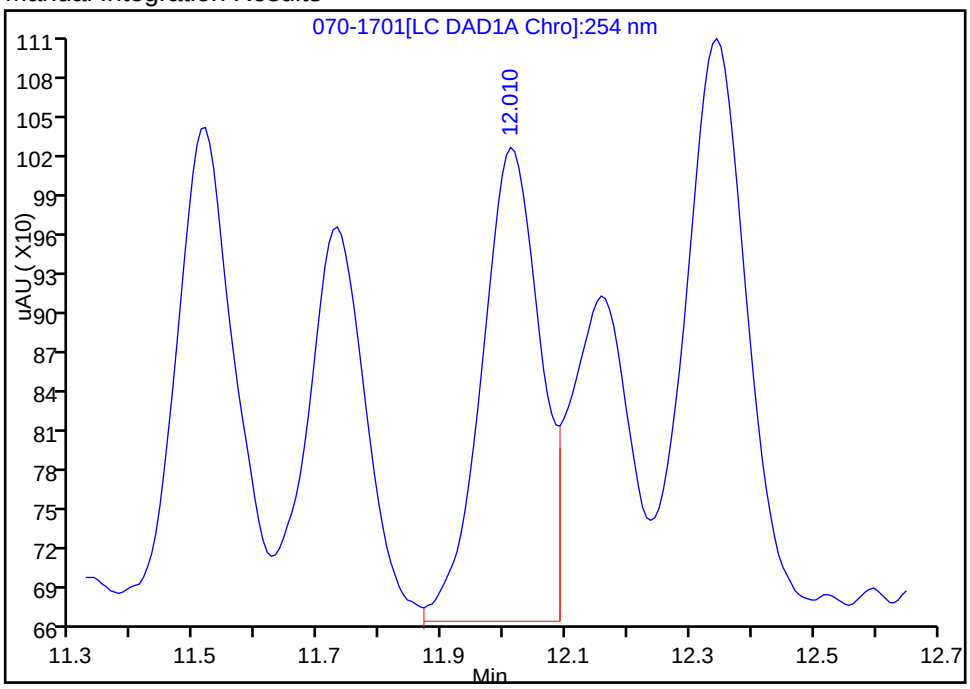
Processing Integration Results

RT: 12.01
Area: 3899
Amount: 0.015951
Amount Units: ug/mL



Manual Integration Results

RT: 12.01
Area: 2350
Amount: 0.009833
Amount Units: ug/mL



Reviewer: freya, 29-Oct-2016 09:25:51
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

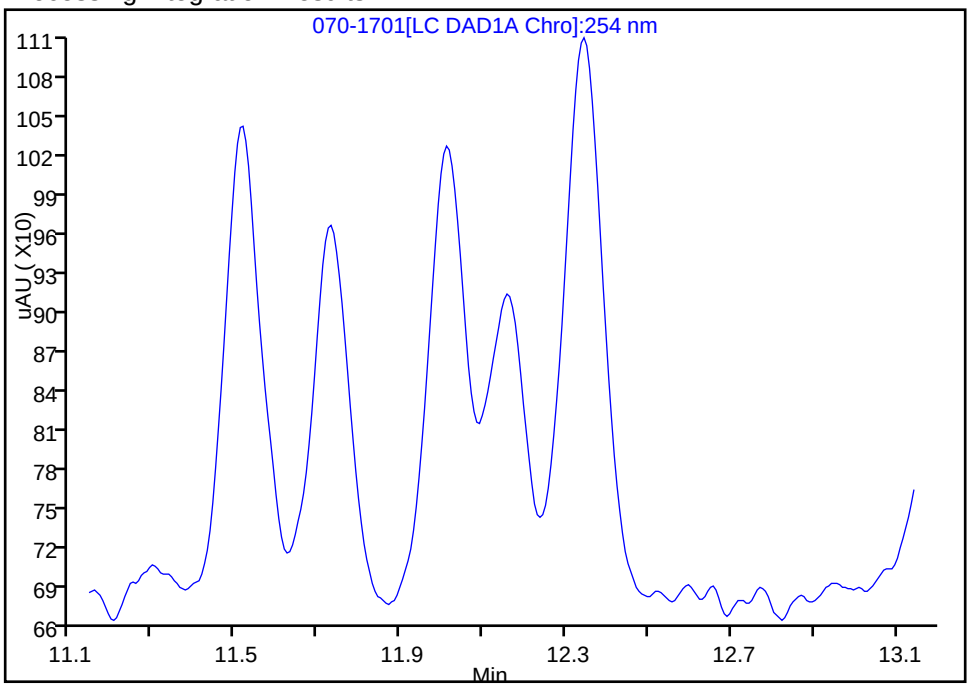
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D
Injection Date: 28-Oct-2016 20:21:37 Instrument ID: CHHPLC_X3
Lims ID: IC MAIN L1
Client ID:
Operator ID: ACF ALS Bottle#: 70 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

17 2,6-Dinitrotoluene, CAS: 606-20-2

Signal: 1

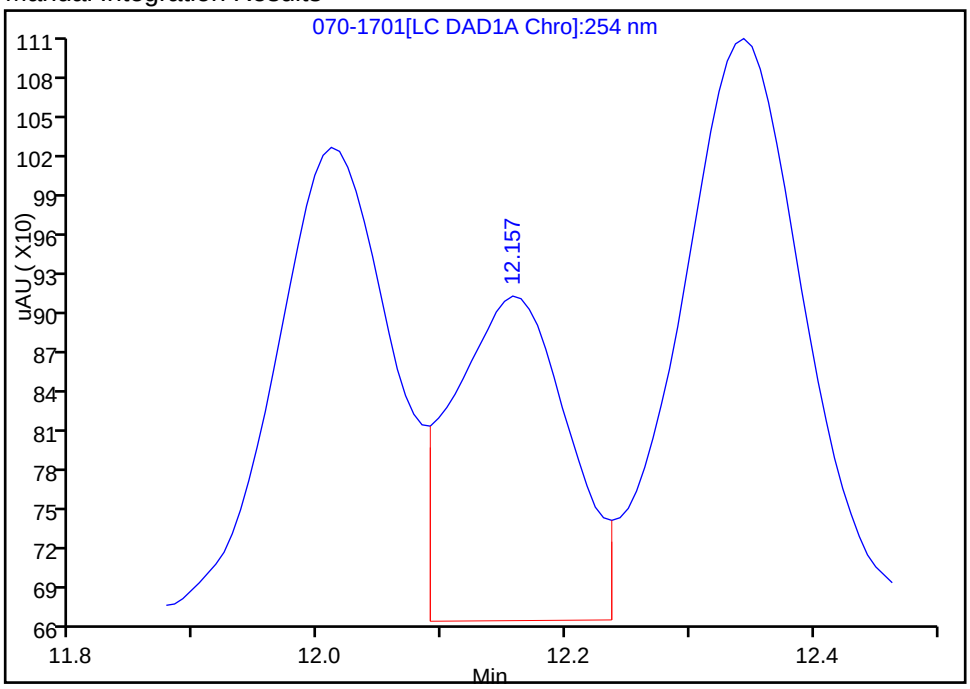
Not Detected
Expected RT: 12.14

Processing Integration Results



Manual Integration Results

RT: 12.16
Area: 1556
Amount: 0.009912
Amount Units: ug/mL



Reviewer: freya, 29-Oct-2016 09:25:51
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

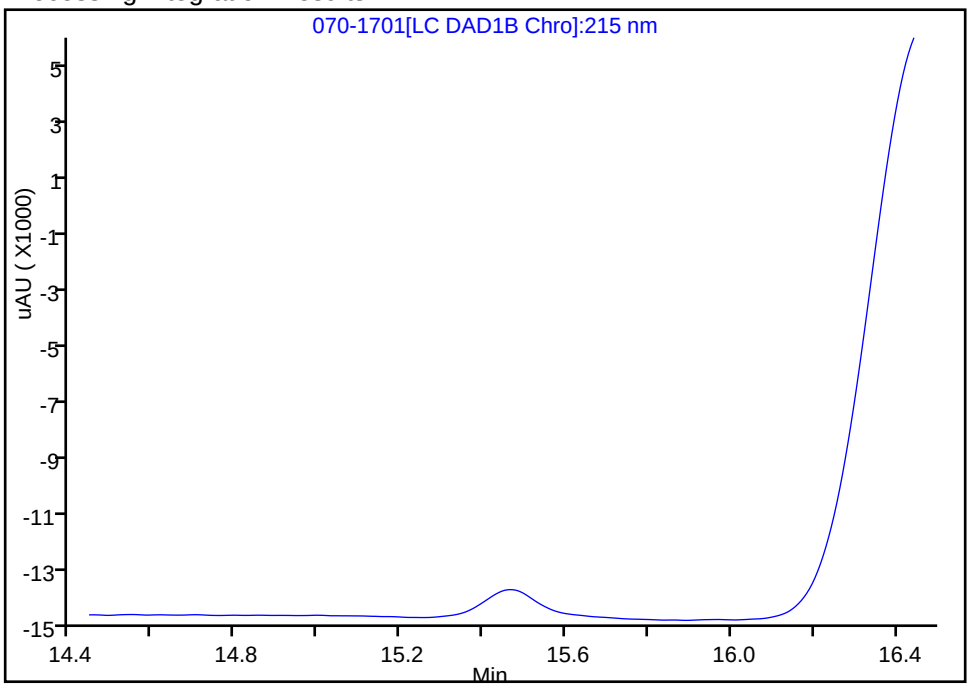
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D
Injection Date: 28-Oct-2016 20:21:37 Instrument ID: CHHPLC_X3
Lims ID: IC MAIN L1
Client ID:
Operator ID: ACF ALS Bottle#: 70 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

22 PETN, CAS: 78-11-5

Signal: 1

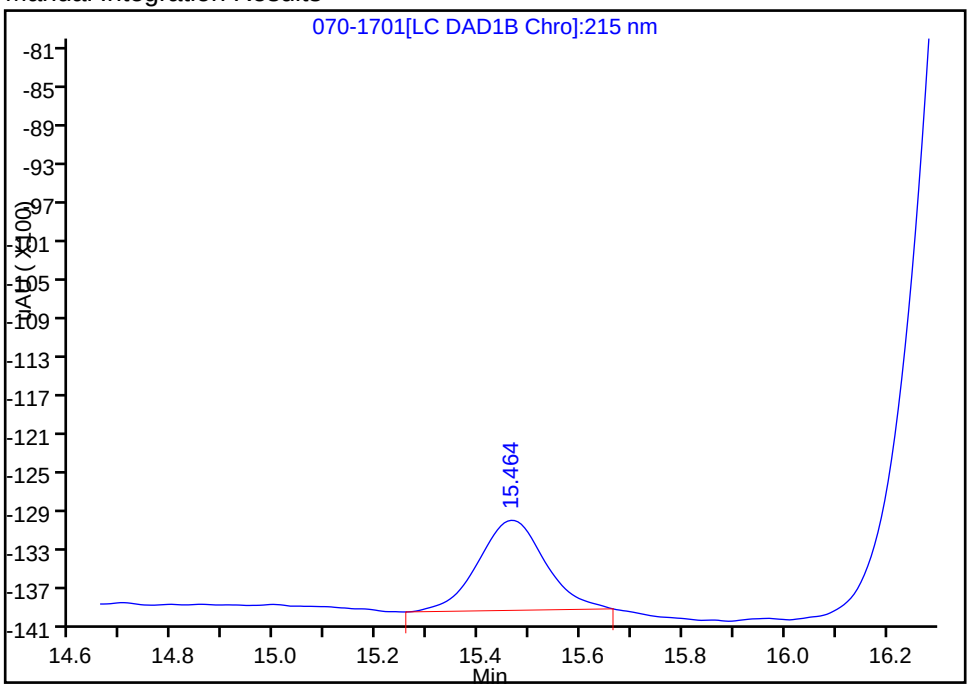
Not Detected
Expected RT: 15.44

Processing Integration Results



Manual Integration Results

RT: 15.46
Area: 8517
Amount: 0.100465
Amount Units: ug/mL



Reviewer: freya, 29-Oct-2016 09:25:51
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-347397/16 Calibration Date: 10/19/2016 16:53

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 011-1501.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		169895		0.390	0.400	-2.6	20.0
Picric acid	Lin2		167258		0.412	0.400	3.0	20.0
RDX	Lin2		208918		0.405	0.400	1.2	20.0
Nitrobenzene	Lin2		422380		0.412	0.400	3.1	20.0
3,5-Dinitroaniline	Lin2		453098		0.459	0.400	14.7	20.0
1,3-Dinitrobenzene	Lin2		639778		0.428	0.400	6.9	20.0
Nitroglycerin	Lin2		171670		4.06	4.00	1.4	20.0
2-Nitrotoluene	Lin2		247745		0.402	0.400	0.5	20.0
4-Nitrotoluene	Lin2		231880		0.419	0.400	4.7	20.0
4-Amino-2,6-dinitrotoluene	Lin2		287605		0.402	0.400	0.6	20.0
3-Nitrotoluene	Lin2		284950		0.393	0.400	-1.7	20.0
2-Amino-4,6-dinitrotoluene	Lin2		406040		0.393	0.400	-1.7	20.0
1,3,5-Trinitrobenzene	Lin2		461250		0.407	0.400	1.6	20.0
2,6-Dinitrotoluene	Lin2		285640		0.397	0.400	-0.8	20.0
2,4-Dinitrotoluene	Lin2		570750		0.405	0.400	1.1	20.0
Tetryl	Lin2		337188		0.393	0.400	-1.8	20.0
2,4,6-Trinitrotoluene	Lin2		405938		0.416	0.400	3.9	20.0
PETN	Lin2		128575		4.13	4.00	3.3	20.0
1,2-Dinitrobenzene	Lin2		274498		0.404	0.400	1.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-347397/16 Calibration Date: 10/19/2016 16:53

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 011-1501.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.85	6.69	6.99
Picric acid	8.41	8.20	8.50
RDX	8.91	8.74	9.04
Nitrobenzene	11.67	11.49	11.79
3,5-Dinitroaniline	14.61	14.42	14.72
1,3-Dinitrobenzene	15.04	14.86	15.16
Nitroglycerin	15.13	14.95	15.25
2-Nitrotoluene	15.94	15.75	16.05
4-Nitrotoluene	16.24	16.06	16.36
4-Amino-2,6-dinitrotoluene	16.73	16.54	16.84
3-Nitrotoluene	17.14	16.95	17.25
2-Amino-4,6-dinitrotoluene	17.71	17.53	17.83
1,3,5-Trinitrobenzene	18.12	17.94	18.24
2,6-Dinitrotoluene	19.13	18.95	19.25
2,4-Dinitrotoluene	19.67	19.49	19.79
Tetryl	22.91	22.73	23.03
2,4,6-Trinitrotoluene	23.84	23.65	23.95
PETN	24.53	24.35	24.65
1,2-Dinitrobenzene	12.68	12.49	12.79

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\011-1501.D
Lims ID: ICV FULL 8330
Client ID:
Sample Type: ICV
Inject. Date: 19-Oct-2016 16:53:14 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 Full ICV
Operator ID: ACF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub1

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 21-Oct-2016 09:25:09 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 20-Oct-2016 11:50:13

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.286	4.296	-0.010	153911	0.4000	0.4034	
3 2,4-diamino-6-nitrotoluene	1	4.853	4.849	0.004	81776	0.4000	0.3899	
5 HMX	1	6.853	6.836	0.017	67958	0.4000	0.3897	
6 MNX	1	7.553	7.529	0.024	100170	0.4021	0.3929	
4 2,4,6-Trinitrophenol	1	8.406	8.349	0.057	66903	0.4000	0.4118	
7 RDX	1	8.913	8.889	0.024	83567	0.4000	0.4047	
8 Nitrobenzene	1	11.666	11.636	0.030	168952	0.4000	0.4125	
$ 9 1,2-Dinitrobenzene	1	12.679	12.643	0.036	109799	0.4000	0.4040	
10 3,5-Dinitroaniline	1	14.606	14.569	0.037	181239	0.4000	0.4586	
11 1,3-Dinitrobenzene	1	15.039	15.009	0.030	255911	0.4000	0.4278	
12 Nitroglycerin	2	15.126	15.096	0.030	686678	4.00	4.06	
13 o-Nitrotoluene	1	15.939	15.903	0.036	99098	0.4000	0.4022	
14 p-Nitrotoluene	1	16.239	16.209	0.030	92752	0.4000	0.4186	
15 4-Amino-2,6-dinitrotoluene	1	16.726	16.689	0.037	115042	0.4000	0.4024	
16 m-Nitrotoluene	1	17.139	17.103	0.036	113980	0.4000	0.3930	
17 2-Amino-4,6-dinitrotoluene	1	17.713	17.676	0.037	162416	0.4000	0.3934	
18 1,3,5-Trinitrobenzene	1	18.119	18.089	0.030	184500	0.4000	0.4065	
19 2,6-Dinitrotoluene	1	19.133	19.096	0.037	114256	0.4000	0.3967	
20 2,4-Dinitrotoluene	1	19.673	19.636	0.037	228300	0.4000	0.4046	
21 Tetryl	1	22.913	22.876	0.037	134875	0.4000	0.3930	
22 2,4,6-Trinitrotoluene	1	23.839	23.803	0.036	162375	0.4000	0.4156	
23 PETN	2	24.533	24.503	0.030	514298	4.00	4.13	

Reagents:

8330Surrogate_00089	Amount Added:	40.00	Units: uL
3,5-DNA LCS_00027	Amount Added:	40.00	Units: uL
8330 LCS_00071	Amount Added:	40.00	Units: uL
8330DiaminLCS_00023	Amount Added:	40.00	Units: uL

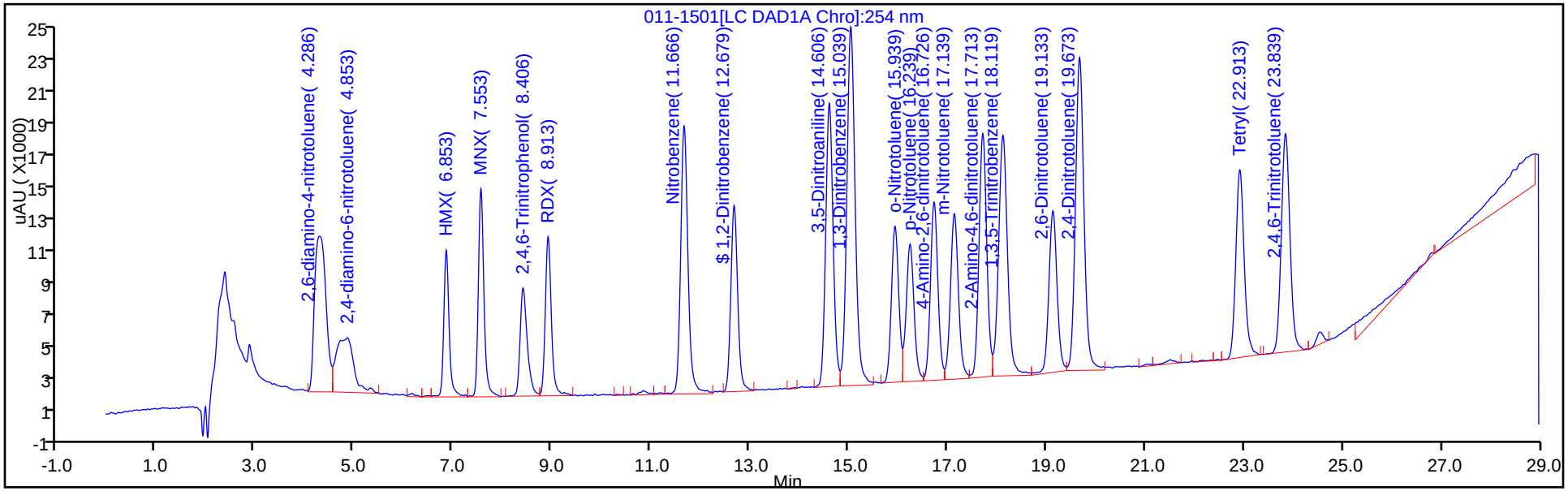
Report Date: 21-Oct-2016 09:25:12 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

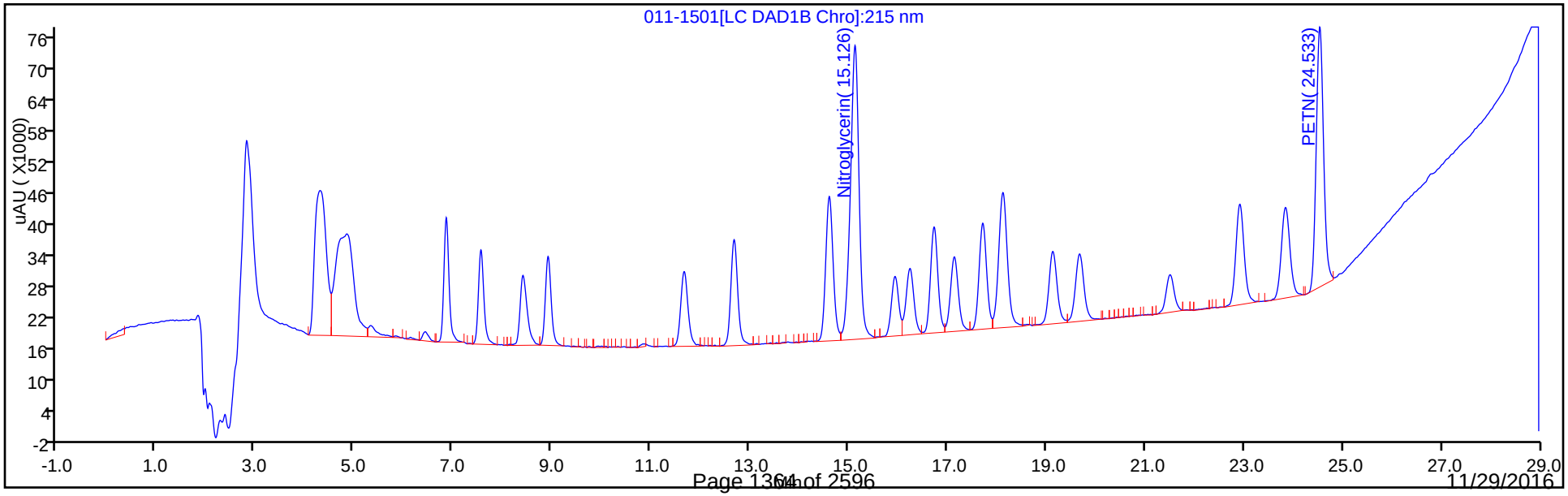
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\011-1501.D

Injection Date:	19-Oct-2016 16:53:14	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	ACF
Lims ID:	ICV FULL 8330			Worklist Smp#:	16
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-352866/7 Calibration Date: 11/23/2016 14:24

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 11231607.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		178264		0.254	0.250	1.5	20.0
Picric acid	Lin2		157592		0.239	0.250	-4.6	20.0
RDX	Lin2		205036		0.244	0.250	-2.4	20.0
Nitrobenzene	Lin2		412584		0.250	0.250	0.1	20.0
3,5-Dinitroaniline	Lin2		396348		0.247	0.250	-1.0	20.0
1,3-Dinitrobenzene	Lin2		615564		0.255	0.250	2.2	20.0
Nitroglycerin	Lin2		172245		2.54	2.50	1.7	20.0
2-Nitrotoluene	Lin2		247784		0.250	0.250	0.1	20.0
4-Nitrotoluene	Lin2		223668		0.249	0.250	-0.4	20.0
4-Amino-2,6-dinitrotoluene	Lin2		289784		0.250	0.250	0.0	20.0
3-Nitrotoluene	Lin2		283708		0.242	0.250	-3.2	20.0
2-Amino-4,6-dinitrotoluene	Lin2		412944		0.248	0.250	-1.0	20.0
1,3,5-Trinitrobenzene	Lin2		452468		0.248	0.250	-0.8	20.0
2,6-Dinitrotoluene	Lin2		295544		0.254	0.250	1.6	20.0
2,4-Dinitrotoluene	Lin2		596440		0.261	0.250	4.6	20.0
Tetryl	Lin2		341372		0.245	0.250	-1.8	20.0
2,4,6-Trinitrotoluene	Lin2		393760		0.251	0.250	0.2	20.0
PETN	Lin2		131472		2.65	2.50	5.9	20.0
1,2-Dinitrobenzene	Lin2		288572		0.264	0.250	5.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-352866/7 Calibration Date: 11/23/2016 14:24

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 11231607.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.64	6.49	6.79
Picric acid	8.17	8.02	8.32
RDX	8.64	8.49	8.79
Nitrobenzene	11.34	11.19	11.49
3,5-Dinitroaniline	14.19	14.04	14.34
1,3-Dinitrobenzene	14.64	14.49	14.79
Nitroglycerin	14.72	14.57	14.87
2-Nitrotoluene	15.50	15.35	15.65
4-Nitrotoluene	15.80	15.65	15.95
4-Amino-2,6-dinitrotoluene	16.26	16.11	16.41
3-Nitrotoluene	16.69	16.54	16.84
2-Amino-4,6-dinitrotoluene	17.24	17.09	17.39
1,3,5-Trinitrobenzene	17.68	17.53	17.83
2,6-Dinitrotoluene	18.65	18.50	18.80
2,4-Dinitrotoluene	19.19	19.04	19.34
Tetryl	22.40	22.25	22.55
2,4,6-Trinitrotoluene	23.32	23.17	23.47
PETN	24.05	23.90	24.20
1,2-Dinitrobenzene	12.31	12.16	12.46

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231607.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2016 14:24:58 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV MAIN L4
Misc. Info.: 280-0053490-007
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub1

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:28:35

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.209	4.209	0.000	99974	0.2500	0.2611	
3 2,4-diamino-6-nitrotoluene	1	4.729	4.729	0.000	59767	0.2500	0.2824	
5 HMX	1	6.642	6.642	0.000	44566	0.2500	0.2538	
6 MNX	1	7.322	7.322	0.000	66260	0.2487	0.2585	
4 2,4,6-Trinitrophenol	1	8.169	8.169	0.000	39398	0.2500	0.2385	
7 RDX	1	8.635	8.635	0.000	51259	0.2500	0.2440	
8 Nitrobenzene	1	11.335	11.335	0.000	103146	0.2500	0.2504	
$ 9 1,2-Dinitrobenzene	1	12.308	12.308	0.000	72143	0.2500	0.2638	
10 3,5-Dinitroaniline	1	14.188	14.188	0.000	99087	0.2500	0.2475	
11 1,3-Dinitrobenzene	1	14.635	14.635	0.000	153891	0.2500	0.2554	
12 Nitroglycerin	2	14.722	14.722	0.000	430612	2.50	2.54	
13 o-Nitrotoluene	1	15.502	15.502	0.000	61946	0.2500	0.2504	
14 p-Nitrotoluene	1	15.802	15.802	0.000	55917	0.2500	0.2489	
15 4-Amino-2,6-dinitrotoluene	1	16.262	16.262	0.000	72446	0.2500	0.2502	
16 m-Nitrotoluene	1	16.688	16.688	0.000	70927	0.2500	0.2421	
17 2-Amino-4,6-dinitrotoluene	1	17.242	17.242	0.000	103236	0.2500	0.2476	
18 1,3,5-Trinitrobenzene	1	17.675	17.675	0.000	113117	0.2500	0.2479	
19 2,6-Dinitrotoluene	1	18.648	18.648	0.000	73886	0.2500	0.2541	
20 2,4-Dinitrotoluene	1	19.188	19.188	0.000	149110	0.2500	0.2614	
21 Tetryl	1	22.395	22.395	0.000	85343	0.2500	0.2454	
22 2,4,6-Trinitrotoluene	1	23.322	23.322	0.000	98440	0.2500	0.2506	
23 PETN	2	24.049	24.049	0.000	328680	2.50	2.65	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL
8330_ADDs_00009 Amount Added: 0.01 Units: mL

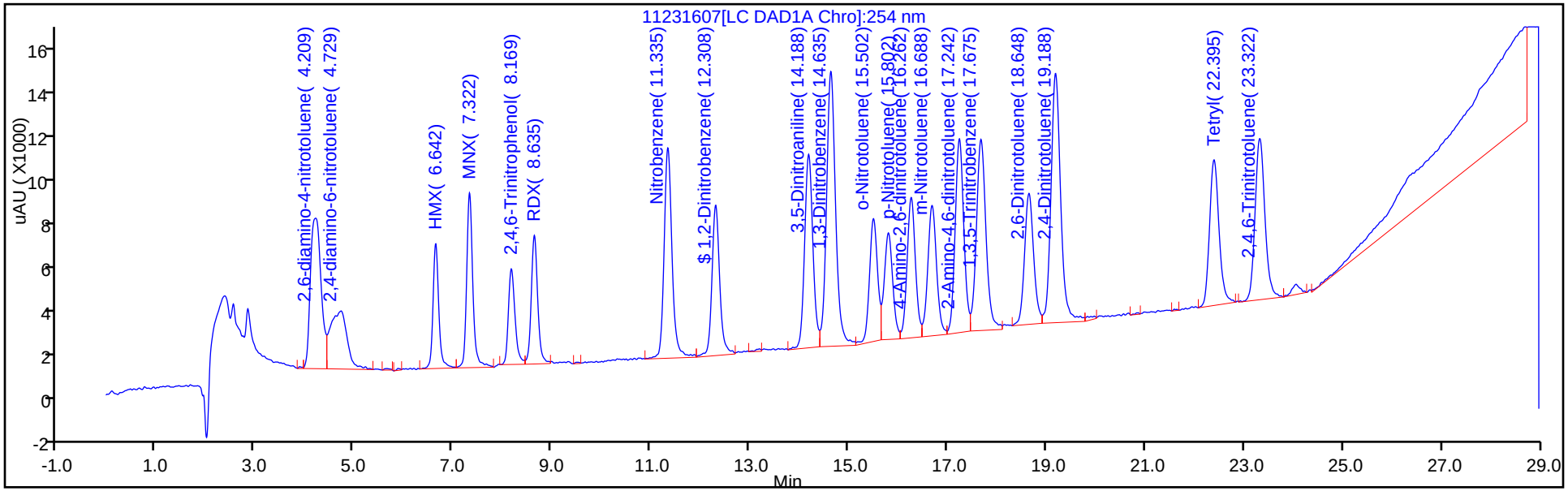
Report Date: 24-Nov-2016 19:15:51 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

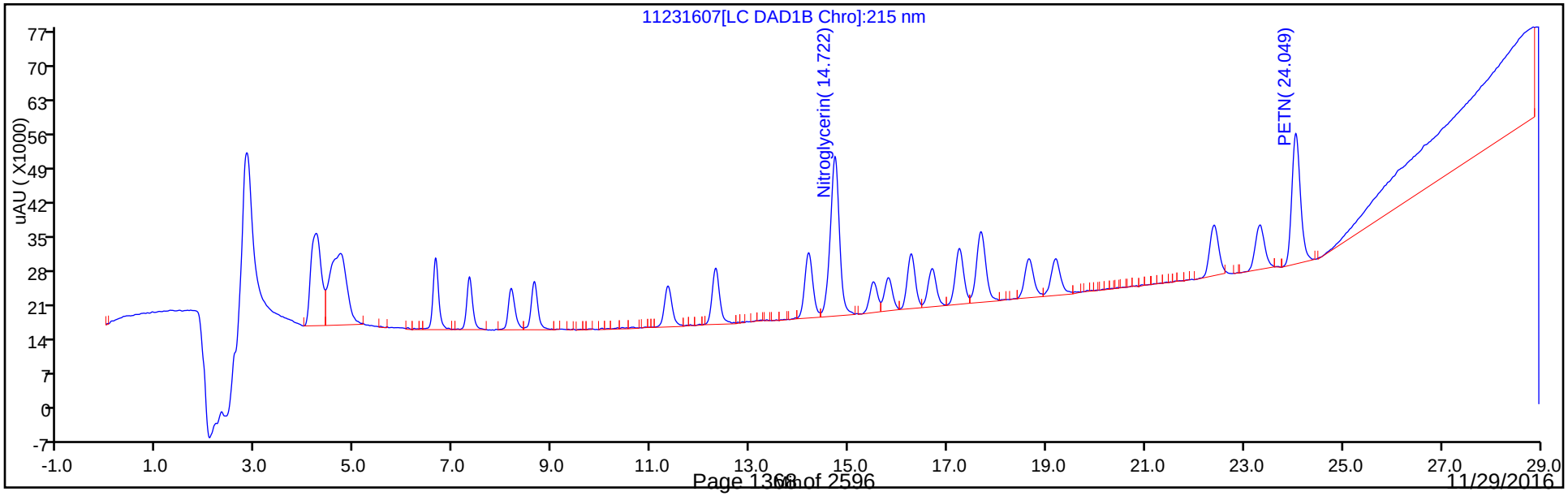
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231607.D

Injection Date:	23-Nov-2016 14:24:58	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	CCV MAIN L4			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-352866/18 Calibration Date: 11/23/2016 20:49

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 11231618.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		189860		0.271	0.250	8.3	20.0
Picric acid	Lin2		179060		0.272	0.250	8.9	20.0
RDX	Lin2		219468		0.262	0.250	4.8	20.0
Nitrobenzene	Lin2		405668		0.246	0.250	-1.6	20.0
3,5-Dinitroaniline	Lin2		392764		0.245	0.250	-1.9	20.0
1,3-Dinitrobenzene	Lin2		612804		0.254	0.250	1.7	20.0
Nitroglycerin	Lin2		176316		2.60	2.50	4.1	20.0
2-Nitrotoluene	Lin2		237160		0.240	0.250	-4.2	20.0
4-Nitrotoluene	Lin2		212492		0.236	0.250	-5.6	20.0
4-Amino-2,6-dinitrotoluene	Lin2		285168		0.246	0.250	-1.6	20.0
3-Nitrotoluene	Lin2		271732		0.232	0.250	-7.4	20.0
2-Amino-4,6-dinitrotoluene	Lin2		408856		0.245	0.250	-2.0	20.0
1,3,5-Trinitrobenzene	Lin2		451984		0.248	0.250	-1.0	20.0
2,6-Dinitrotoluene	Lin2		294484		0.253	0.250	1.3	20.0
2,4-Dinitrotoluene	Lin2		587900		0.258	0.250	3.0	20.0
Tetryl	Lin2		348536		0.251	0.250	0.3	20.0
2,4,6-Trinitrotoluene	Lin2		395972		0.252	0.250	0.8	20.0
PETN	Lin2		129105		2.60	2.50	4.0	20.0
1,2-Dinitrobenzene	Lin2		285028		0.260	0.250	4.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-352866/18 Calibration Date: 11/23/2016 20:49

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/19/2016 12:13

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/19/2016 16:18

Lab File ID: 11231618.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
Picric acid	8.17	8.02	8.32
RDX	8.66	8.51	8.81
Nitrobenzene	11.36	11.21	11.51
3,5-Dinitroaniline	14.21	14.06	14.36
1,3-Dinitrobenzene	14.66	14.51	14.81
Nitroglycerin	14.75	14.60	14.90
2-Nitrotoluene	15.54	15.39	15.69
4-Nitrotoluene	15.84	15.69	15.99
4-Amino-2,6-dinitrotoluene	16.30	16.15	16.45
3-Nitrotoluene	16.72	16.57	16.87
2-Amino-4,6-dinitrotoluene	17.28	17.13	17.43
1,3,5-Trinitrobenzene	17.71	17.56	17.86
2,6-Dinitrotoluene	18.68	18.53	18.83
2,4-Dinitrotoluene	19.22	19.07	19.37
Tetryl	22.44	22.29	22.59
2,4,6-Trinitrotoluene	23.36	23.21	23.51
PETN	24.08	23.93	24.23
1,2-Dinitrobenzene	12.33	12.18	12.48

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231618.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2016 20:49:41 ALS Bottle#: 2 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV MAIN L4
Misc. Info.: 280-0053490-018
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub1

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:17:24 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:49:07

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.217	4.217	0.000	99852	0.2500	0.2608	
3 2,4-diamino-6-nitrotoluene	1	4.723	4.723	0.000	59061	0.2500	0.2790	
5 HMX	1	6.657	6.657	0.000	47465	0.2500	0.2707	
6 MNX	1	7.343	7.343	0.000	69825	0.2487	0.2726	
4 2,4,6-Trinitrophenol	1	8.170	8.170	0.000	44765	0.2500	0.2723	
7 RDX	1	8.657	8.657	0.000	54867	0.2500	0.2620	
8 Nitrobenzene	1	11.357	11.357	0.000	101417	0.2500	0.2461	
$ 9 1,2-Dinitrobenzene	1	12.330	12.330	0.000	71257	0.2500	0.2605	
10 3,5-Dinitroaniline	1	14.210	14.210	0.000	98191	0.2500	0.2452	
11 1,3-Dinitrobenzene	1	14.663	14.663	0.000	153201	0.2500	0.2542	
12 Nitroglycerin	2	14.750	14.750	0.000	440789	2.50	2.60	
13 o-Nitrotoluene	1	15.537	15.537	0.000	59290	0.2500	0.2395	
14 p-Nitrotoluene	1	15.837	15.837	0.000	53123	0.2500	0.2360	
15 4-Amino-2,6-dinitrotoluene	1	16.297	16.297	0.000	71292	0.2500	0.2461	
16 m-Nitrotoluene	1	16.723	16.723	0.000	67933	0.2500	0.2316	
17 2-Amino-4,6-dinitrotoluene	1	17.277	17.277	0.000	102214	0.2500	0.2451	
18 1,3,5-Trinitrobenzene	1	17.710	17.710	0.000	112996	0.2500	0.2476	
19 2,6-Dinitrotoluene	1	18.683	18.683	0.000	73621	0.2500	0.2532	
20 2,4-Dinitrotoluene	1	19.223	19.223	0.000	146975	0.2500	0.2576	
21 Tetryl	1	22.437	22.437	0.000	87134	0.2500	0.2508	
22 2,4,6-Trinitrotoluene	1	23.357	23.357	0.000	98993	0.2500	0.2520	
23 PETN	2	24.083	24.083	0.000	322763	2.50	2.60	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL
8330_ADDs_00009 Amount Added: 0.01 Units: mL

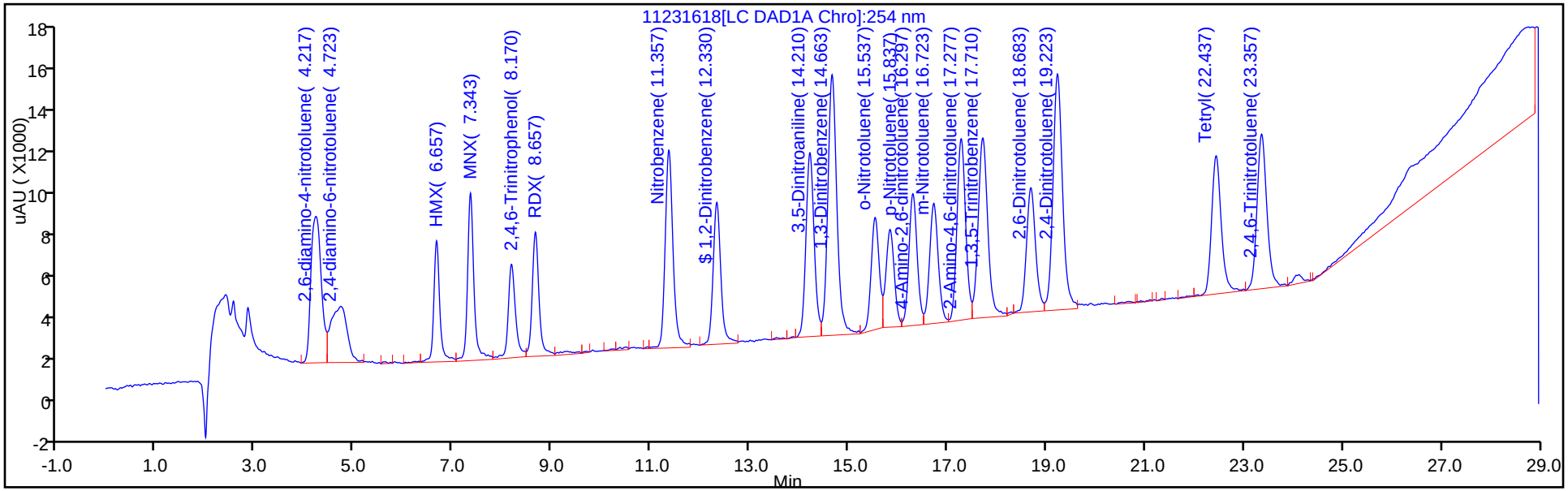
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TestAmerica Denver

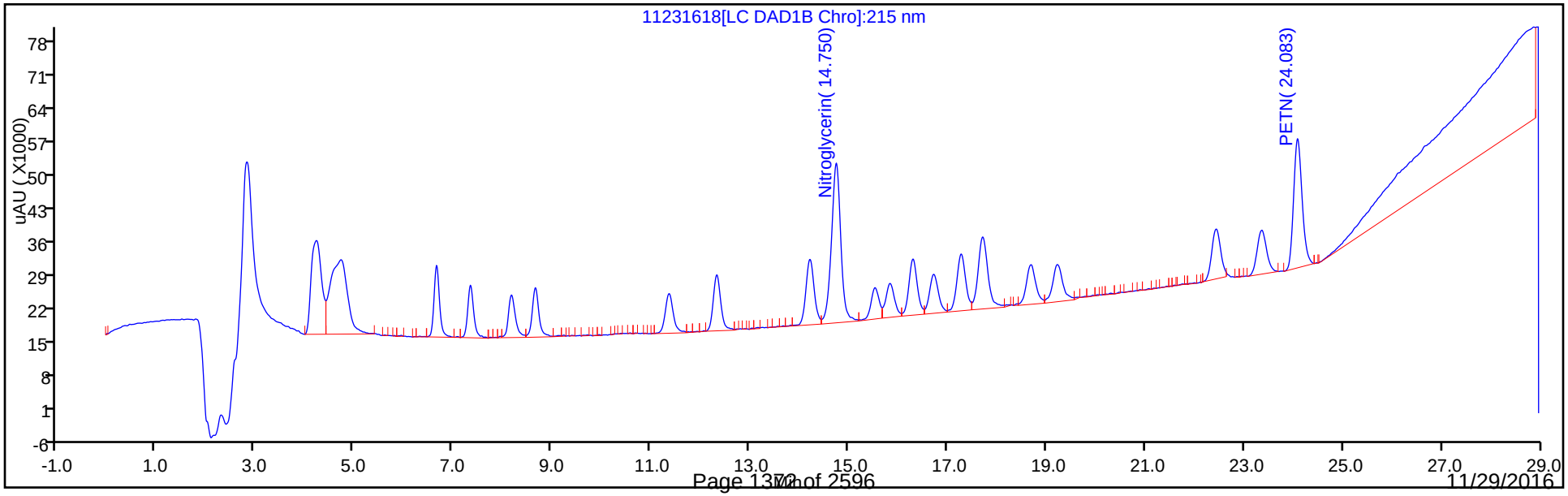
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Injection Date:	23-Nov-2016 20:49:41	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	CCV MAIN L4			Worklist Smp#:	18
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-348785/18 Calibration Date: 10/28/2016 20:44

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 071-1801.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		81940		0.354	0.400	-11.5	20.0
RDX	Lin2		103353		0.383	0.400	-4.1	20.0
Picric acid	Lin2		83220		0.395	0.400	-1.2	20.0
1,3,5-Trinitrobenzene	Lin2		227110		0.393	0.400	-1.7	20.0
1,3-Dinitrobenzene	Lin2		301395		0.410	0.400	2.6	20.0
Nitrobenzene	Lin2		198305		0.393	0.400	-1.9	20.0
Tetryl	Lin2		175620		0.394	0.400	-1.6	20.0
Nitroglycerin	Lin2		67405		3.76	4.00	-5.9	20.0
2,4,6-Trinitrotoluene	Lin2		206903		0.408	0.400	1.9	20.0
4-Amino-2,6-dinitrotoluene	Lin2		150430		0.388	0.400	-3.0	20.0
2-Amino-4,6-dinitrotoluene	Lin2		204710		0.383	0.400	-4.3	20.0
2,6-Dinitrotoluene	Lin2		140530		0.377	0.400	-5.6	20.0
2,4-Dinitrotoluene	Lin2		280453		0.389	0.400	-2.8	20.0
2-Nitrotoluene	Lin2		125093		0.385	0.400	-3.7	20.0
4-Nitrotoluene	Lin2		111648		0.398	0.400	-0.6	20.0
3-Nitrotoluene	Lin2		145758		0.396	0.400	-0.9	20.0
PETN	Lin2		69959		3.90	4.00	-2.4	20.0
1,2-Dinitrobenzene	Lin2		138960		0.396	0.400	-1.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-348785/18 Calibration Date: 10/28/2016 20:44

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 071-1801.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.72	6.62	6.82
RDX	7.88	7.78	7.98
Picric acid	8.17	8.07	8.27
1,3,5-Trinitrobenzene	9.08	8.98	9.18
1,3-Dinitrobenzene	9.78	9.68	9.88
Nitrobenzene	10.18	10.08	10.28
Tetryl	10.57	10.47	10.67
Nitroglycerin	11.09	10.99	11.19
2,4,6-Trinitrotoluene	11.54	11.44	11.64
4-Amino-2,6-dinitrotoluene	11.76	11.66	11.86
2-Amino-4,6-dinitrotoluene	12.04	11.94	12.14
2,6-Dinitrotoluene	12.18	12.08	12.28
2,4-Dinitrotoluene	12.37	12.27	12.47
2-Nitrotoluene	13.23	13.13	13.33
4-Nitrotoluene	13.68	13.58	13.78
3-Nitrotoluene	14.30	14.20	14.40
PETN	15.51	15.41	15.61
1,2-Dinitrobenzene	8.94	8.84	9.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\071-1801.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 28-Oct-2016 20:44:42 ALS Bottle#: 71 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 8330 ICV
Misc. Info.: 280-0051662-007
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2016 09:48:12 Calib Date: 28-Oct-2016 20:21:37
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\070-1701.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK032

First Level Reviewer: freya Date: 29-Oct-2016 08:08:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.717	6.717	0.000	32776	0.4000	0.3541	
4 MNX	1	7.451	7.451	0.000	50980	0.4021	0.3719	
5 RDX	1	7.884	7.884	0.000	41341	0.4000	0.3835	
6 2,4,6-Trinitrophenol	1	8.171	8.171	0.000	33288	0.4000	0.3952	
$ 7 1,2-Dinitrobenzene	1	8.944	8.944	0.000	55584	0.4000	0.3957	
8 1,3,5-Trinitrobenzene	1	9.084	9.084	0.000	90844	0.4000	0.3932	
9 1,3-Dinitrobenzene	1	9.777	9.777	0.000	120558	0.4000	0.4104	
11 Nitrobenzene	1	10.177	10.177	0.000	79322	0.4000	0.3926	
12 Tetryl	1	10.571	10.571	0.000	70248	0.4000	0.3936	
13 Nitroglycerin	2	11.091	11.091	0.000	269619	4.00	3.76	
14 2,4,6-Trinitrotoluene	1	11.537	11.537	0.000	82761	0.4000	0.4076	
15 4-Amino-2,6-dinitrotoluene	1	11.757	11.757	0.000	60172	0.4000	0.3880	
16 2-Amino-4,6-dinitrotoluene	1	12.037	12.037	0.000	81884	0.4000	0.3827	
17 2,6-Dinitrotoluene	1	12.184	12.184	0.000	56212	0.4000	0.3775	
18 2,4-Dinitrotoluene	1	12.371	12.371	0.000	112181	0.4000	0.3887	
19 o-Nitrotoluene	1	13.231	13.231	0.000	50037	0.4000	0.3851	
20 p-Nitrotoluene	1	13.684	13.684	0.000	44659	0.4000	0.3977	
21 m-Nitrotoluene	1	14.304	14.304	0.000	58303	0.4000	0.3964	
22 PETN	2	15.511	15.511	0.000	279835	4.00	3.90	

Reagents:

8330 LCS_00072 Amount Added: 0.04 Units: mL
8330Surrogate_00090 Amount Added: 0.04 Units: mL

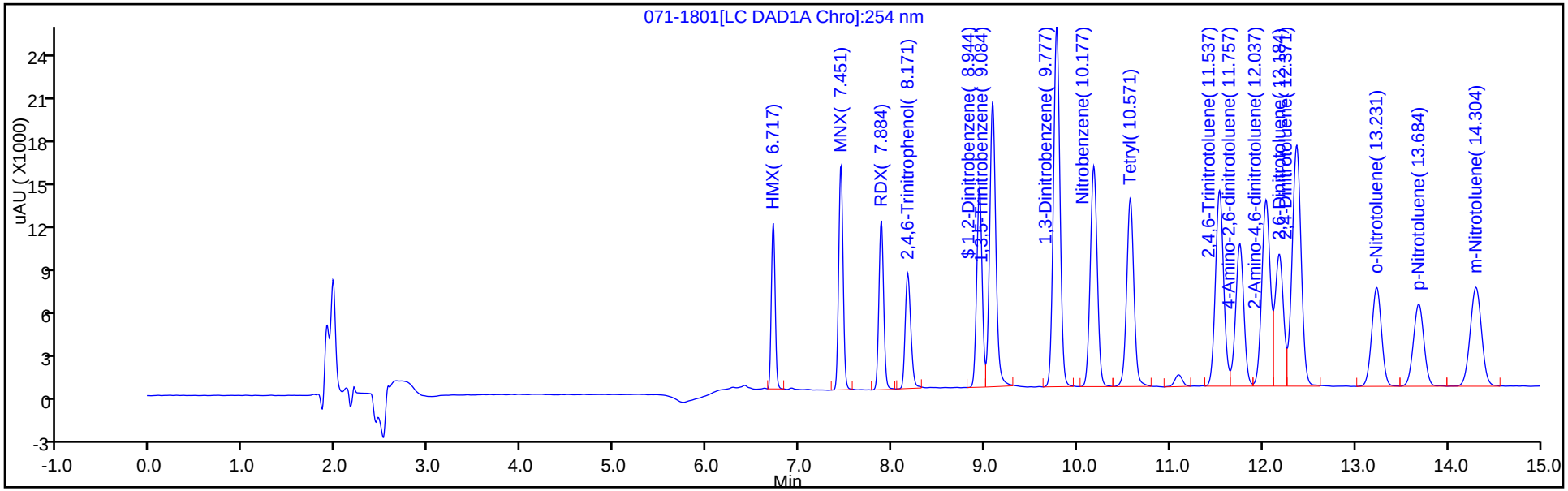
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TestAmerica Denver

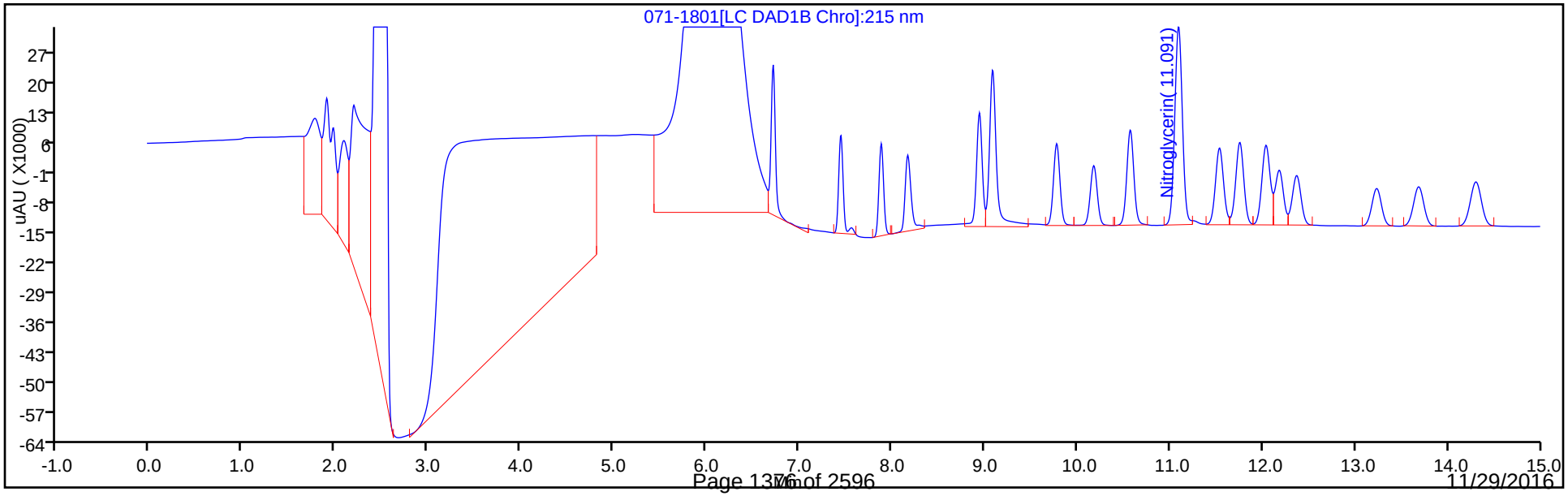
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Injection Date:	28-Oct-2016 20:44:42	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	ICV MAIN			Worklist Smp#:	18
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	71
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/7 Calibration Date: 11/16/2016 13:49

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-0701.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		93252		0.252	0.250	0.7	20.0
RDX	Lin2		107172		0.248	0.250	-0.8	20.0
Picric acid	Lin2		85064		0.252	0.250	0.8	20.0
1,3,5-Trinitrobenzene	Lin2		232140		0.251	0.250	0.4	20.0
1,3-Dinitrobenzene	Lin2		295220		0.251	0.250	0.5	20.0
Nitrobenzene	Lin2		202888		0.251	0.250	0.5	20.0
Tetryl	Lin2		178172		0.249	0.250	-0.2	20.0
Nitroglycerin	Lin2		71428		2.49	2.50	-0.4	20.0
2,4,6-Trinitrotoluene	Lin2		203892		0.250	0.250	0.0	20.0
4-Amino-2,6-dinitrotoluene	Lin2		159496		0.256	0.250	2.4	20.0
2-Amino-4,6-dinitrotoluene	Lin2		220368		0.257	0.250	2.8	20.0
2,6-Dinitrotoluene	Lin2		145172		0.244	0.250	-2.6	20.0
2,4-Dinitrotoluene	Lin2		291184		0.252	0.250	0.8	20.0
2-Nitrotoluene	Lin2		129696		0.249	0.250	-0.3	20.0
4-Nitrotoluene	Lin2		110872		0.247	0.250	-1.3	20.0
3-Nitrotoluene	Lin2		143968		0.244	0.250	-2.4	20.0
PETN	Lin2		71540		2.49	2.50	-0.5	20.0
1,2-Dinitrobenzene	Lin2		139508		0.248	0.250	-0.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/7 Calibration Date: 11/16/2016 13:49

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-0701.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.71	6.61	6.81
RDX	7.88	7.78	7.98
Picric acid	8.19	8.09	8.29
1,3,5-Trinitrobenzene	9.08	8.98	9.18
1,3-Dinitrobenzene	9.77	9.67	9.87
Nitrobenzene	10.16	10.06	10.26
Tetryl	10.54	10.44	10.64
Nitroglycerin	11.05	10.95	11.15
2,4,6-Trinitrotoluene	11.49	11.39	11.59
4-Amino-2,6-dinitrotoluene	11.70	11.60	11.80
2-Amino-4,6-dinitrotoluene	11.99	11.89	12.09
2,6-Dinitrotoluene	12.13	12.03	12.23
2,4-Dinitrotoluene	12.32	12.22	12.42
2-Nitrotoluene	13.17	13.07	13.27
4-Nitrotoluene	13.61	13.51	13.71
3-Nitrotoluene	14.22	14.12	14.32
PETN	15.37	15.27	15.47
1,2-Dinitrobenzene	8.94	8.84	9.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-0701.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2016 13:49:13 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: CCV MAIN L4
Misc. Info.: 280-0053110-019
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 17-Nov-2016 11:11:53 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK030

First Level Reviewer: freya Date: 16-Nov-2016 15:31:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.712	6.712	0.000	23313	0.2500	0.2517	
4 MNX	1	7.445	7.445	0.000	34351	0.2487	0.2504	
5 RDX	1	7.878	7.878	0.000	26793	0.2500	0.2480	
6 2,4,6-Trinitrophenol	1	8.185	8.185	0.000	21266	0.2500	0.2520	
$ 7 1,2-Dinitrobenzene	1	8.938	8.938	0.000	34877	0.2500	0.2479	
8 1,3,5-Trinitrobenzene	1	9.078	9.078	0.000	58035	0.2500	0.2510	
9 1,3-Dinitrobenzene	1	9.765	9.765	0.000	73805	0.2500	0.2513	
11 Nitrobenzene	1	10.158	10.158	0.000	50722	0.2500	0.2512	
12 Tetryl	1	10.538	10.538	0.000	44543	0.2500	0.2494	
13 Nitroglycerin	2	11.051	11.051	0.000	178571	2.50	2.49	
14 2,4,6-Trinitrotoluene	1	11.491	11.491	0.000	50973	0.2500	0.2501	
15 4-Amino-2,6-dinitrotoluene	1	11.698	11.698	0.000	39874	0.2500	0.2561	
16 2-Amino-4,6-dinitrotoluene	1	11.985	11.985	0.000	55092	0.2500	0.2571	
17 2,6-Dinitrotoluene	1	12.131	12.131	0.000	36293	0.2500	0.2435	
18 2,4-Dinitrotoluene	1	12.318	12.318	0.000	72796	0.2500	0.2519	
19 o-Nitrotoluene	1	13.171	13.171	0.000	32424	0.2500	0.2493	
20 p-Nitrotoluene	1	13.611	13.611	0.000	27718	0.2500	0.2469	
21 m-Nitrotoluene	1	14.218	14.218	0.000	35992	0.2500	0.2441	
22 PETN	2	15.371	15.371	0.000	178850	2.50	2.49	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

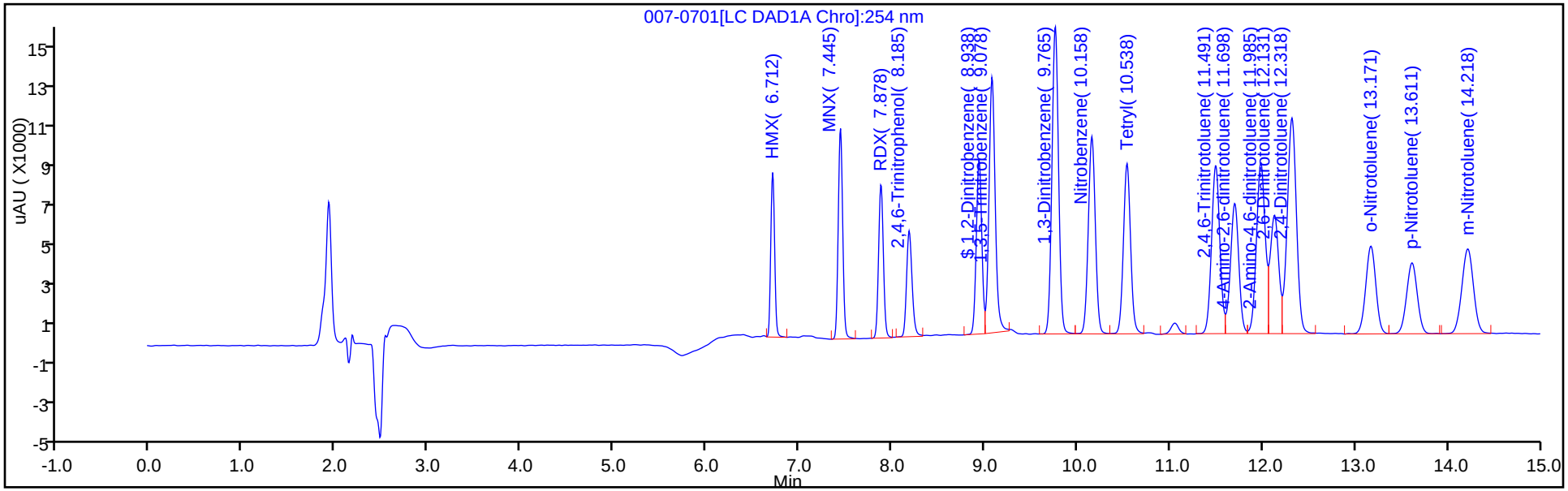
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TestAmerica Denver

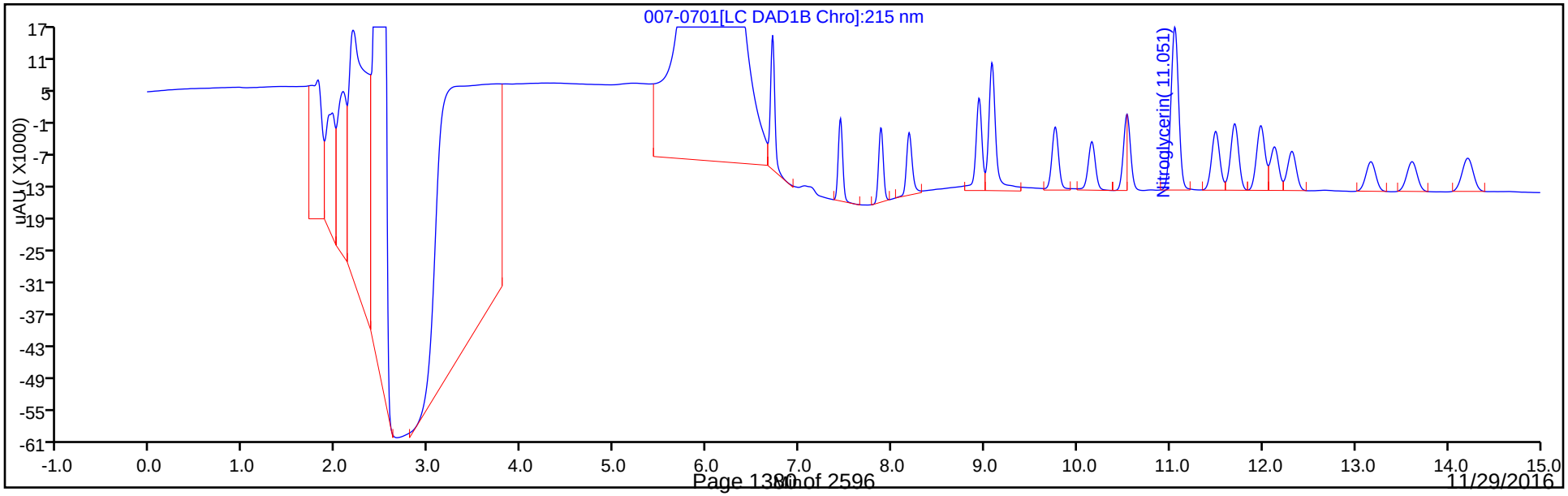
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Injection Date:	16-Nov-2016 13:49:13	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	CCV MAIN L4			Worklist Smp#:	7
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/18 Calibration Date: 11/16/2016 18:03

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-1801.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		92888		0.251	0.250	0.3	20.0
RDX	Lin2		107772		0.249	0.250	-0.2	20.0
Picric acid	Lin2		84776		0.251	0.250	0.5	20.0
1,3,5-Trinitrobenzene	Lin2		233580		0.253	0.250	1.0	20.0
1,3-Dinitrobenzene	Lin2		295572		0.252	0.250	0.6	20.0
Nitrobenzene	Lin2		198864		0.246	0.250	-1.5	20.0
Tetryl	Lin2		177508		0.249	0.250	-0.6	20.0
Nitroglycerin	Lin2		71572		2.49	2.50	-0.2	20.0
2,4,6-Trinitrotoluene	Lin2		202532		0.248	0.250	-0.6	20.0
4-Amino-2,6-dinitrotoluene	Lin2		157084		0.252	0.250	0.9	20.0
2-Amino-4,6-dinitrotoluene	Lin2		215576		0.251	0.250	0.6	20.0
2,6-Dinitrotoluene	Lin2		148300		0.249	0.250	-0.5	20.0
2,4-Dinitrotoluene	Lin2		288596		0.250	0.250	-0.1	20.0
2-Nitrotoluene	Lin2		126112		0.242	0.250	-3.0	20.0
4-Nitrotoluene	Lin2		108692		0.242	0.250	-3.2	20.0
3-Nitrotoluene	Lin2		141560		0.240	0.250	-4.0	20.0
PETN	Lin2		71646		2.49	2.50	-0.3	20.0
1,2-Dinitrobenzene	Lin2		138560		0.246	0.250	-1.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/18 Calibration Date: 11/16/2016 18:03

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-1801.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.73	6.63	6.83
RDX	7.90	7.80	8.00
Picric acid	8.20	8.10	8.30
1,3,5-Trinitrobenzene	9.09	8.99	9.19
1,3-Dinitrobenzene	9.77	9.67	9.87
Nitrobenzene	10.16	10.06	10.26
Tetryl	10.54	10.44	10.64
Nitroglycerin	11.05	10.95	11.15
2,4,6-Trinitrotoluene	11.48	11.38	11.58
4-Amino-2,6-dinitrotoluene	11.69	11.59	11.79
2-Amino-4,6-dinitrotoluene	11.97	11.87	12.07
2,6-Dinitrotoluene	12.12	12.02	12.22
2,4-Dinitrotoluene	12.31	12.21	12.41
2-Nitrotoluene	13.16	13.06	13.26
4-Nitrotoluene	13.62	13.52	13.72
3-Nitrotoluene	14.24	14.14	14.34
PETN	15.42	15.32	15.52
1,2-Dinitrobenzene	8.94	8.84	9.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-1801.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2016 18:03:20 ALS Bottle#: 7 Worklist Smp#: 18
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: CCV MAIN L4
Misc. Info.: 280-0053110-019
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 17-Nov-2016 11:12:05 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK030

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.729	6.729	0.000	23222	0.2500	0.2507	
	4 MNX	1	7.456	7.456	0.000	34111	0.2487	0.2486	
	5 RDX	1	7.896	7.896	0.000	26943	0.2500	0.2494	
	6 2,4,6-Trinitrophenol	1	8.202	8.202	0.000	21194	0.2500	0.2512	
$	7 1,2-Dinitrobenzene	1	8.942	8.942	0.000	34640	0.2500	0.2462	
	8 1,3,5-Trinitrobenzene	1	9.089	9.089	0.000	58395	0.2500	0.2526	
	9 1,3-Dinitrobenzene	1	9.769	9.769	0.000	73893	0.2500	0.2516	
	11 Nitrobenzene	1	10.162	10.162	0.000	49716	0.2500	0.2462	
	12 Tetryl	1	10.536	10.536	0.000	44377	0.2500	0.2485	
	13 Nitroglycerin	2	11.049	11.049	0.000	178931	2.50	2.49	
	14 2,4,6-Trinitrotoluene	1	11.482	11.482	0.000	50633	0.2500	0.2485	
	15 4-Amino-2,6-dinitrotoluene	1	11.689	11.689	0.000	39271	0.2500	0.2522	
	16 2-Amino-4,6-dinitrotoluene	1	11.969	11.969	0.000	53894	0.2500	0.2515	
	17 2,6-Dinitrotoluene	1	12.116	12.116	0.000	37075	0.2500	0.2488	
	18 2,4-Dinitrotoluene	1	12.309	12.309	0.000	72149	0.2500	0.2497	
	19 o-Nitrotoluene	1	13.162	13.162	0.000	31528	0.2500	0.2424	
	20 p-Nitrotoluene	1	13.616	13.616	0.000	27173	0.2500	0.2420	
	21 m-Nitrotoluene	1	14.236	14.236	0.000	35390	0.2500	0.2400	
	22 PETN	2	15.422	15.422	0.000	179116	2.50	2.49	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

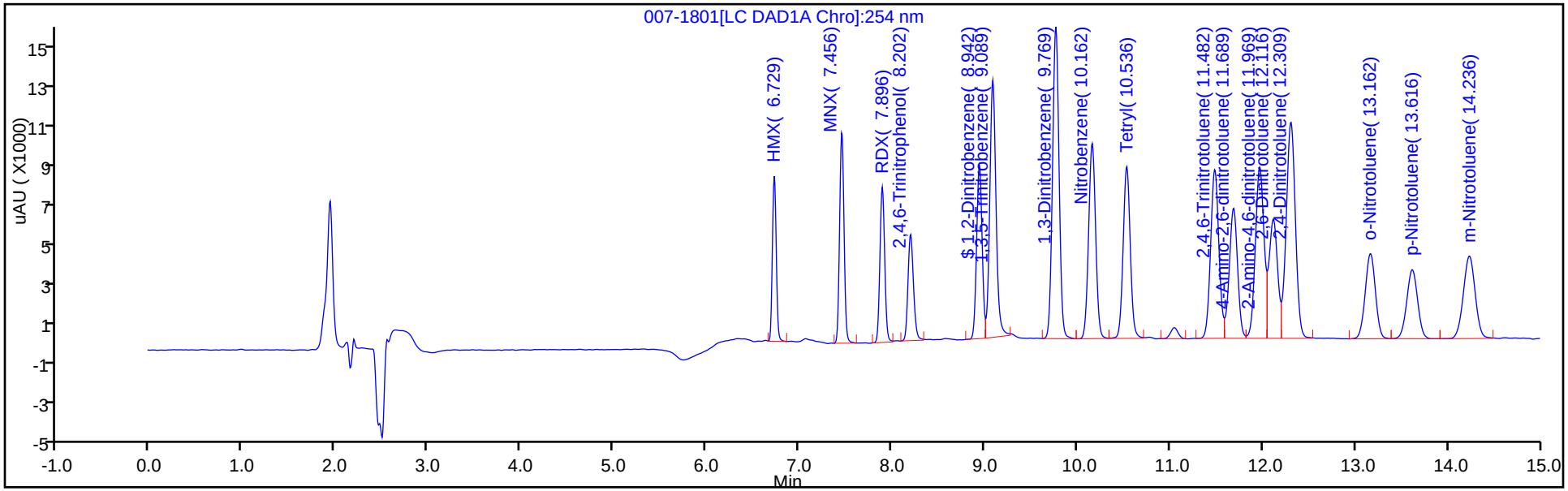
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TestAmerica Denver

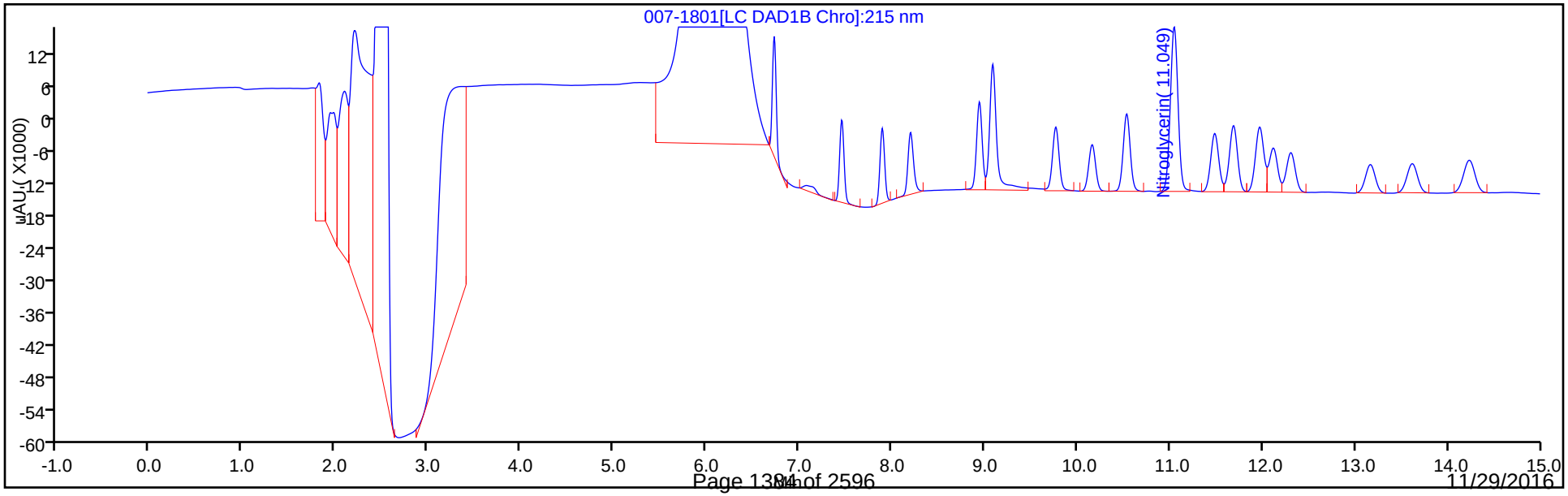
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Injection Date:	16-Nov-2016 18:03:20	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	CCV MAIN L4			Worklist Smp#:	18
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/26 Calibration Date: 11/16/2016 21:08

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-2601.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		93104		0.251	0.250	0.5	20.0
RDX	Lin2		108080		0.250	0.250	0.0	20.0
Picric acid	Lin2		85148		0.252	0.250	0.9	20.0
1,3,5-Trinitrobenzene	Lin2		231668		0.251	0.250	0.2	20.0
1,3-Dinitrobenzene	Lin2		294800		0.251	0.250	0.4	20.0
Nitrobenzene	Lin2		197032		0.244	0.250	-2.4	20.0
Tetryl	Lin2		177912		0.249	0.250	-0.4	20.0
Nitroglycerin	Lin2		73107		2.55	2.50	1.9	20.0
2,4,6-Trinitrotoluene	Lin2		203936		0.250	0.250	0.0	20.0
4-Amino-2,6-dinitrotoluene	Lin2		158432		0.254	0.250	1.8	20.0
2-Amino-4,6-dinitrotoluene	Lin2		216704		0.253	0.250	1.1	20.0
2,6-Dinitrotoluene	Lin2		148696		0.249	0.250	-0.2	20.0
2,4-Dinitrotoluene	Lin2		290496		0.251	0.250	0.5	20.0
2-Nitrotoluene	Lin2		125084		0.240	0.250	-3.8	20.0
4-Nitrotoluene	Lin2		109088		0.243	0.250	-2.8	20.0
3-Nitrotoluene	Lin2		141240		0.239	0.250	-4.2	20.0
PETN	Lin2		72016		2.50	2.50	0.2	20.0
1,2-Dinitrobenzene	Lin2		139948		0.249	0.250	-0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/26 Calibration Date: 11/16/2016 21:08

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-2601.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.74	6.64	6.84
RDX	7.92	7.82	8.02
Picric acid	8.22	8.12	8.32
1,3,5-Trinitrobenzene	9.10	9.00	9.20
1,3-Dinitrobenzene	9.77	9.67	9.87
Nitrobenzene	10.16	10.06	10.26
Tetryl	10.53	10.43	10.63
Nitroglycerin	11.04	10.94	11.14
2,4,6-Trinitrotoluene	11.48	11.38	11.58
4-Amino-2,6-dinitrotoluene	11.68	11.58	11.78
2-Amino-4,6-dinitrotoluene	11.97	11.87	12.07
2,6-Dinitrotoluene	12.12	12.02	12.22
2,4-Dinitrotoluene	12.31	12.21	12.41
2-Nitrotoluene	13.16	13.06	13.26
4-Nitrotoluene	13.62	13.52	13.72
3-Nitrotoluene	14.22	14.12	14.32
PETN	15.39	15.29	15.49
1,2-Dinitrobenzene	8.96	8.86	9.06

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-2601.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2016 21:08:17 ALS Bottle#: 7 Worklist Smp#: 26
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: ccv
Misc. Info.: 280-0053110-027
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 17-Nov-2016 11:12:14 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK030

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.736	6.736	0.000	23276	0.2500	0.2513	
	4 MNX	1	7.476	7.476	0.000	34246	0.2487	0.2496	
	5 RDX	1	7.916	7.916	0.000	27020	0.2500	0.2501	
	6 2,4,6-Trinitrophenol	1	8.222	8.222	0.000	21287	0.2500	0.2523	
$	7 1,2-Dinitrobenzene	1	8.956	8.956	0.000	34987	0.2500	0.2487	
	8 1,3,5-Trinitrobenzene	1	9.096	9.096	0.000	57917	0.2500	0.2505	
	9 1,3-Dinitrobenzene	1	9.769	9.769	0.000	73700	0.2500	0.2509	
	11 Nitrobenzene	1	10.162	10.162	0.000	49258	0.2500	0.2439	
	12 Tetryl	1	10.529	10.529	0.000	44478	0.2500	0.2491	
	13 Nitroglycerin	2	11.042	11.042	0.000	182768	2.50	2.55	
	14 2,4,6-Trinitrotoluene	1	11.482	11.482	0.000	50984	0.2500	0.2502	
	15 4-Amino-2,6-dinitrotoluene	1	11.682	11.682	0.000	39608	0.2500	0.2544	
	16 2-Amino-4,6-dinitrotoluene	1	11.969	11.969	0.000	54176	0.2500	0.2528	
	17 2,6-Dinitrotoluene	1	12.116	12.116	0.000	37174	0.2500	0.2494	
	18 2,4-Dinitrotoluene	1	12.309	12.309	0.000	72624	0.2500	0.2513	
	19 o-Nitrotoluene	1	13.162	13.162	0.000	31271	0.2500	0.2404	
	20 p-Nitrotoluene	1	13.616	13.616	0.000	27272	0.2500	0.2429	
	21 m-Nitrotoluene	1	14.222	14.222	0.000	35310	0.2500	0.2394	
	22 PETN	2	15.389	15.389	0.000	180039	2.50	2.50	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

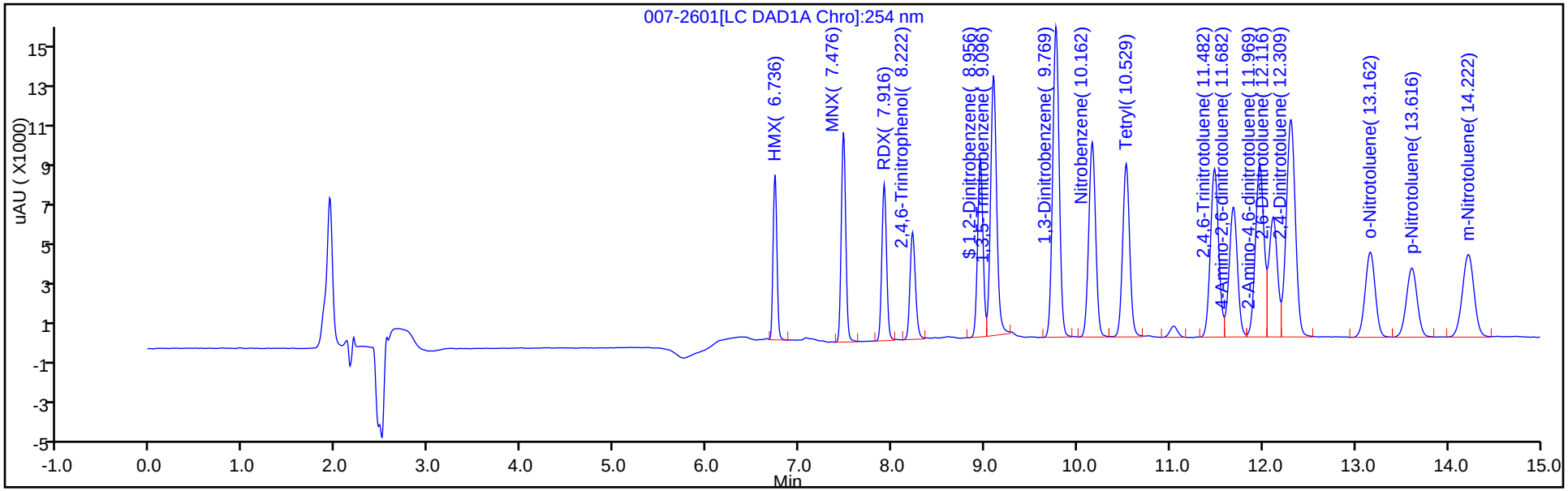
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TestAmerica Denver

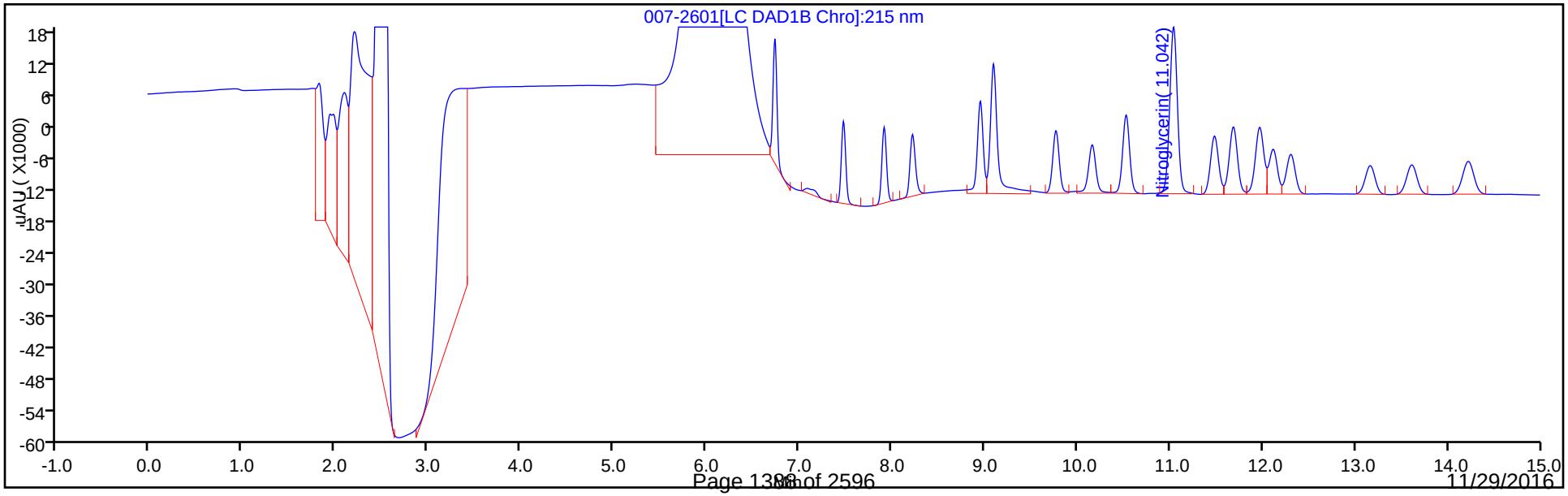
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Injection Date:	16-Nov-2016 21:08:17	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	CCV MAIN L4			Worklist Smp#:	26
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/37 Calibration Date: 11/17/2016 01:22

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-3701.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		93296		0.252	0.250	0.7	20.0
RDX	Lin2		108268		0.251	0.250	0.2	20.0
Picric acid	Lin2		84928		0.252	0.250	0.7	20.0
1,3,5-Trinitrobenzene	Lin2		231720		0.251	0.250	0.2	20.0
1,3-Dinitrobenzene	Lin2		294568		0.251	0.250	0.3	20.0
Nitrobenzene	Lin2		193316		0.239	0.250	-4.3	20.0
Tetryl	Lin2		177332		0.248	0.250	-0.7	20.0
Nitroglycerin	Lin2		71322		2.49	2.50	-0.6	20.0
2,4,6-Trinitrotoluene	Lin2		203320		0.249	0.250	-0.2	20.0
4-Amino-2,6-dinitrotoluene	Lin2		158732		0.255	0.250	2.0	20.0
2-Amino-4,6-dinitrotoluene	Lin2		220376		0.257	0.250	2.8	20.0
2,6-Dinitrotoluene	Lin2		146012		0.245	0.250	-2.0	20.0
2,4-Dinitrotoluene	Lin2		293012		0.254	0.250	1.4	20.0
2-Nitrotoluene	Lin2		123560		0.237	0.250	-5.0	20.0
4-Nitrotoluene	Lin2		108436		0.241	0.250	-3.4	20.0
3-Nitrotoluene	Lin2		139464		0.236	0.250	-5.4	20.0
PETN	Lin2		71515		2.49	2.50	-0.5	20.0
1,2-Dinitrobenzene	Lin2		140420		0.250	0.250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/37 Calibration Date: 11/17/2016 01:22

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-3701.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.73	6.63	6.83
RDX	7.90	7.80	8.00
Picric acid	8.22	8.12	8.32
1,3,5-Trinitrobenzene	9.11	9.01	9.21
1,3-Dinitrobenzene	9.79	9.69	9.89
Nitrobenzene	10.19	10.09	10.29
Tetryl	10.58	10.48	10.68
Nitroglycerin	11.10	11.00	11.20
2,4,6-Trinitrotoluene	11.55	11.45	11.65
4-Amino-2,6-dinitrotoluene	11.76	11.66	11.86
2-Amino-4,6-dinitrotoluene	12.05	11.95	12.15
2,6-Dinitrotoluene	12.19	12.09	12.29
2,4-Dinitrotoluene	12.38	12.28	12.48
2-Nitrotoluene	13.24	13.14	13.34
4-Nitrotoluene	13.70	13.60	13.80
3-Nitrotoluene	14.31	14.21	14.41
PETN	15.51	15.41	15.61
1,2-Dinitrobenzene	8.97	8.87	9.07

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-3701.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 17-Nov-2016 01:22:26 ALS Bottle#: 7 Worklist Smp#: 37
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: ccv
Misc. Info.: 280-0053110-038
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:54:20 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:17:51

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.727	6.727	0.000	23324	0.2500	0.2518	
4 MNX	1	7.460	7.460	0.000	33868	0.2487	0.2469	
5 RDX	1	7.900	7.900	0.000	27067	0.2500	0.2506	
6 2,4,6-Trinitrophenol	1	8.220	8.220	0.000	21232	0.2500	0.2516	
$ 7 1,2-Dinitrobenzene	1	8.967	8.967	0.000	35105	0.2500	0.2495	
8 1,3,5-Trinitrobenzene	1	9.107	9.107	0.000	57930	0.2500	0.2506	
9 1,3-Dinitrobenzene	1	9.794	9.794	0.000	73642	0.2500	0.2507	
11 Nitrobenzene	1	10.187	10.187	0.000	48329	0.2500	0.2394	
12 Tetryl	1	10.580	10.580	0.000	44333	0.2500	0.2483	
13 Nitroglycerin	2	11.100	11.100	0.000	178305	2.50	2.49	
14 2,4,6-Trinitrotoluene	1	11.547	11.547	0.000	50830	0.2500	0.2494	
15 4-Amino-2,6-dinitrotoluene	1	11.760	11.760	0.000	39683	0.2500	0.2549	
16 2-Amino-4,6-dinitrotoluene	1	12.047	12.047	0.000	55094	0.2500	0.2571	
17 2,6-Dinitrotoluene	1	12.187	12.187	0.000	36503	0.2500	0.2449	
18 2,4-Dinitrotoluene	1	12.380	12.380	0.000	73253	0.2500	0.2535	
19 o-Nitrotoluene	1	13.240	13.240	0.000	30890	0.2500	0.2375	
20 p-Nitrotoluene	1	13.700	13.700	0.000	27109	0.2500	0.2415	
21 m-Nitrotoluene	1	14.314	14.314	0.000	34866	0.2500	0.2364	
22 PETN	2	15.507	15.507	0.000	178787	2.50	2.49	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

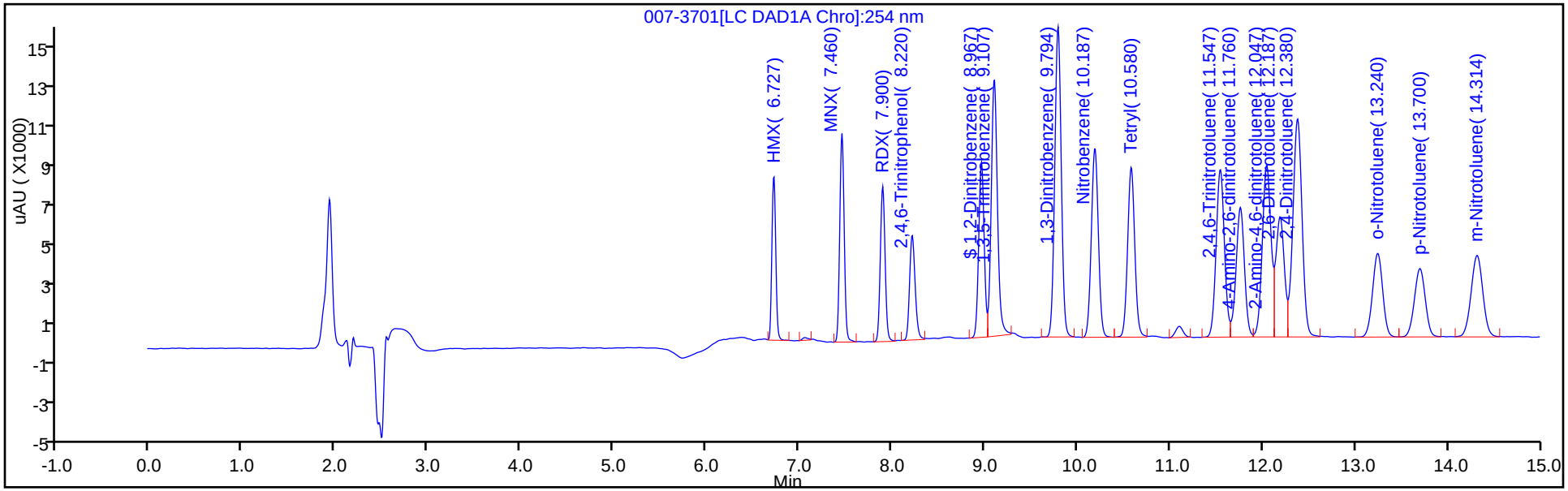
Report Date: 22-Nov-2016 20:54:22 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

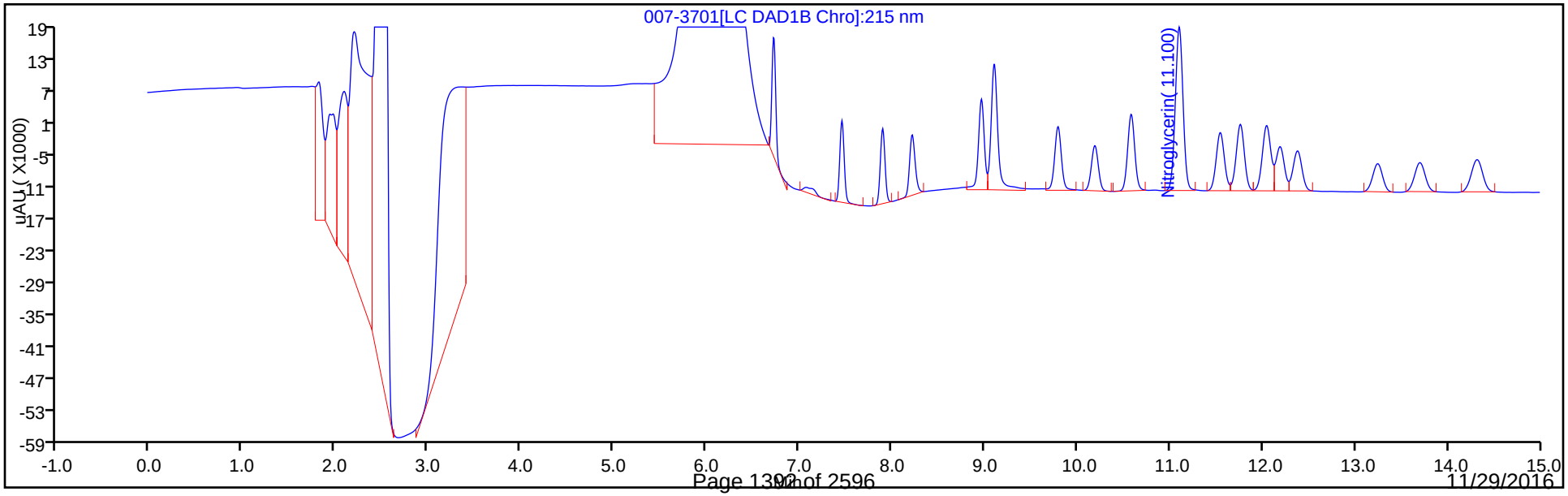
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Injection Date:	17-Nov-2016 01:22:26	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	CCV MAIN L4			Worklist Smp#:	37
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/44 Calibration Date: 11/17/2016 04:04

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-4401.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Lin2		92888		0.251	0.250	0.3	20.0
RDX	Lin2		107536		0.249	0.250	-0.5	20.0
Picric acid	Lin2		85660		0.254	0.250	1.5	20.0
1,3,5-Trinitrobenzene	Lin2		231280		0.250	0.250	0.0	20.0
1,3-Dinitrobenzene	Lin2		295104		0.251	0.250	0.5	20.0
Nitrobenzene	Lin2		191556		0.237	0.250	-5.1	20.0
Tetryl	Lin2		177628		0.249	0.250	-0.5	20.0
Nitroglycerin	Lin2		71582		2.50	2.50	-0.2	20.0
2,4,6-Trinitrotoluene	Lin2		204044		0.250	0.250	0.1	20.0
4-Amino-2,6-dinitrotoluene	Lin2		157976		0.254	0.250	1.5	20.0
2-Amino-4,6-dinitrotoluene	Lin2		219264		0.256	0.250	2.3	20.0
2,6-Dinitrotoluene	Lin2		146788		0.246	0.250	-1.5	20.0
2,4-Dinitrotoluene	Lin2		293420		0.254	0.250	1.5	20.0
2-Nitrotoluene	Lin2		123732		0.238	0.250	-4.9	20.0
4-Nitrotoluene	Lin2		109020		0.243	0.250	-2.9	20.0
3-Nitrotoluene	Lin2		138492		0.235	0.250	-6.1	20.0
PETN	Lin2		71928		2.50	2.50	0.0	20.0
1,2-Dinitrobenzene	Lin2		140092		0.249	0.250	-0.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351752/44 Calibration Date: 11/17/2016 04:04

Instrument ID: CHHPLC_X3 Calib Start Date: 10/28/2016 17:40

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 10/28/2016 20:21

Lab File ID: 007-4401.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.73	6.63	6.83
RDX	7.90	7.80	8.00
Picric acid	8.22	8.12	8.32
1,3,5-Trinitrobenzene	9.11	9.01	9.21
1,3-Dinitrobenzene	9.79	9.69	9.89
Nitrobenzene	10.19	10.09	10.29
Tetryl	10.59	10.49	10.69
Nitroglycerin	11.11	11.01	11.21
2,4,6-Trinitrotoluene	11.55	11.45	11.65
4-Amino-2,6-dinitrotoluene	11.77	11.67	11.87
2-Amino-4,6-dinitrotoluene	12.06	11.96	12.16
2,6-Dinitrotoluene	12.20	12.10	12.30
2,4-Dinitrotoluene	12.39	12.29	12.49
2-Nitrotoluene	13.26	13.16	13.36
4-Nitrotoluene	13.72	13.62	13.82
3-Nitrotoluene	14.34	14.24	14.44
PETN	15.53	15.43	15.63
1,2-Dinitrobenzene	8.97	8.87	9.07

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-4401.D
Lims ID: CCV MAIN L4
Client ID:
Sample Type: CCV
Inject. Date: 17-Nov-2016 04:04:30 ALS Bottle#: 7 Worklist Smp#: 44
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: ccv
Misc. Info.: 280-0053110-045
Operator ID: ACF Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub11

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:54:30 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:07:05

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.733	6.733	0.000	23222	0.2500	0.2507	
4 MNX	1	7.466	7.466	0.000	33818	0.2487	0.2465	
5 RDX	1	7.900	7.900	0.000	26884	0.2500	0.2489	
6 2,4,6-Trinitrophenol	1	8.220	8.220	0.000	21415	0.2500	0.2538	
$ 7 1,2-Dinitrobenzene	1	8.966	8.966	0.000	35023	0.2500	0.2489	
8 1,3,5-Trinitrobenzene	1	9.106	9.106	0.000	57820	0.2500	0.2501	
9 1,3-Dinitrobenzene	1	9.793	9.793	0.000	73776	0.2500	0.2512	
11 Nitrobenzene	1	10.193	10.193	0.000	47889	0.2500	0.2372	
12 Tetryl	1	10.586	10.586	0.000	44407	0.2500	0.2487	
13 Nitroglycerin	2	11.106	11.106	0.000	178955	2.50	2.50	
14 2,4,6-Trinitrotoluene	1	11.553	11.553	0.000	51011	0.2500	0.2503	
15 4-Amino-2,6-dinitrotoluene	1	11.773	11.773	0.000	39494	0.2500	0.2536	
16 2-Amino-4,6-dinitrotoluene	1	12.059	12.059	0.000	54816	0.2500	0.2558	
17 2,6-Dinitrotoluene	1	12.199	12.199	0.000	36697	0.2500	0.2462	
18 2,4-Dinitrotoluene	1	12.393	12.393	0.000	73355	0.2500	0.2539	
19 o-Nitrotoluene	1	13.259	13.259	0.000	30933	0.2500	0.2378	
20 p-Nitrotoluene	1	13.719	13.719	0.000	27255	0.2500	0.2428	
21 m-Nitrotoluene	1	14.339	14.339	0.000	34623	0.2500	0.2347	
22 PETN	2	15.533	15.533	0.000	179821	2.50	2.50	

Reagents:

8330IntermStk_00041 Amount Added: 0.01 Units: mL

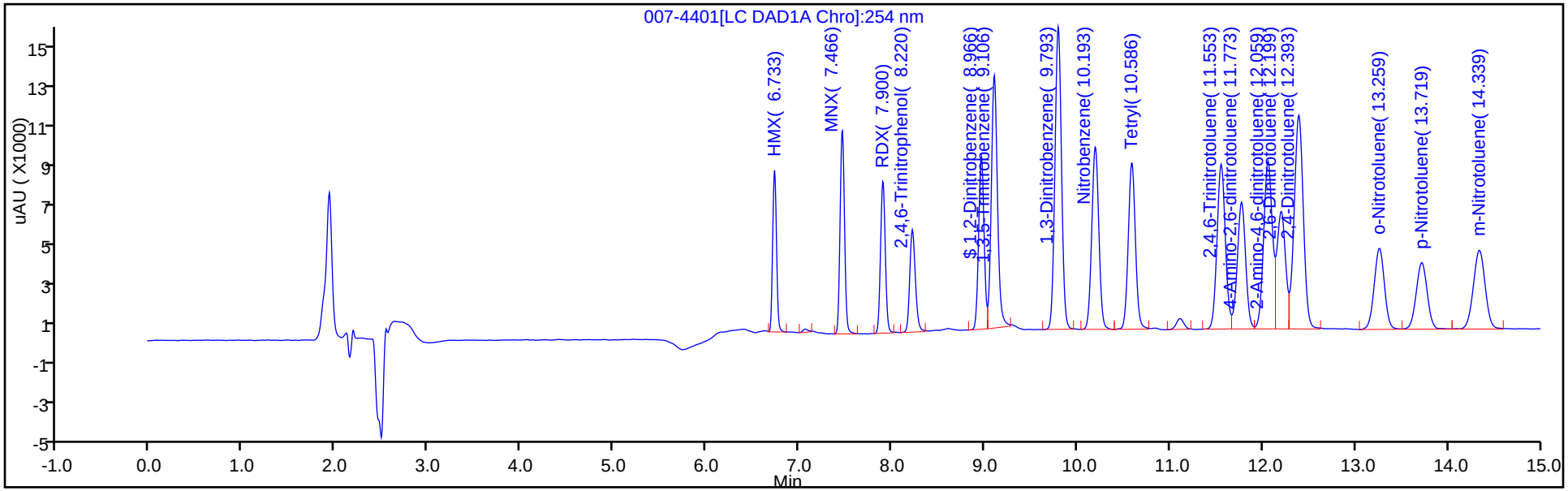
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TestAmerica Denver

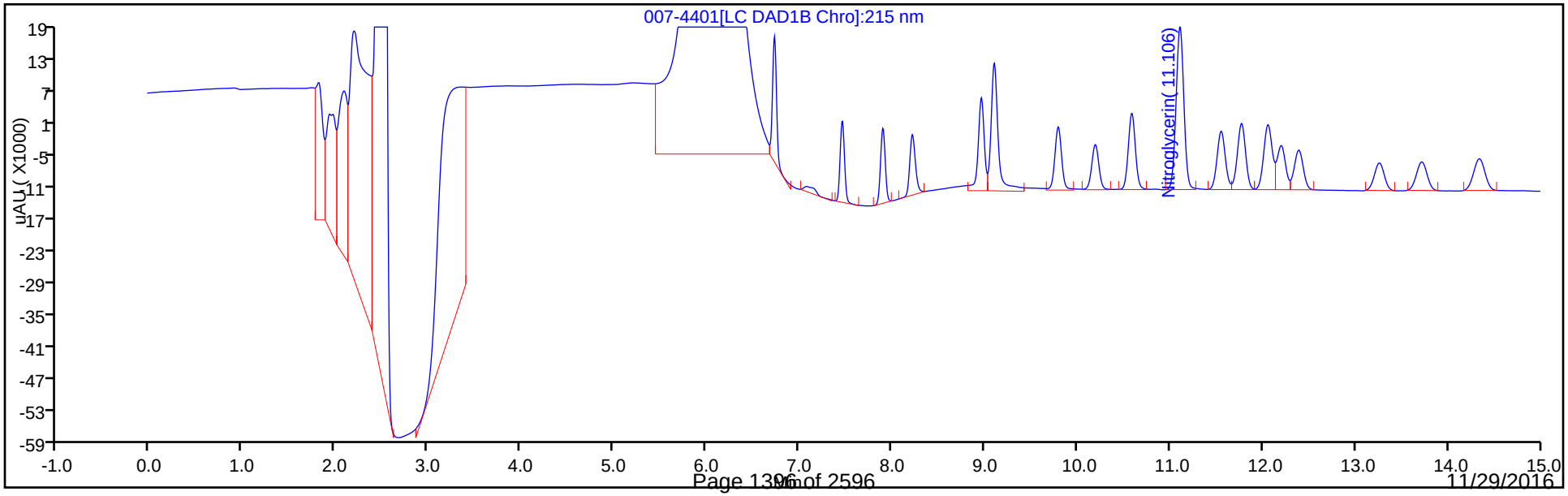
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\007-4401.D

Injection Date:	17-Nov-2016 04:04:30	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	CCV MAIN L4			Worklist Smp#:	44
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-349987/1-A

Matrix: Water | Lab File ID: 027-2701.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/16/2016 21:31

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 50(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351752 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	1.0	0.40	0.20
2691-41-0	HMX	0.20	U	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	3.0	2.0	0.92
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.0606	J	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\027-2701.D
Lims ID: MB 280-349987/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Nov-2016 21:31:22 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: MB280-349987/1-A
Misc. Info.: 280-0053110-028
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:53:38 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:11:53

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.584				ND	
	2 HMX	1		6.736				ND	
	3 2,4-diamino-6-nitrotoluene	1		6.778				ND	
	4 MNX	1		7.476				ND	
	5 RDX	1	7.915	7.916	-0.001	812		0.006056	
	6 2,4,6-Trinitrophenol	1	8.209	8.222	-0.013	2816		0.0323	
$	7 1,2-Dinitrobenzene	1	8.955	8.956	-0.001	27690	0.2000	0.1966	
	8 1,3,5-Trinitrobenzene	1		9.096				ND	
	9 1,3-Dinitrobenzene	1		9.769				ND	
	11 Nitrobenzene	1		10.162				ND	
	10 3,5-Dinitroaniline	1		10.457				ND	
	12 Tetryl	1		10.529				ND	
	13 Nitroglycerin	2		11.042				ND	
	14 2,4,6-Trinitrotoluene	1		11.482				ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.682				ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.969				ND	
	17 2,6-Dinitrotoluene	1		12.116				ND	
	18 2,4-Dinitrotoluene	1		12.309				ND	
	19 o-Nitrotoluene	1		13.162				ND	
	20 p-Nitrotoluene	1		13.616				ND	
	21 m-Nitrotoluene	1		14.222				ND	
	22 PETN	2		15.389				ND	

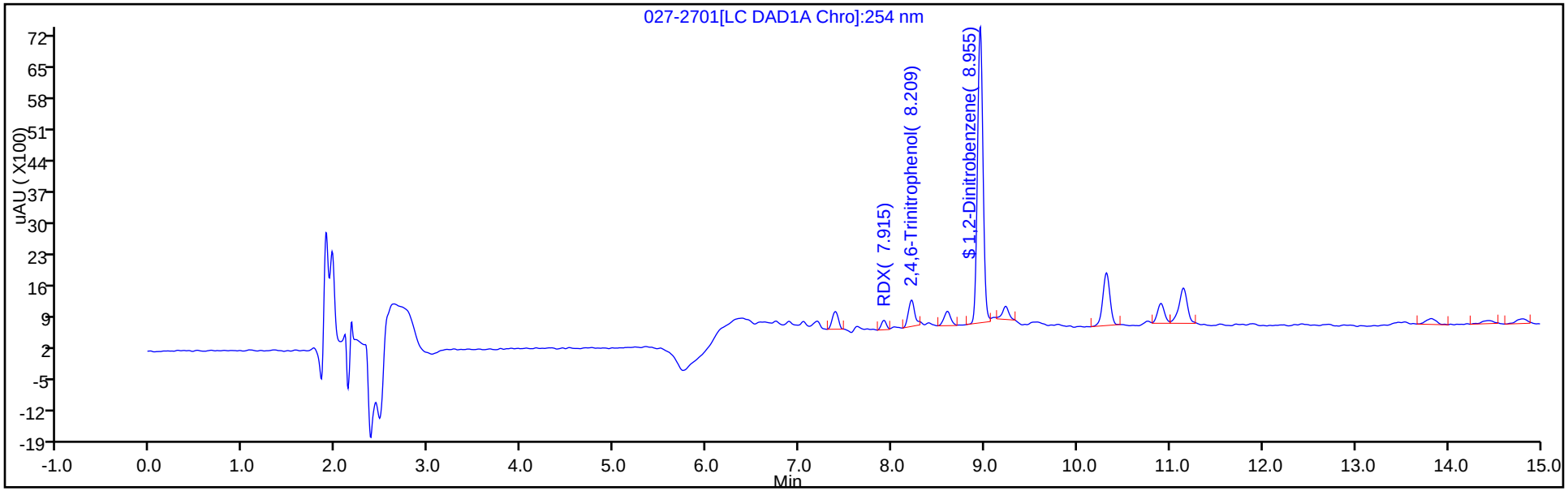
Report Date: 22-Nov-2016 20:53:55 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

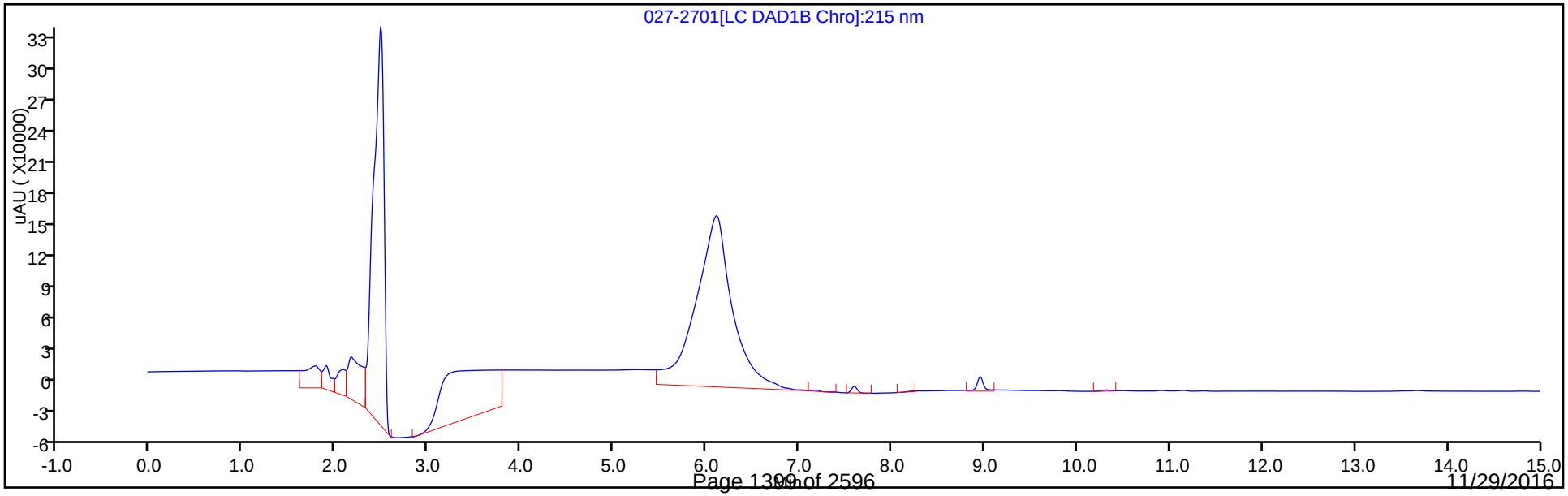
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\027-2701.D

Injection Date:	16-Nov-2016 21:31:22	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	MB 280-349987/1-A			Worklist Smp#:	27
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\027-2701.D
Lims ID: MB 280-349987/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Nov-2016 21:31:22 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: MB280-349987/1-A
Misc. Info.: 280-0053110-028
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:53:38 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:11:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1966	98.28

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-349987/1-A

Matrix: Water | Lab File ID: 11231608.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/23/2016 14:59

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 352866 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.335	J	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.241	M	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U M	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	1.0	0.40	0.20
2691-41-0	HMX	0.20	U	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	3.0	2.0	0.92
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.12	U	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	99		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231608.D
Lims ID: MB 280-349987/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Nov-2016 14:59:59 ALS Bottle#: 3 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-349987/1-
Misc. Info.: 280-0053490-008
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:30:36

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1		4.209				ND	
3 2,4-diamino-6-nitrotoluene	1		4.729				ND	
5 HMX	1		6.642				ND	
6 MNX	1		7.322				ND	
4 2,4,6-Trinitrophenol	1		8.169				ND	
7 RDX	1		8.635				ND	
8 Nitrobenzene	1		11.335				ND	
$ 9 1,2-Dinitrobenzene	1	12.284	12.308	-0.024	54742	0.2000	0.1990	
10 3,5-Dinitroaniline	1		14.188				ND	
11 1,3-Dinitrobenzene	1		14.635				ND	
12 Nitroglycerin	2		14.722				ND	
13 o-Nitrotoluene	1		15.502				ND	
14 p-Nitrotoluene	1		15.802				ND	
15 4-Amino-2,6-dinitrotoluene	1		16.262				ND	
16 m-Nitrotoluene	1	16.877	16.688	0.189	1375		-0.001664	7M
17 2-Amino-4,6-dinitrotoluene	1		17.242				ND	
18 1,3,5-Trinitrobenzene	1	17.744	17.675	0.069	16659		0.0335	
19 2,6-Dinitrotoluene	1	18.944	18.648	0.296	8739		0.0241	M
20 2,4-Dinitrotoluene	1		19.188				ND	
21 Tetryl	1		22.395				ND	
22 2,4,6-Trinitrotoluene	1		23.322				ND	
23 PETN	2		24.049				ND	
1 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

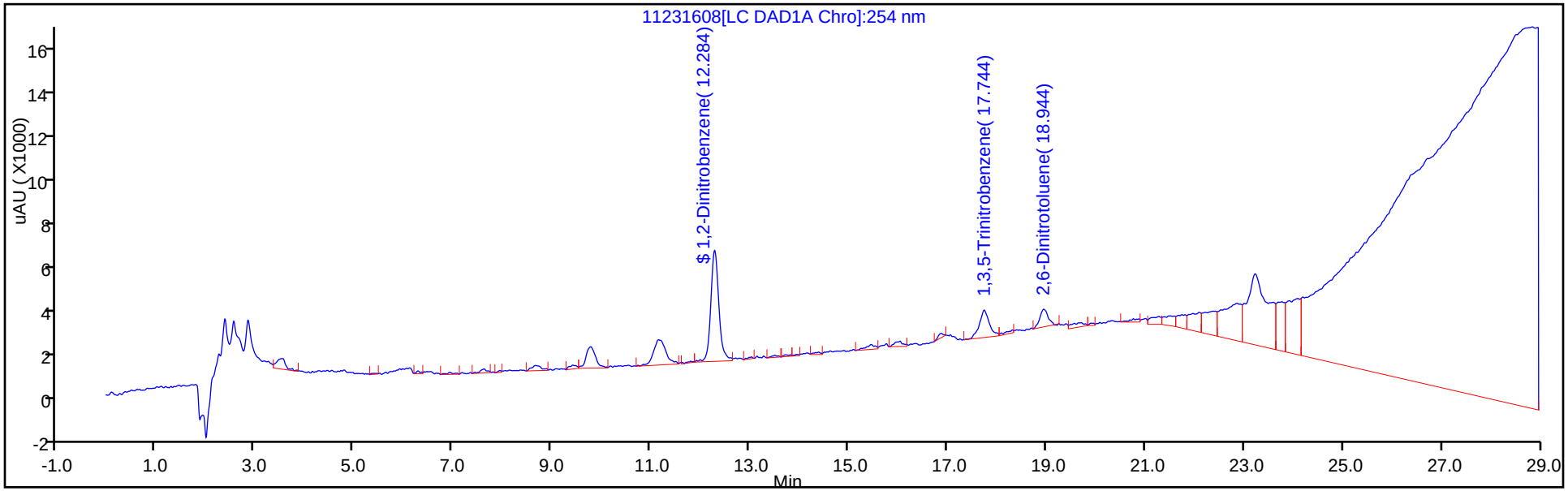
Report Date: 24-Nov-2016 19:16:03 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

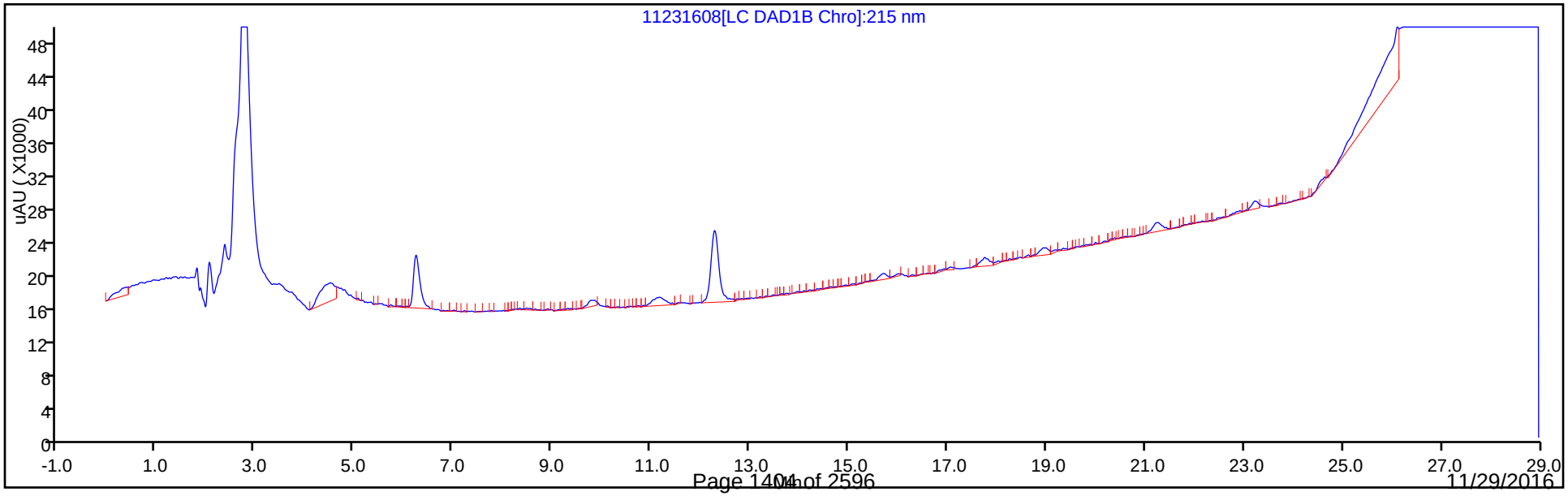
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231608.D

Injection Date:	23-Nov-2016 14:59:59	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	MB 280-349987/1-A			Worklist Smp#:	8
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231608.D
Lims ID: MB 280-349987/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Nov-2016 14:59:59 ALS Bottle#: 3 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-349987/1-
Misc. Info.: 280-0053490-008
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:30:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1990	99.48

Manual Integration/User Assign Peak Report

TestAmerica Denver

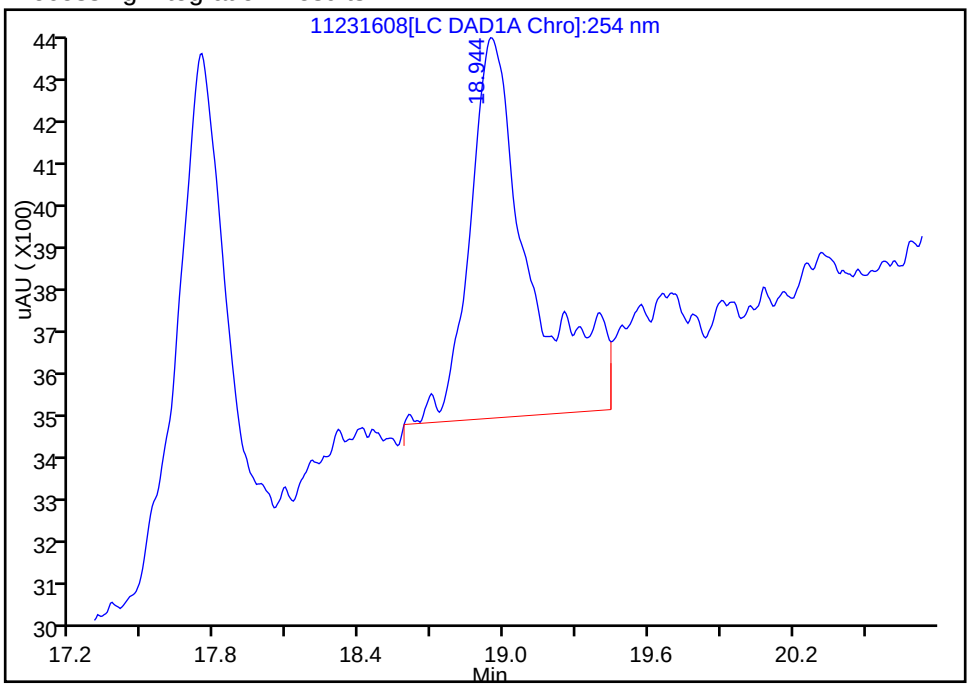
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231608.D				
Injection Date:	23-Nov-2016 14:59:59	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	MB 280-349987/1-A				
Client ID:					
Operator ID:	DMJ	ALS Bottle#:	3	Worklist Smp#:	8
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

19 2,6-Dinitrotoluene, CAS: 606-20-2

Signal: 1

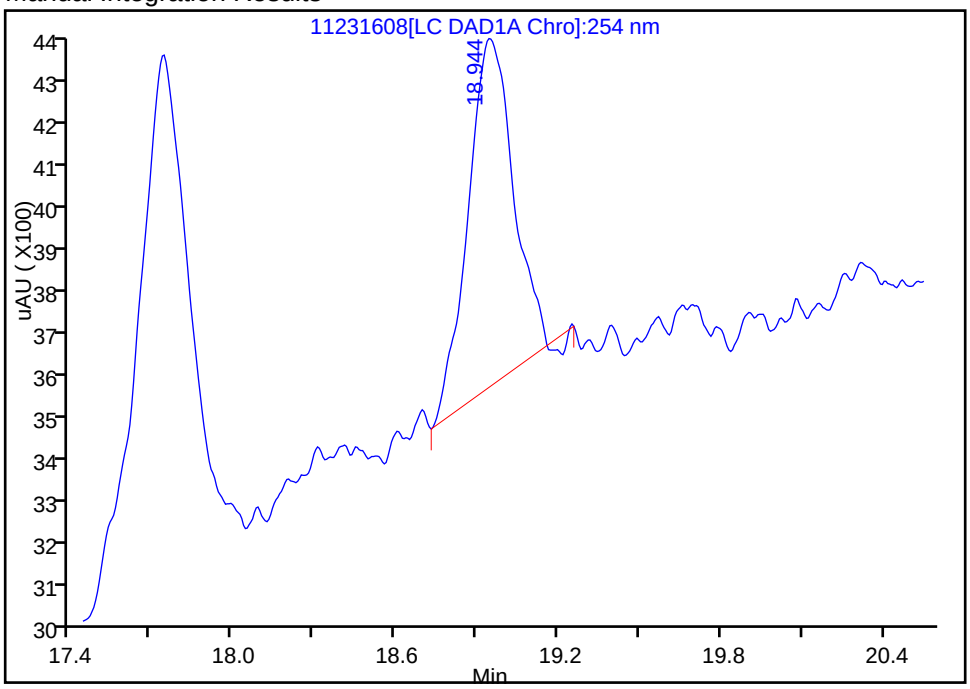
Processing Integration Results

RT: 18.94
Area: 14994
Amount: 0.046150
Amount Units: ug/ml



Manual Integration Results

RT: 18.94
Area: 8739
Amount: 0.024062
Amount Units: ug/ml



Reviewer: jonsrudd, 24-Nov-2016 18:30:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

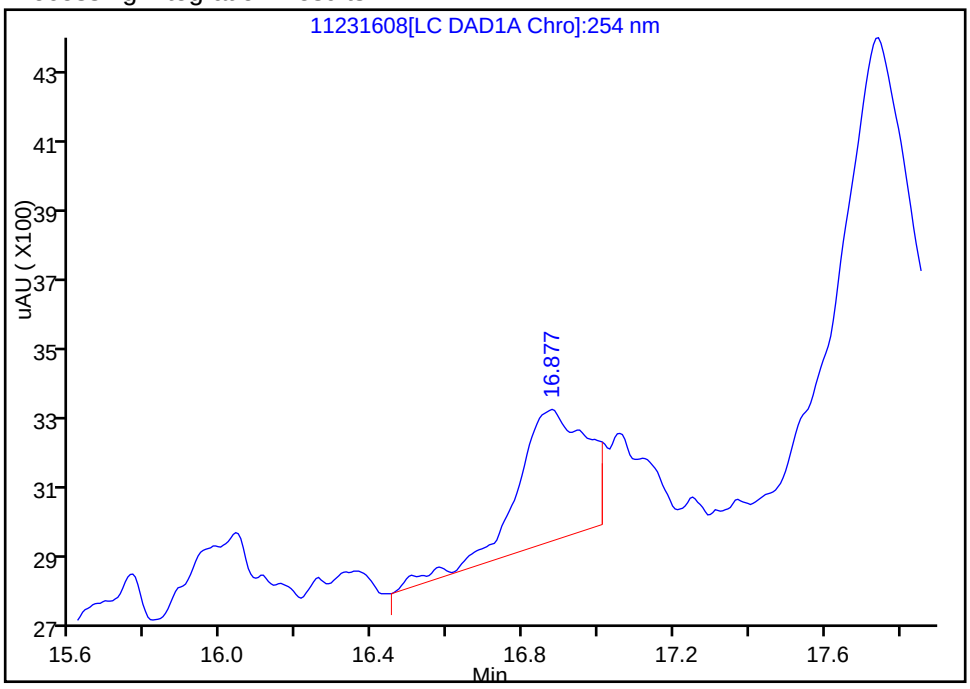
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231608.D				
Injection Date:	23-Nov-2016 14:59:59	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	MB 280-349987/1-A				
Client ID:					
Operator ID:	DMJ	ALS Bottle#:	3	Worklist Smp#:	8
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

16 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

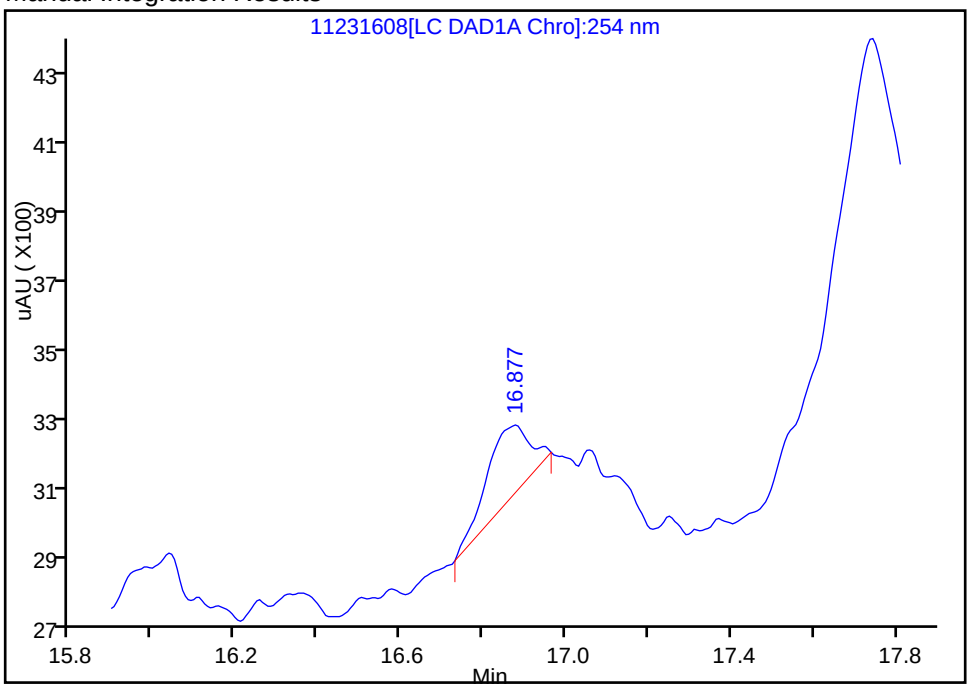
Processing Integration Results

RT: 16.88
Area: 4598
Amount: 0.009633
Amount Units: ug/ml



Manual Integration Results

RT: 16.88
Area: 1375
Amount: -0.001664
Amount Units: ug/ml



Reviewer: jonsrudd, 24-Nov-2016 18:30:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-349987/2-A

Matrix: Water | Lab File ID: 028-2801.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/16/2016 21:54

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 50(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351752 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1.82		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	1.89		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.99		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.69		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.70		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.57	Q	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.21	Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.25	Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.55		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.38	Q	1.0	0.40	0.20
2691-41-0	HMX	1.92		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.47		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.4		3.0	2.0	0.92
78-11-5	PETN	20.4		2.0	1.2	0.42
121-82-4	RDX	2.12		0.20	0.12	0.052
479-45-8	Tetryl	1.80		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	95		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\028-2801.D
Lims ID: LCS 280-349987/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Nov-2016 21:54:27 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: LCS280-349987/2-
Misc. Info.: 280-0053110-029
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:53:38 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:13:07

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.726	6.736	-0.010	17815	0.2000	0.1922	
	4 MNX	1	7.459	7.476	-0.017	27248	0.2011	0.1985	
	5 RDX	1	7.899	7.916	-0.017	22874	0.2000	0.2115	
	6 2,4,6-Trinitrophenol	1	8.199	8.222	-0.023	48413	0.2000	0.5754	
$	7 1,2-Dinitrobenzene	1	8.972	8.956	0.016	26677	0.2000	0.1893	
	8 1,3,5-Trinitrobenzene	1	9.112	9.096	0.016	42022	0.2000	0.1816	
	9 1,3-Dinitrobenzene	1	9.806	9.769	0.037	55554	0.2000	0.1892	
	11 Nitrobenzene	1	10.212	10.162	0.050	29614	0.2000	0.1468	
	12 Tetryl	1	10.619	10.529	0.090	32235	0.2000	0.1804	
	13 Nitroglycerin	2	11.139	11.042	0.097	146484	2.00	2.04	
	14 2,4,6-Trinitrotoluene	1	11.586	11.482	0.104	40666	0.2000	0.1991	
	15 4-Amino-2,6-dinitrotoluene	1	11.812	11.682	0.130	24267	0.2000	0.1547	
	16 2-Amino-4,6-dinitrotoluene	1	12.099	11.969	0.130	33641	0.2000	0.1565	
	17 2,6-Dinitrotoluene	1	12.246	12.116	0.130	25386	0.2000	0.1702	
	18 2,4-Dinitrotoluene	1	12.432	12.309	0.123	49005	0.2000	0.1693	
	19 o-Nitrotoluene	1	13.312	13.162	0.150	15800	0.2000	0.1212	
	20 p-Nitrotoluene	1	13.772	13.616	0.156	15482	0.2000	0.1380	
	21 m-Nitrotoluene	1	14.399	14.222	0.177	18531	0.2000	0.1249	
	22 PETN	2	15.612	15.389	0.223	146554	2.00	2.04	

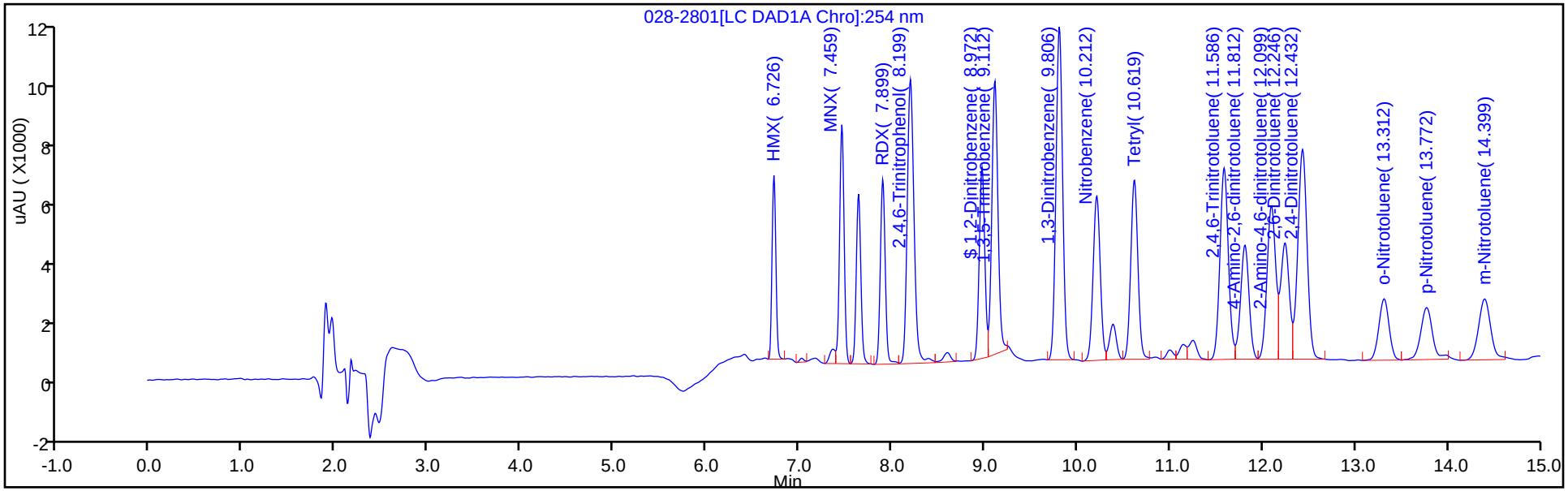
Report Date: 22-Nov-2016 20:53:58 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

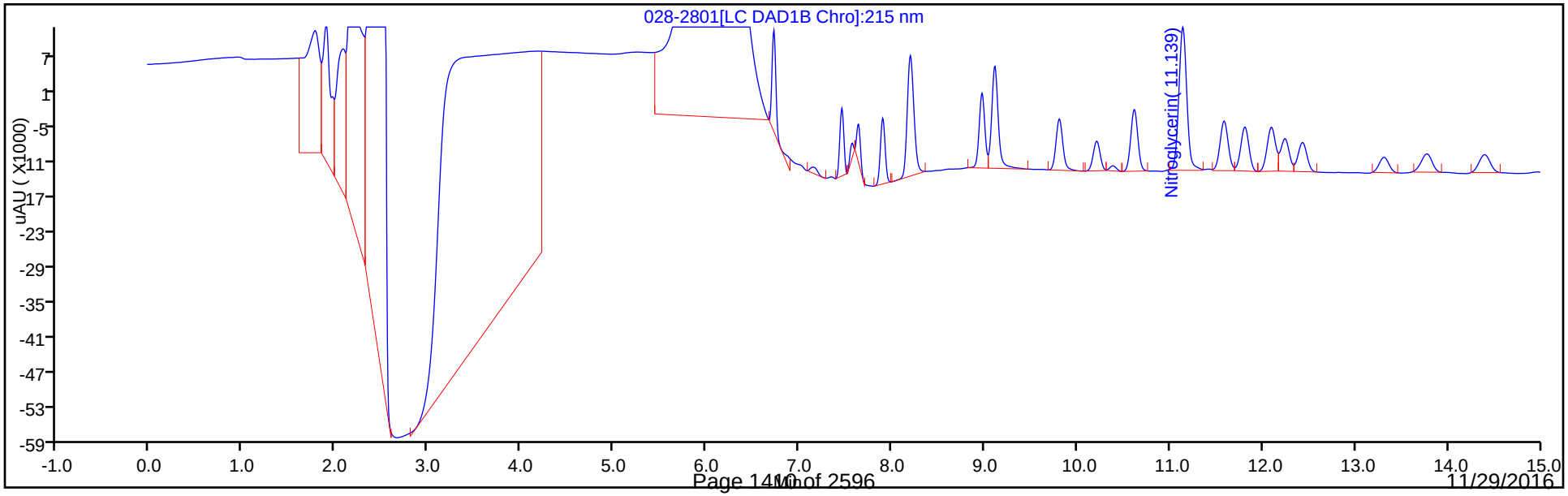
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\028-2801.D

Injection Date:	16-Nov-2016 21:54:27	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	LCS 280-349987/2-A			Worklist Smp#:	28
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\028-2801.D
Lims ID: LCS 280-349987/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Nov-2016 21:54:27 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: LCS280-349987/2-
Misc. Info.: 280-0053110-029
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:53:38 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: freya Date: 17-Nov-2016 11:13:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1893	94.67

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-349987/2-A

Matrix: Water | Lab File ID: 11231609.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/23/2016 15:34

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 352866 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.08		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	1.87		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	2.33		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.74		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.64		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.51	Q	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.27	Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.26	Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.45	Q	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.26	Q	1.0	0.40	0.20
2691-41-0	HMX	1.87		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.87		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.0		3.0	2.0	0.92
78-11-5	PETN	21.1		2.0	1.2	0.42
121-82-4	RDX	2.03		0.20	0.12	0.052
479-45-8	Tetryl	1.79		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	107		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231609.D
Lims ID: LCS 280-349987/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Nov-2016 15:34:54 ALS Bottle#: 4 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-349987/2
Misc. Info.: 280-0053490-009
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:32:36

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.624	6.642	-0.018	33084	0.2000	0.1871	
6 MNX	1	7.298	7.322	-0.024	49097	0.2011	0.1904	
4 2,4,6-Trinitrophenol	1	8.044	8.169	-0.125	80273	0.2000	0.4961	
7 RDX	1	8.611	8.635	-0.024	42954	0.2000	0.2027	
8 Nitrobenzene	1	11.304	11.335	-0.031	77592	0.2000	0.1874	
$ 9 1,2-Dinitrobenzene	1	12.284	12.308	-0.024	58717	0.2000	0.2138	
11 1,3-Dinitrobenzene	1	14.618	14.635	-0.017	113190	0.2000	0.1866	
12 Nitroglycerin	2	14.718	14.722	-0.004	339422	2.00	2.00	
13 o-Nitrotoluene	1	15.484	15.502	-0.018	31807	0.2000	0.1272	
14 p-Nitrotoluene	1	15.784	15.802	-0.018	29265	0.2000	0.1261	
15 4-Amino-2,6-dinitrotoluene	1	16.244	16.262	-0.018	43062	0.2000	0.1453	
16 m-Nitrotoluene	1	16.671	16.688	-0.017	37813	0.2000	0.1260	
17 2-Amino-4,6-dinitrotoluene	1	17.218	17.242	-0.024	63910	0.2000	0.1507	
18 1,3,5-Trinitrobenzene	1	17.671	17.675	-0.004	95202	0.2000	0.2081	
19 2,6-Dinitrotoluene	1	18.631	18.648	-0.017	48257	0.2000	0.1636	
20 2,4-Dinitrotoluene	1	19.171	19.188	-0.017	100540	0.2000	0.1736	
21 Tetryl	1	22.391	22.395	-0.004	63014	0.2000	0.1789	
22 2,4,6-Trinitrotoluene	1	23.311	23.322	-0.011	91468	0.2000	0.2326	
23 PETN	2	24.058	24.049	0.009	262002	2.00	2.11	

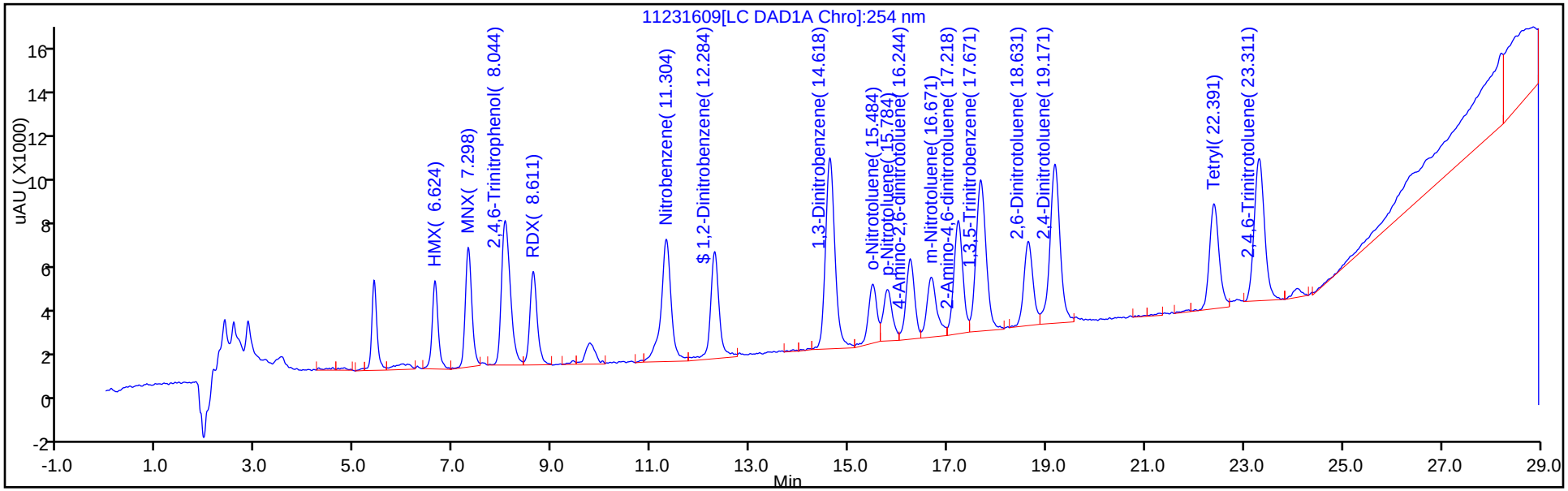
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TestAmerica Denver

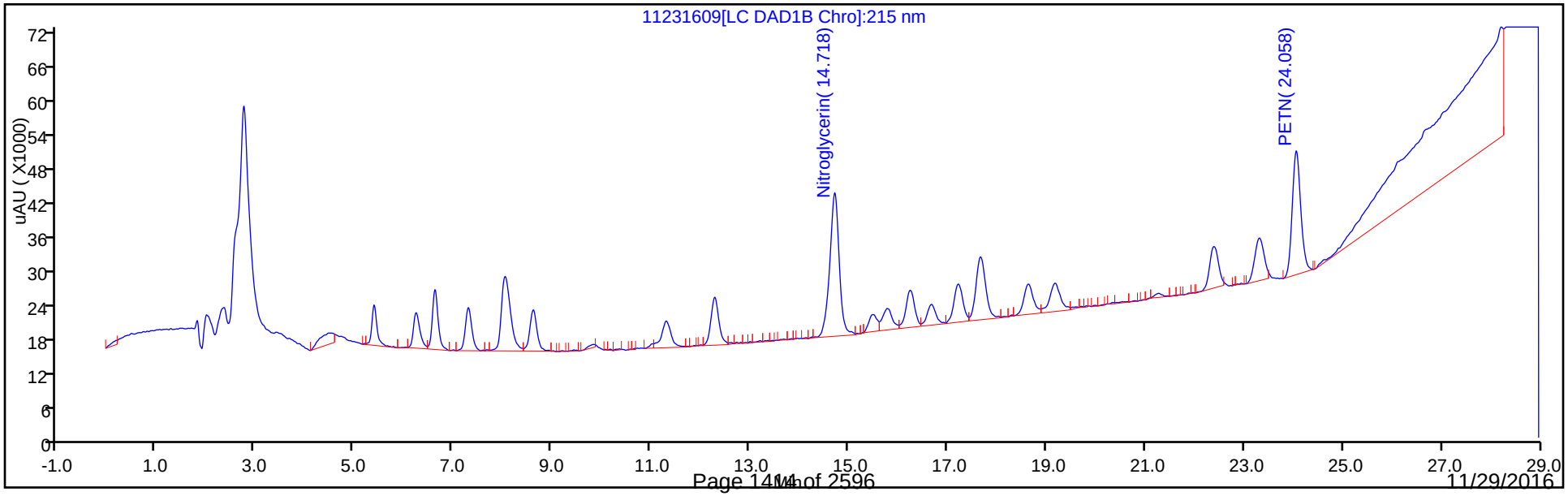
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Injection Date:	23-Nov-2016 15:34:54	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	LCS 280-349987/2-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231609.D
Lims ID: LCS 280-349987/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Nov-2016 15:34:54 ALS Bottle#: 4 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-349987/2
Misc. Info.: 280-0053490-009
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:32:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.2138	106.88

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-349987/3-A

Matrix: Water | Lab File ID: 029-2901.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/16/2016 22:17

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 50(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351752 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1.80		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	1.98		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.99		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.86		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.76		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.68		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.56	Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.62	Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.61		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.72	Q	1.0	0.40	0.20
2691-41-0	HMX	1.81		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.74		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.0		3.0	2.0	0.92
78-11-5	PETN	19.3		2.0	1.2	0.42
121-82-4	RDX	2.04		0.20	0.12	0.052
479-45-8	Tetryl	1.66		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	97		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\029-2901.D
Lims ID: LCSD 280-349987/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 16-Nov-2016 22:17:33 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 50.0 ul Dil. Factor: 1.0000
Sample Info: LCSD280-349987/3
Misc. Info.: 280-0053110-030
Operator ID: ACF Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-Nov-2016 20:53:38 Calib Date: 28-Oct-2016 23:49:21
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK031

First Level Reviewer: jonsrudd Date: 22-Nov-2016 20:43:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.731	6.736	-0.005	16812	0.2000	0.1813	
4 MNX	1	7.464	7.476	-0.012	26181	0.2011	0.1907	
5 RDX	1	7.911	7.916	-0.005	22074	0.2000	0.2041	
6 2,4,6-Trinitrophenol	1	8.217	8.222	-0.005	22249	0.2000	0.2637	
$ 7 1,2-Dinitrobenzene	1	8.984	8.956	0.028	27266	0.2000	0.1935	
8 1,3,5-Trinitrobenzene	1	9.124	9.096	0.028	41600	0.2000	0.1798	
9 1,3-Dinitrobenzene	1	9.817	9.769	0.048	58158	0.2000	0.1981	
11 Nitrobenzene	1	10.217	10.162	0.055	35156	0.2000	0.1742	
12 Tetryl	1	10.617	10.529	0.088	29614	0.2000	0.1657	
13 Nitroglycerin	2	11.144	11.042	0.102	143504	2.00	2.00	
14 2,4,6-Trinitrotoluene	1	11.584	11.482	0.102	40578	0.2000	0.1986	
15 4-Amino-2,6-dinitrotoluene	1	11.804	11.682	0.122	25172	0.2000	0.1606	
16 2-Amino-4,6-dinitrotoluene	1	12.090	11.969	0.121	36073	0.2000	0.1679	
17 2,6-Dinitrotoluene	1	12.237	12.116	0.121	26257	0.2000	0.1760	
18 2,4-Dinitrotoluene	1	12.424	12.309	0.115	53720	0.2000	0.1857	
19 o-Nitrotoluene	1	13.297	13.162	0.135	20278	0.2000	0.1557	
20 p-Nitrotoluene	1	13.750	13.616	0.134	19307	0.2000	0.1720	
21 m-Nitrotoluene	1	14.357	14.222	0.135	23942	0.2000	0.1618	
22 PETN	2	15.530	15.389	0.141	139168	2.00	1.93	

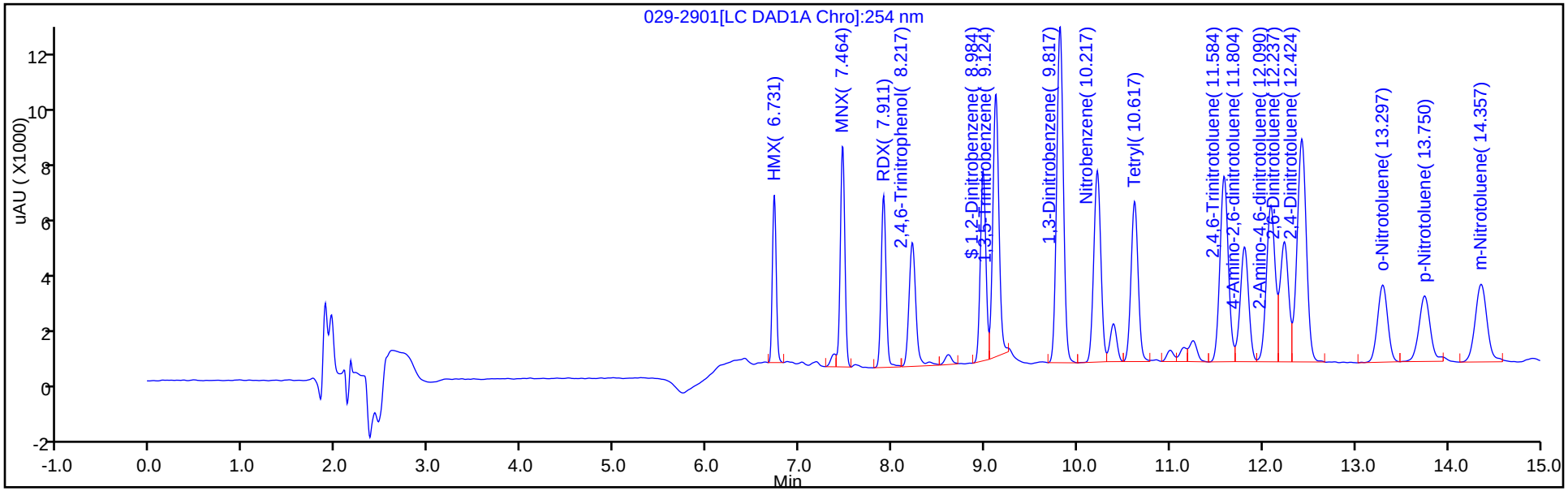
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TestAmerica Denver

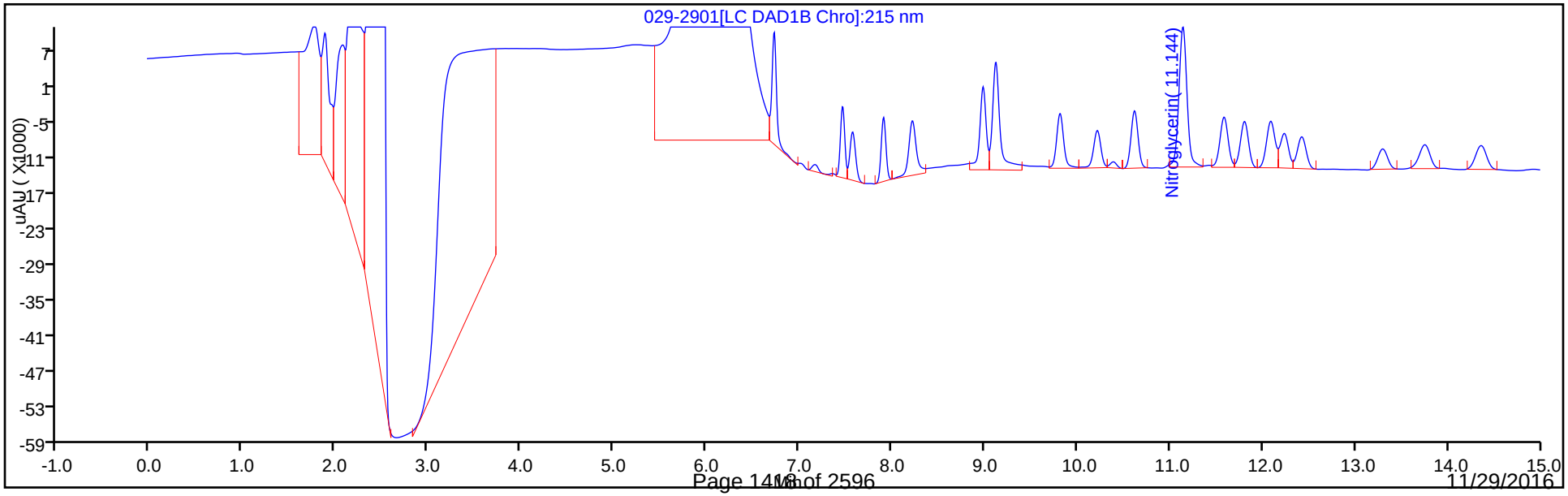
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\029-2901.D

Injection Date:	16-Nov-2016 22:17:33	Instrument ID:	CHHPLC_X3	Operator ID:	ACF
Lims ID:	LCSD 280-349987/3-A			Worklist Smp#:	29
Client ID:					
Injection Vol:	50.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\029-2901.D				
Lims ID:	LCSD 280-349987/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	16-Nov-2016 22:17:33	ALS Bottle#:	29	Worklist Smp#:	29
Injection Vol:	50.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD280-349987/3				
Misc. Info.:	280-0053110-030				
Operator ID:	ACF	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161116-53220.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	22-Nov-2016 20:53:38	Calib Date:	28-Oct-2016 23:49:21		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20161029-52455.b\079-2601.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK031				
First Level Reviewer: jonsrudd		Date:	22-Nov-2016 20:43:00		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1935	96.77

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-349987/3-A

Matrix: Water | Lab File ID: 11231610.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/04/2016 20:12

Sample wt/vol: 500(mL) | Date Analyzed: 11/23/2016 16:09

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 352866 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.25		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	1.95		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	2.30		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.98		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.77		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.63		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.69	Q	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.70	Q	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.57		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.76	Q	1.0	0.40	0.20
2691-41-0	HMX	1.79		0.40	0.20	0.088
98-95-3	Nitrobenzene	2.23		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.4		3.0	2.0	0.92
78-11-5	PETN	20.3		2.0	1.2	0.42
121-82-4	RDX	2.05		0.20	0.12	0.052
479-45-8	Tetryl	1.67		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231610.D
Lims ID: LCSD 280-349987/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 23-Nov-2016 16:09:54 ALS Bottle#: 5 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-349987/
Misc. Info.: 280-0053490-010
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:33:20

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.631	6.642	-0.011	31751	0.2000	0.1794	
6 MNX	1	7.305	7.322	-0.017	50939	0.2011	0.1977	
4 2,4,6-Trinitrophenol	1	8.071	8.169	-0.098	34651	0.2000	0.2086	
7 RDX	1	8.625	8.635	-0.010	43373	0.2000	0.2048	
8 Nitrobenzene	1	11.318	11.335	-0.017	91881	0.2000	0.2226	
$ 9 1,2-Dinitrobenzene	1	12.291	12.308	-0.017	56982	0.2000	0.2073	
11 1,3-Dinitrobenzene	1	14.625	14.635	-0.010	118184	0.2000	0.1951	
12 Nitroglycerin	2	14.725	14.722	0.003	345566	2.00	2.04	
13 o-Nitrotoluene	1	15.491	15.502	-0.011	42029	0.2000	0.1690	
14 p-Nitrotoluene	1	15.791	15.802	-0.011	40101	0.2000	0.1760	
15 4-Amino-2,6-dinitrotoluene	1	16.251	16.262	-0.011	46224	0.2000	0.1565	
16 m-Nitrotoluene	1	16.678	16.688	-0.010	50257	0.2000	0.1697	
17 2-Amino-4,6-dinitrotoluene	1	17.231	17.242	-0.011	68849	0.2000	0.1629	
18 1,3,5-Trinitrobenzene	1	17.685	17.675	0.010	102911	0.2000	0.2252	
19 2,6-Dinitrotoluene	1	18.645	18.648	-0.003	51997	0.2000	0.1768	
20 2,4-Dinitrotoluene	1	19.185	19.188	-0.003	114053	0.2000	0.1980	
21 Tetryl	1	22.398	22.395	0.003	58894	0.2000	0.1666	
22 2,4,6-Trinitrotoluene	1	23.311	23.322	-0.011	90544	0.2000	0.2302	
23 PETN	2	24.058	24.049	0.009	251401	2.00	2.03	

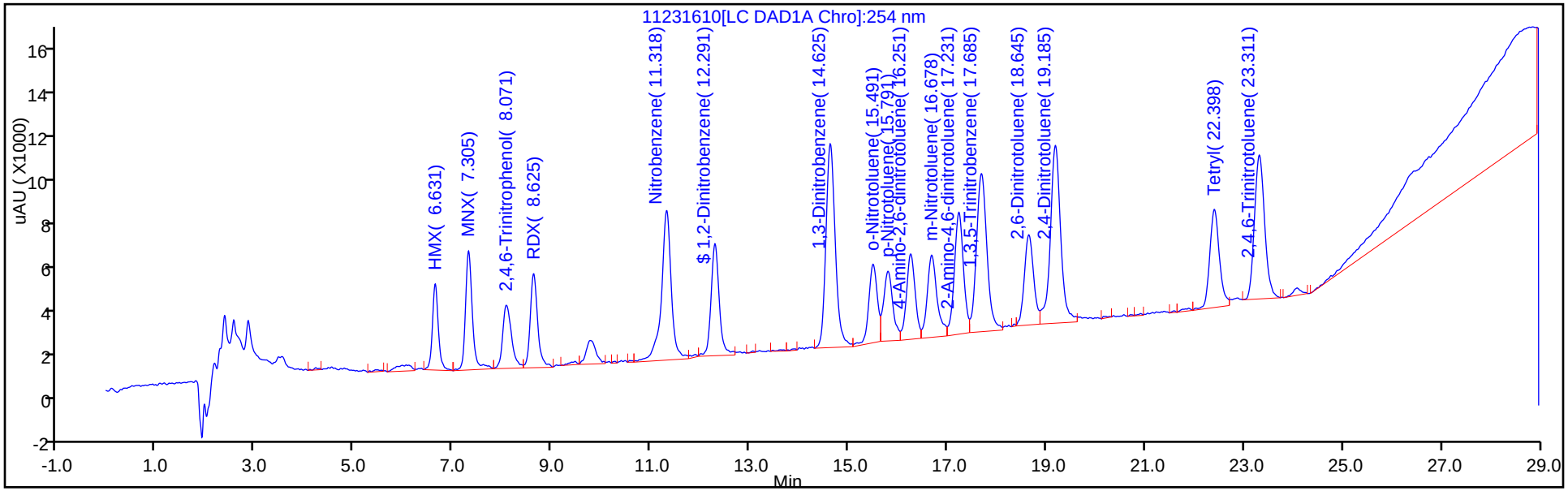
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TestAmerica Denver

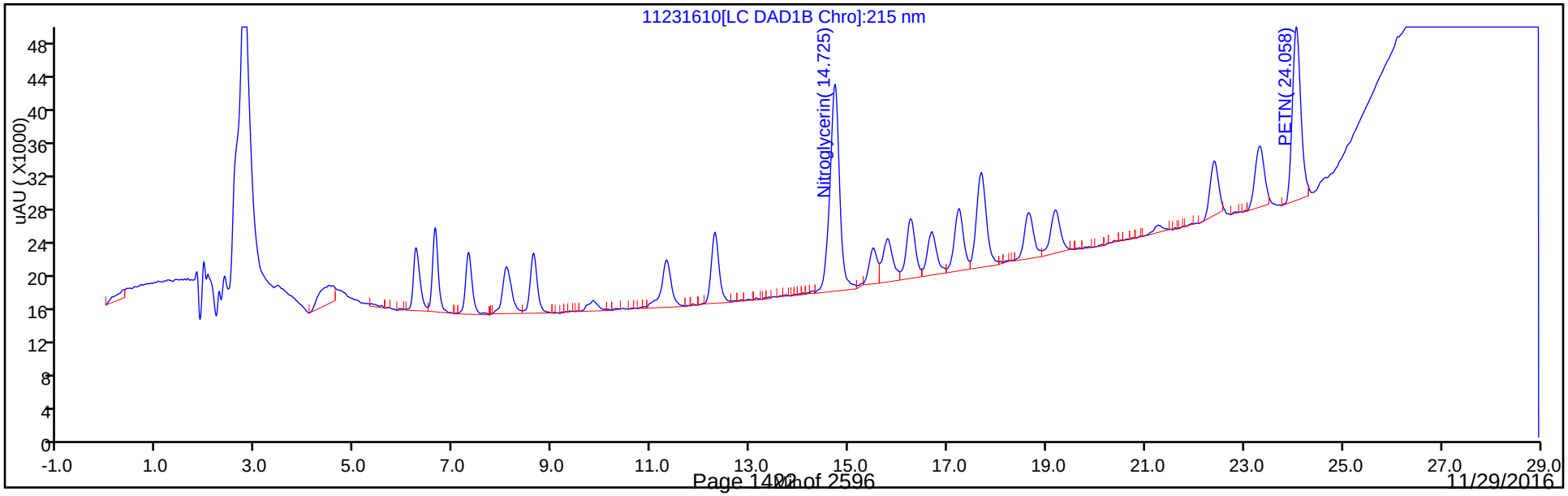
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231610.D

Injection Date:	23-Nov-2016 16:09:54	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	DMJ
Lims ID:	LCSD 280-349987/3-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\11231610.D
Lims ID: LCSD 280-349987/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 23-Nov-2016 16:09:54 ALS Bottle#: 5 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-349987/
Misc. Info.: 280-0053490-010
Operator ID: DMJ Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20161123-53490.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 24-Nov-2016 19:15:49 Calib Date: 19-Oct-2016 16:18:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20161020-52093.b\010-1401.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: XAWRK004

First Level Reviewer: jonsrudd Date: 24-Nov-2016 18:33:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.2073	103.65

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 10/19/2016 12:13

Analysis Batch Number: 347397 End Date: 10/19/2016 16:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-347397/8		10/19/2016 12:13	1		Luna-phenylhex 4.6(mm)
IC 280-347397/9		10/19/2016 12:48	1		Luna-phenylhex 4.6(mm)
IC 280-347397/10		10/19/2016 13:23	1		Luna-phenylhex 4.6(mm)
IC 280-347397/11		10/19/2016 13:58	1		Luna-phenylhex 4.6(mm)
IC 280-347397/12		10/19/2016 14:33	1		Luna-phenylhex 4.6(mm)
IC 280-347397/13		10/19/2016 15:08	1		Luna-phenylhex 4.6(mm)
IC 280-347397/14		10/19/2016 15:43	1		Luna-phenylhex 4.6(mm)
IC 280-347397/15		10/19/2016 16:18	1		Luna-phenylhex 4.6(mm)
ICV 280-347397/16		10/19/2016 16:53	1	011-1501.D	Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 10/28/2016 17:40

Analysis Batch Number: 348785 End Date: 10/29/2016 00:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-348785/10		10/28/2016 17:40	1	063-1001.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/11		10/28/2016 18:03	1	064-1101.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/12		10/28/2016 18:26	1	065-1201.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/13		10/28/2016 18:49	1	066-1301.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/14		10/28/2016 19:12	1	067-1401.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/15		10/28/2016 19:35	1	068-1501.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/16		10/28/2016 19:58	1	069-1601.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/17		10/28/2016 20:21	1	070-1701.D	UltraCarb5uODS 4.6(mm)
ICV 280-348785/18		10/28/2016 20:44	1	071-1801.D	UltraCarb5uODS 4.6(mm)
IC 280-348785/19		10/28/2016 21:07	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/20		10/28/2016 21:30	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/21		10/28/2016 21:53	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/22		10/28/2016 22:17	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/23		10/28/2016 22:40	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/24		10/28/2016 23:03	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/25		10/28/2016 23:26	1		UltraCarb5uODS 4.6(mm)
IC 280-348785/26		10/28/2016 23:49	1		UltraCarb5uODS 4.6(mm)
ICV 280-348785/27		10/29/2016 00:12	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/16/2016 13:49

Analysis Batch Number: 351752 End Date: 11/17/2016 04:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-351752/7		11/16/2016 13:49	1	007-0701.D	UltraCarb5uODS 4.6(mm)
CCV 280-351752/18		11/16/2016 18:03	1	007-1801.D	UltraCarb5uODS 4.6(mm)
CCV 280-351752/26		11/16/2016 21:08	1	007-2601.D	UltraCarb5uODS 4.6(mm)
MB 280-349987/1-A		11/16/2016 21:31	1	027-2701.D	UltraCarb5uODS 4.6(mm)
LCS 280-349987/2-A		11/16/2016 21:54	1	028-2801.D	UltraCarb5uODS 4.6(mm)
LCSD 280-349987/3-A		11/16/2016 22:17	1	029-2901.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/16/2016 22:40	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/16/2016 23:03	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/16/2016 23:26	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/16/2016 23:50	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 00:13	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 00:36	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 00:59	1		UltraCarb5uODS 4.6(mm)
CCV 280-351752/37		11/17/2016 01:22	1	007-3701.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 01:45	1		UltraCarb5uODS 4.6(mm)
280-90409-1		11/17/2016 02:08	1	039-3901.D	UltraCarb5uODS 4.6(mm)
280-90409-2		11/17/2016 02:31	1	040-4001.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 02:55	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 03:18	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/17/2016 03:41	1		UltraCarb5uODS 4.6(mm)
CCV 280-351752/44		11/17/2016 04:04	1	007-4401.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 11/23/2016 14:24

Analysis Batch Number: 352866 End Date: 11/24/2016 06:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-352866/7		11/23/2016 14:24	1	11231607.D	Luna-phenylhex 4.6(mm)
MB 280-349987/1-A		11/23/2016 14:59	1	11231608.D	Luna-phenylhex 4.6(mm)
LCS 280-349987/2-A		11/23/2016 15:34	1	11231609.D	Luna-phenylhex 4.6(mm)
LCSD 280-349987/3-A		11/23/2016 16:09	1	11231610.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 16:44	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 17:19	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 17:54	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 18:29	1		Luna-phenylhex 4.6(mm)
280-90409-1		11/23/2016 19:04	1	11231615.D	Luna-phenylhex 4.6(mm)
280-90409-2		11/23/2016 19:39	1	11231616.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 20:14	1		Luna-phenylhex 4.6(mm)
CCV 280-352866/18		11/23/2016 20:49	1	11231618.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 21:24	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 21:59	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 22:34	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 23:09	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/23/2016 23:44	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 00:19	5		Luna-phenylhex 4.6(mm)
CCV 280-352866/25		11/24/2016 00:54	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 01:29	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 02:04	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 02:39	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 03:14	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 03:49	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 04:24	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 04:59	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 05:34	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 06:09	5		Luna-phenylhex 4.6(mm)
ZZZZZ		11/24/2016 06:44	1		Luna-phenylhex 4.6(mm)

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349987 Batch Start Date: 11/04/16 20:12 Batch Analyst: Cokley, Cheyana D

Batch Method: 3535 Batch End Date: 11/04/16 23:11

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00072	8330Surrogate 00090
MB 280-349987/1		3535, 8330B				500 mL	5 mL		0.1 mL
LCS 280-349987/2		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
LCSD 280-349987/3		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
280-90409-C-1	LL2mw-271-110116 -GW	3535, 8330B	T	704.2 g	261.2 g	443 mL	5 mL		0.1 mL
280-90409-D-2	LL2mw-261-103116 -GW	3535, 8330B	T	709.9 g	260.1 g	449.8 mL	5 mL		0.1 mL

Batch Notes	
Acid ID	0.1%AAinACN_00098
Acid Name	Acetic Acid in ACN
Balance ID	24950441
Batch Comment	Reviewer: n/a ; DNA is not in the analyte list(11.4.16) MeCL2-Cycl 00308, NaCl:164935
First End time	11.4.16@2133
H2O ID	ELGA
Pipette ID	EIA, EXP-1
Reagent ID	CaCL2
Reagent Lot Number	CaCL2_00049
Solvent Lot #	ACN_00
Solvent Name	Acetonitrile
SOP Number	DV-OP-0017
SPE Cartridge Type	Sep-Pak Porapak RDX
Solid Phase Extraction Disk ID	004436152A
First Start time	11.4.16@2023

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.

Method 6860

Perchlorate (IC/MS) by Method 6860

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: IC216K15043.d

Lab ID: LCS 280-351565/45 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perchlorate	0.0500	0.0475 J	95	84-119	M

Column to be used to flag recovery and RPD values

FORM III 6860

FORM III
LCMS DETECTION LIMIT CHECK STANDARD RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: IC216K15010.d

Lab ID: DLCK 280-351565/12 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	DLCK CONCENTRATION (ug/L)	DLCK % REC	QC LIMITS REC	#
Perchlorate	0.0500	0.0428 J	86	70-130	M

Column to be used to flag recovery and RPD values

FORM III 6860

FORM III
LCMS LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water Level: Low Lab File ID: IC216K15044.d

Lab ID: INF 280-351565/46 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	INF CONCENTRATION (ug/L)	INF % REC	QC LIMITS REC	#
Perchlorate	0.0500	0.0609	122	70-130	

Column to be used to flag recovery and RPD values

FORM III 6860

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab File ID: IC216K15042.d Lab Sample ID: MB 280-351565/44

Matrix: Water Date Extracted:

Instrument ID: LC_LCMS2 Date Analyzed: 11/15/2016 16:14

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	ICB 280-351565/10	IC216K15008.d	11/15/2016 12:54
	DLCK 280-351565/12	IC216K15010.d	11/15/2016 13:04
	CCB 280-351565/23	IC216K15021.d	11/15/2016 14:26
	CCB 280-351565/36	IC216K15034.d	11/15/2016 15:33
	LCS 280-351565/45	IC216K15043.d	11/15/2016 16:19
	CCB 280-351565/49	IC216K15047.d	11/15/2016 16:39
	CCB 280-351565/62	IC216K15060.d	11/15/2016 17:46
LL2mw-271-110116-GW	280-90409-1	IC216K15066.d	11/15/2016 18:17
	CCB 280-351565/71	IC216K15069.d	11/15/2016 18:32

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: LC_LCMS2 Calibration Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2(mm) Calibration End Date: 11/15/2016 12:49

Calibration ID: 27583

		ClO418					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		1552029	2.33				
UPPER LIMIT		2328044	7.33				
LOWER LIMIT		776015	-2.67				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICB 280-351565/10		1575672	2.33				
ICV 280-351565/11		1529757	2.33				
DLCK 280-351565/12		1542446	2.34				
CCV 280-351565/21		1328758	2.31				
CCB 280-351565/23		1365328	2.33				
CCV 280-351565/34		1333916	2.33				
CCVL 280-351565/35		1169725	2.34				
CCB 280-351565/36		1378503	2.33				
MB 280-351565/44		1356299	2.31				
LCS 280-351565/45		1379885	2.33				
INF 280-351565/46		870310	2.23				
CCV 280-351565/47		1405321	2.33				
CCVL 280-351565/48		1185118	2.33				
CCB 280-351565/49		1399658	2.33				
CCV 280-351565/60		1531156	2.33				
CCVL 280-351565/61		1361603	2.33				
CCB 280-351565/62		1411286	2.31				
280-90409-1	LL2mw-271-110116-GW	1312093	2.36				
CCV 280-351565/69		1534091	2.33				
CCVL 280-351565/70		1400963	2.33				
CCB 280-351565/71		1400959	2.33				

ClO418 = Perchlorate-18O

Area Limit = 50%-150% of internal standard area
RT Limit = ± 5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 6860

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: LL2mw-271-110116-GW | Lab Sample ID: 280-90409-1

Matrix: Water | Lab File ID: IC216K15066.d

Analysis Method: 6860 | Date Collected: 11/01/2016 10:13

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 11/15/2016 18:17

Con. Extract Vol.: | Dilution Factor: 1

Injection Volume: 250(uL) | GC Column: IonPac ID: 2(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.024	J M	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15066.d
Lims ID: 280-90409-I-1
Client ID: LL2mw-271-110116-GW
Sample Type: Client
Inject. Date: 15-Nov-2016 18:17:16 ALS Bottle#: 0 Worklist Smp#: 68
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 280-90409-i-1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:56:53 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:50:47

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.358	2.333	0.025		1312093	204.0		125	
2 Perchlorate									M
98.8 > 82.9	2.408	2.358	0.050	1.021	187720	23.8		2.8	M
100.8 > 84.9	2.383	2.358	0.025	1.011	52191		3.60(2.30-3.80)	1.9	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

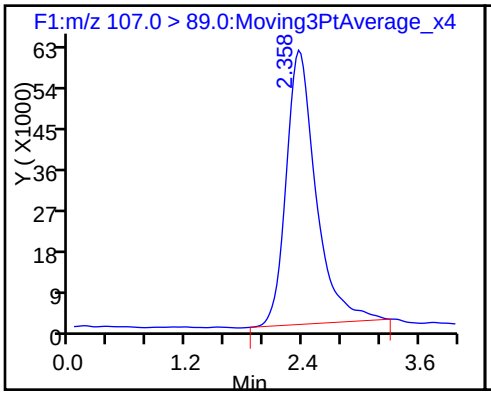
Report Date: 16-Nov-2016 09:56:54 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

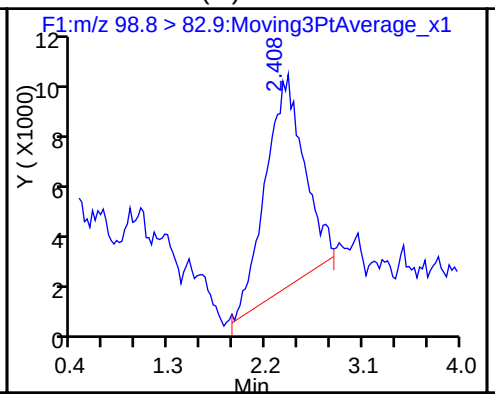
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15066.d

Injection Date:	15-Nov-2016 18:17:16	Instrument ID:	LC_LCMS2		
Lims ID:	280-90409-I-1	Lab Sample ID:	280-90409-1		
Client ID:	LL2mw-271-110116-GW				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	68
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		

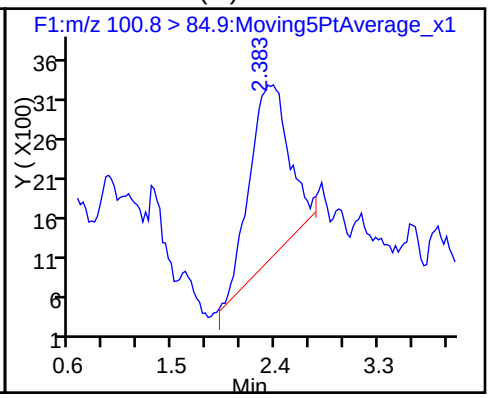
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

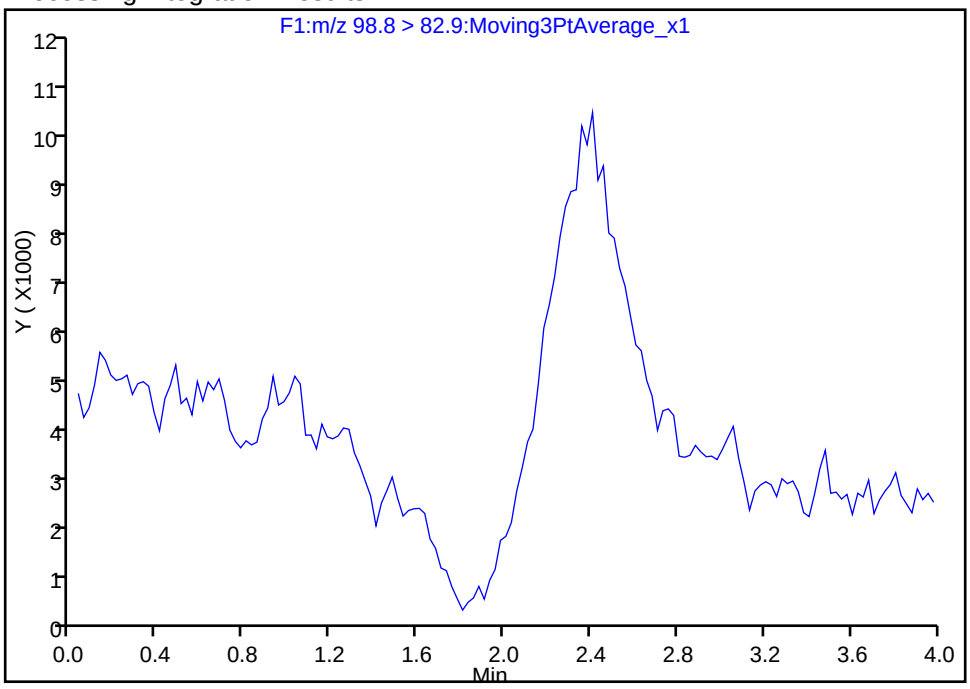
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15066.d				
Injection Date:	15-Nov-2016 18:17:16	Instrument ID:	LC_LCMS2		
Lims ID:	280-90409-I-1	Lab Sample ID:	280-90409-1		
Client ID:	LL2mw-271-110116-GW				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	68
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

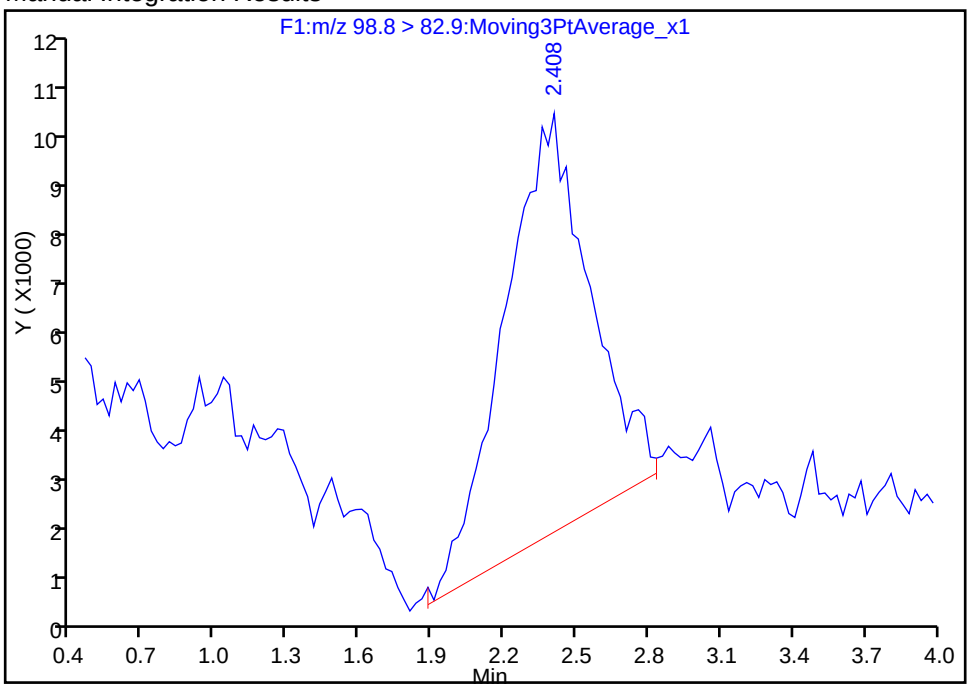
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.41
Area: 187720
Amount: 23.769670
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:50:47
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

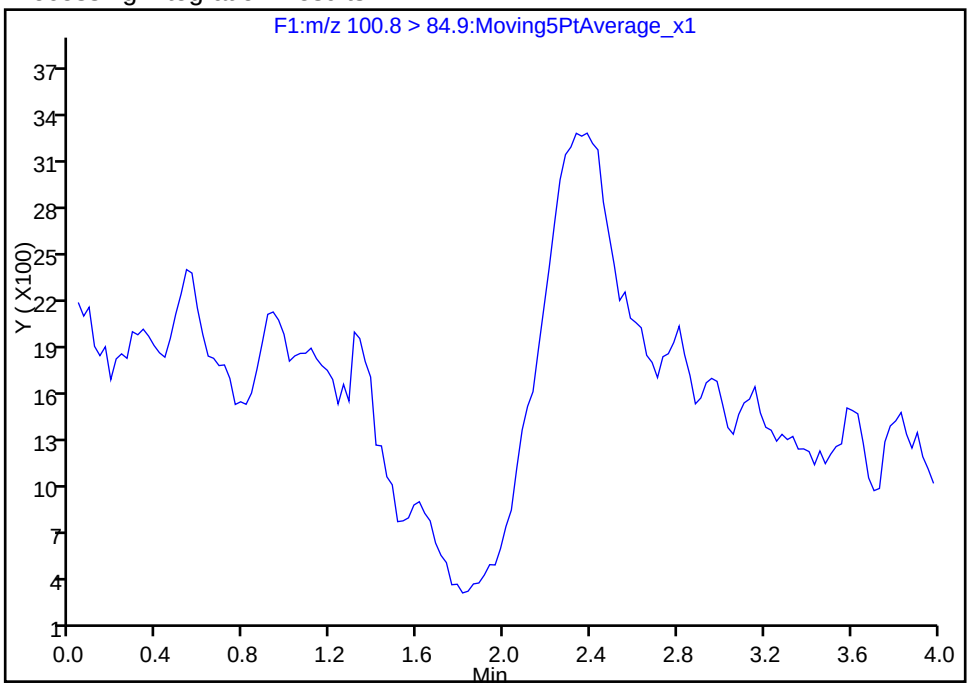
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15066.d				
Injection Date:	15-Nov-2016 18:17:16	Instrument ID:	LC_LCMS2		
Lims ID:	280-90409-I-1	Lab Sample ID:	280-90409-1		
Client ID:	LL2mw-271-110116-GW				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	68
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 2

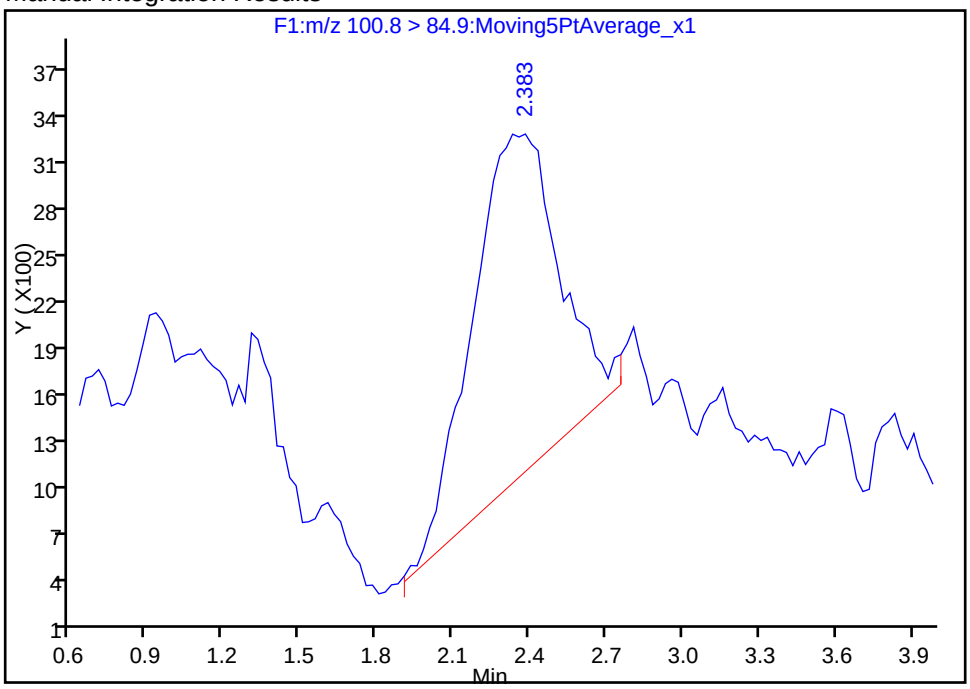
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.38
Area: 52191
Amount: 23.769670
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:50:47
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 351565

SDG No.:

Instrument ID: LC_LCMS2 GC Column: IonPac ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/15/2016 12:23 Calibration End Date: 11/15/2016 12:49 Calibration ID: 27583

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD020 280-351565/4	IC216K15002.d
Level 2	STD050 280-351565/5	IC216K15003.d
Level 3	STD100 280-351565/6	IC216K15004.d
Level 4	STD200 280-351565/7	IC216K15005.d
Level 5	STD500 280-351565/8	IC216K15006.d
Level 6	STD1000 280-351565/9	IC216K15007.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 3	LVL 4	LVL 5		B	M1	M2								
Perchlorate	1.1877 1.3090	1.2395	1.3382	1.3444	1.3704	Lin1	-2.566	1.3358							0.9990		0.9900

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

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-90409-1 Analy Batch No.: 351565

SDG No.:

Instrument ID: LC_LCMS2 GC Column: IonPac ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/15/2016 12:23 Calibration End Date: 11/15/2016 12:49 Calibration ID: 27583

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD020 280-351565/4	IC216K15002.d
Level 2	STD050 280-351565/5	IC216K15003.d
Level 3	STD100 280-351565/6	IC216K15004.d
Level 4	STD200 280-351565/7	IC216K15005.d
Level 5	STD500 280-351565/8	IC216K15006.d
Level 6	STD1000 280-351565/9	IC216K15007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perchlorate	ClO4 18	Lin1	191191 10201025	481360	978493	2020519	4941480	20.0 1000	50.0	100	200	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15002.d
Lims ID: STD020
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 15-Nov-2016 12:23:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 20 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:58 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:37:21

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1641920	204.0		238	
2 Perchlorate									M
98.8 > 82.9	2.358	2.358	0.0	1.011	191191	19.7		12.6	
100.8 > 84.9	2.358	2.358	0.0	1.011	62106		3.08(2.30-3.80)	9.3	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 100.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:59 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15002.d

Injection Date: 15-Nov-2016 12:23:21 Instrument ID: LC_LCMS2

Lims ID: STD020

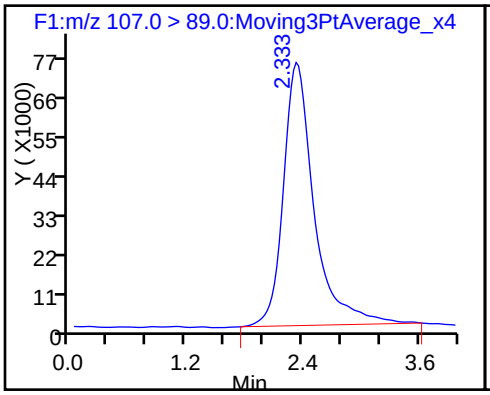
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 4

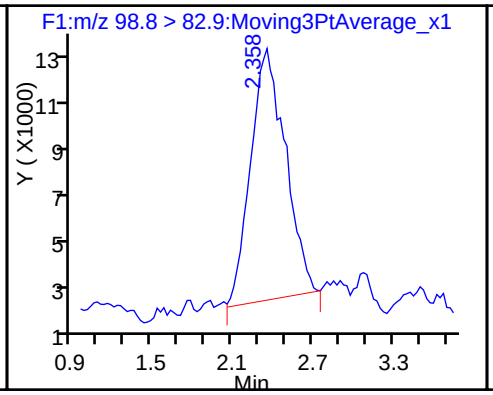
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

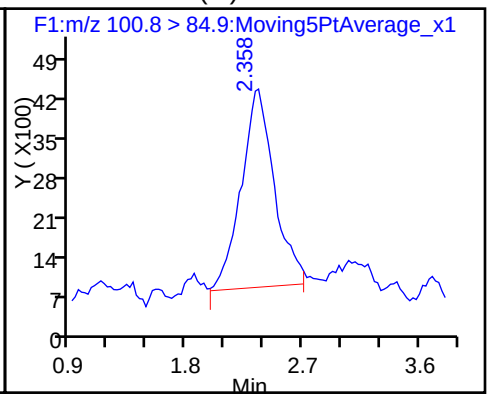
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

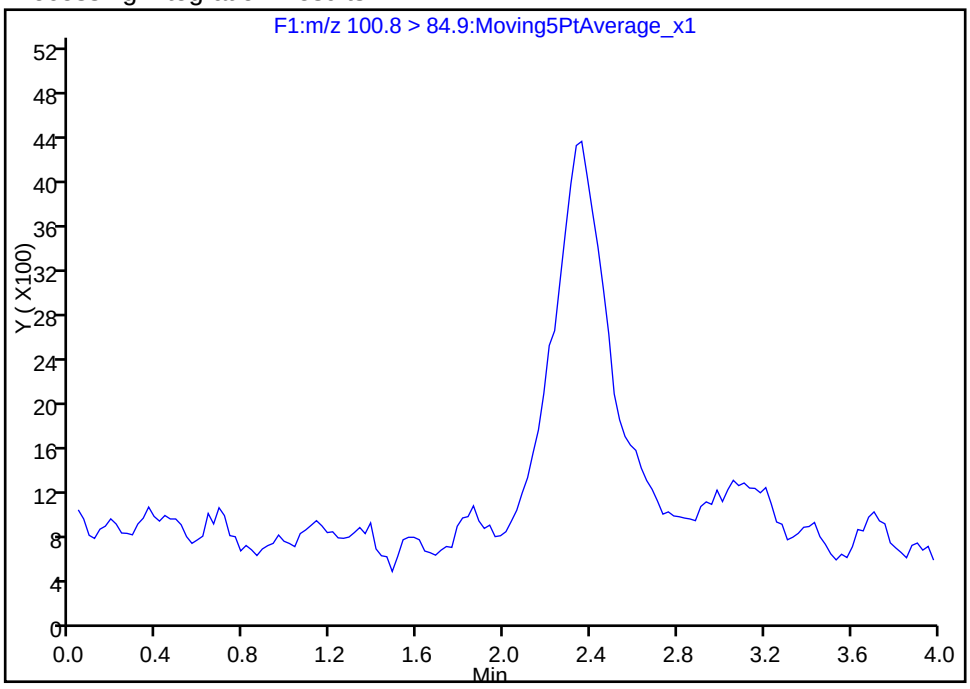
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15002.d
Injection Date: 15-Nov-2016 12:23:21 Instrument ID: LC_LCMS2
Lims ID: STD020
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 2

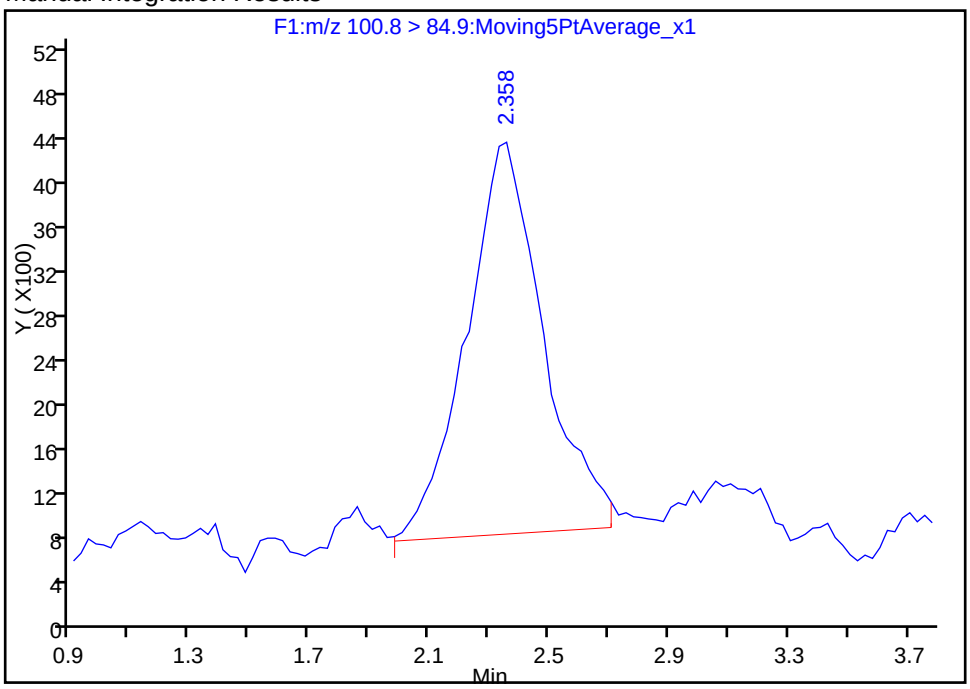
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.36
Area: 62106
Amount: 19.703492
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:37:21
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15003.d
Lims ID: STD050
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 15-Nov-2016 12:28:23 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 50 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:57 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:37:43

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1584528	204.0		185	
2 Perchlorate									M
98.8 > 82.9	2.358	2.358	0.0	1.011	481360	48.3		25.6	M
100.8 > 84.9	2.358	2.358	0.0	1.011	146143		3.29(2.30-3.80)	20.1	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 250.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:57 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15003.d

Injection Date: 15-Nov-2016 12:28:23 Instrument ID: LC_LCMS2

Lims ID: STD050

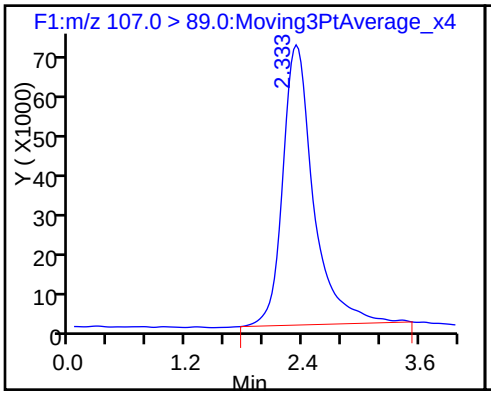
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 5

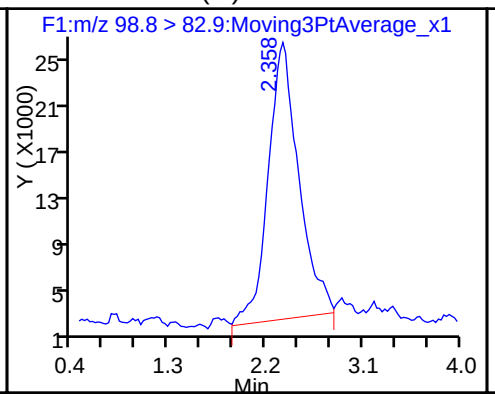
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

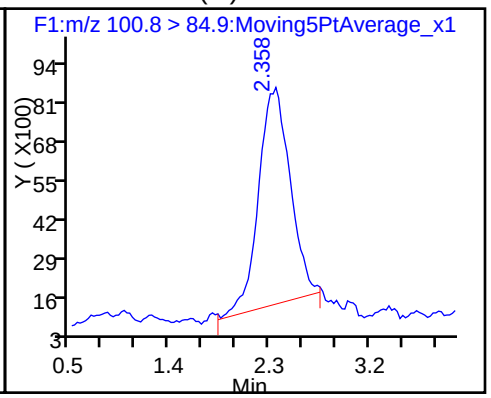
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

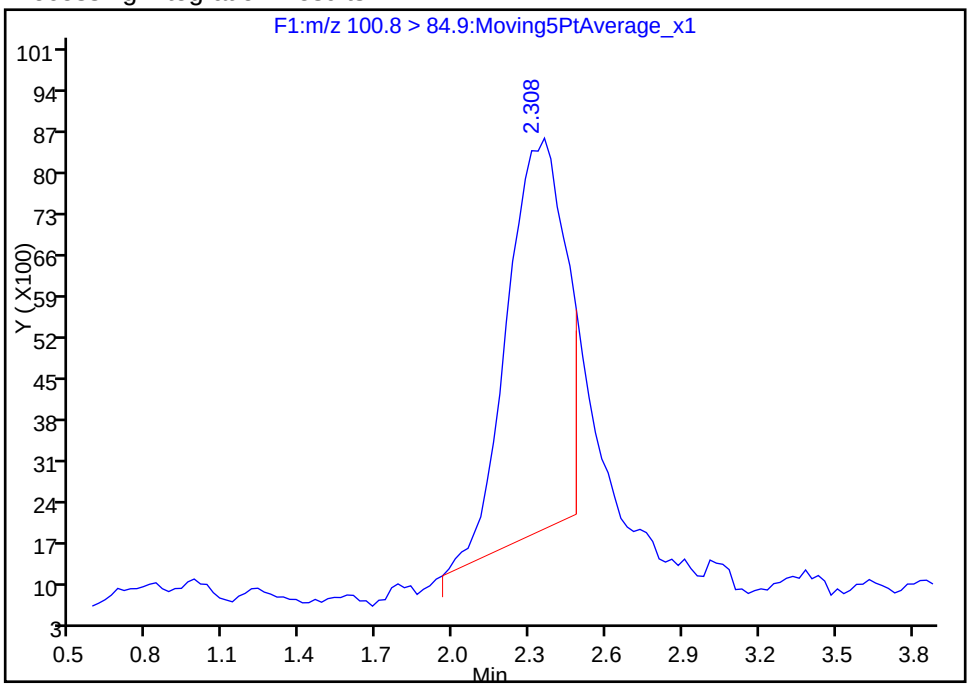
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15003.d
Injection Date: 15-Nov-2016 12:28:23 Instrument ID: LC_LCMS2
Lims ID: STD050
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 2

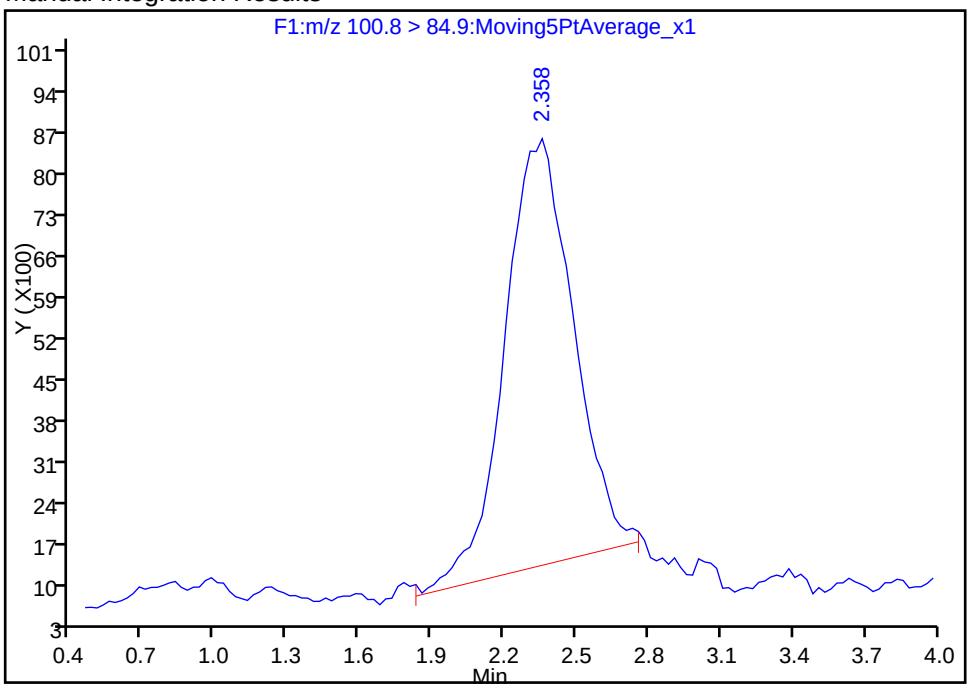
Processing Integration Results

RT: 2.31
Area: 105346
Amount: 49.777257
Amount Units: ng/l



Manual Integration Results

RT: 2.36
Area: 146143
Amount: 48.314123
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:37:43
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

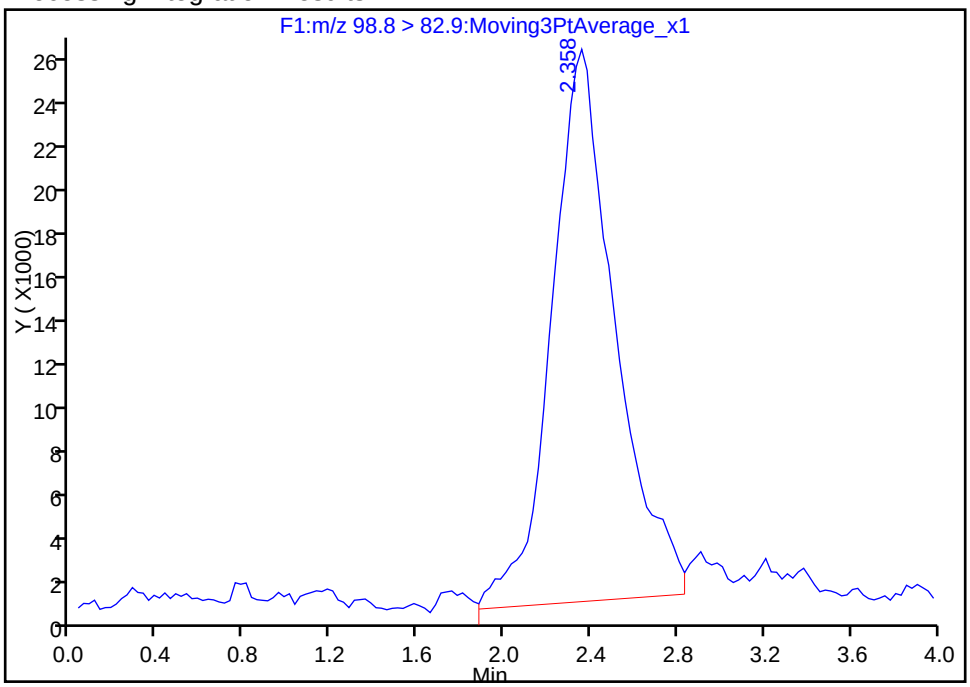
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15003.d
Injection Date: 15-Nov-2016 12:28:23 Instrument ID: LC_LCMS2
Lims ID: STD050
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 1

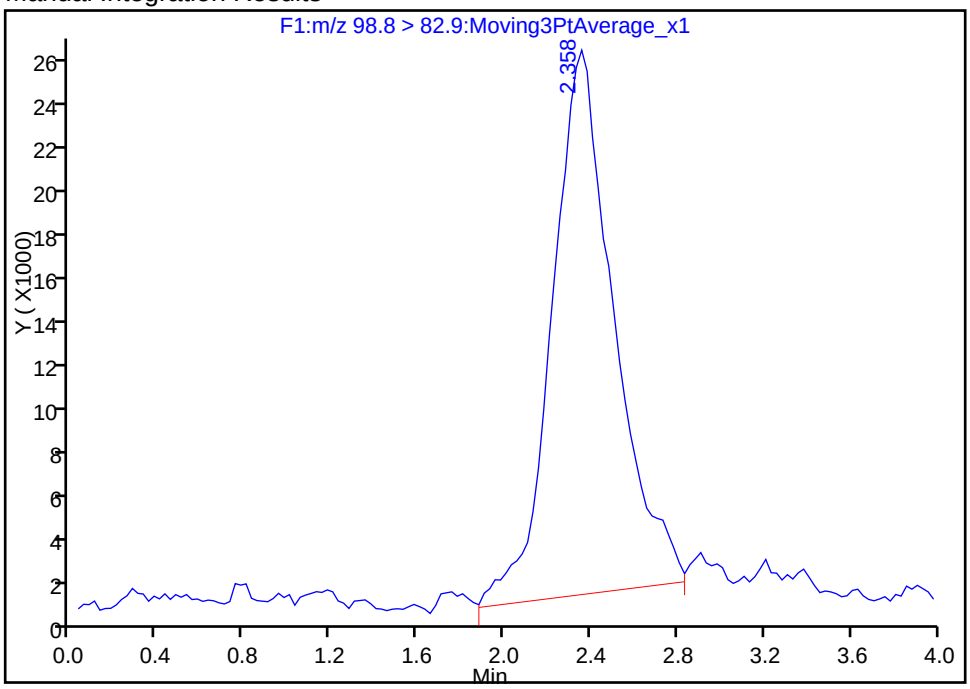
Processing Integration Results

RT: 2.36
Area: 501123
Amount: 49.777257
Amount Units: ng/l



Manual Integration Results

RT: 2.36
Area: 481360
Amount: 48.314123
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:37:43
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15004.d
Lims ID: STD100
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Nov-2016 12:33:26 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 100 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:56 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1491673	204.0		106	
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	978493	102.1		41.4	
100.8 > 84.9	2.358	2.358	0.0	1.011	314219		3.11(2.30-3.80)	34.8	

Reagents:

6860CalStockW_00074 Amount Added: 500.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:56 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15004.d

Injection Date: 15-Nov-2016 12:33:26 Instrument ID: LC_LCMS2

Lims ID: STD100

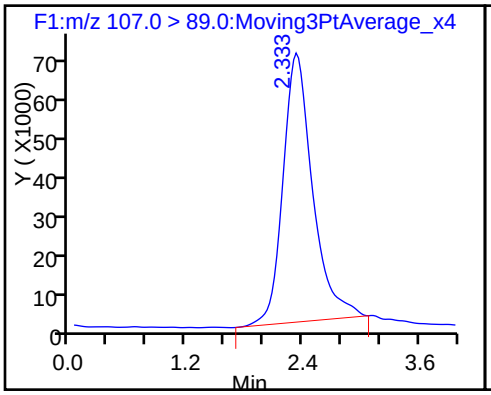
Client ID:

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

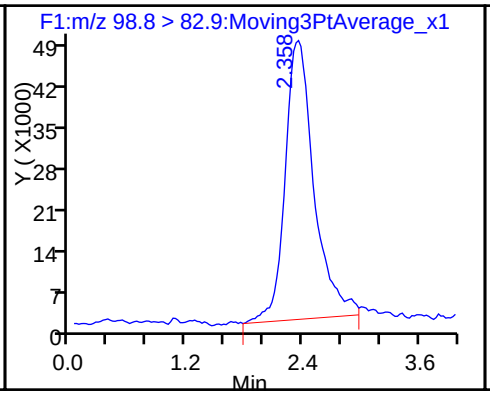
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

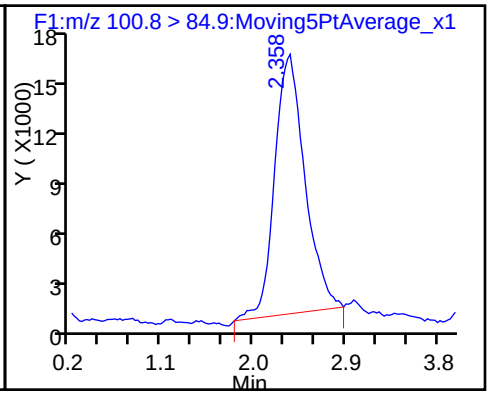
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15005.d
Lims ID: STD200
Client ID:
Sample Type: ICISAV Calib Level: 4
Inject. Date: 15-Nov-2016 12:38:29 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 200 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:55 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1532996	204.0		183	
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	2020519	203.2		85.3	
100.8 > 84.9	2.383	2.358	0.025	1.021	676682		2.99(2.30-3.80)	75.7	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:55 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15005.d

Injection Date: 15-Nov-2016 12:38:29 Instrument ID: LC_LCMS2

Lims ID: STD200

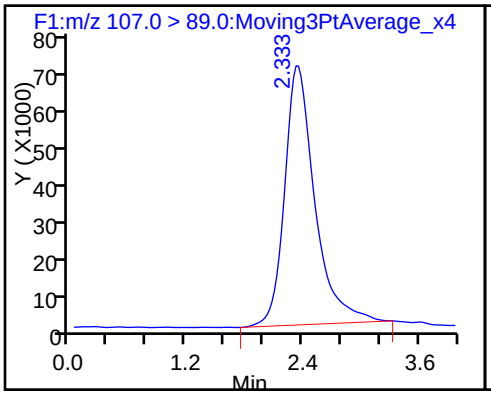
Client ID:

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

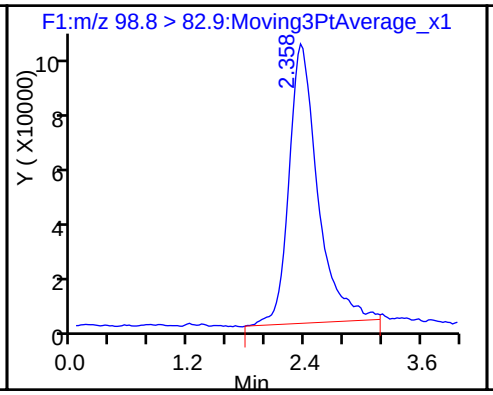
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

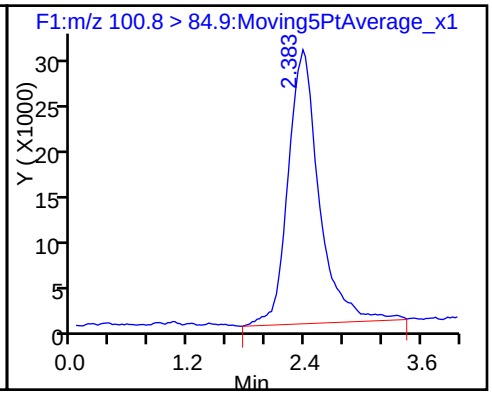
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15006.d
Lims ID: STD500
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 15-Nov-2016 12:43:33 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 500 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:54 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1471233	204.0		108	
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	4941480	514.9		119	
100.8 > 84.9	2.333	2.358	-0.025	1.000	1725594		2.86(2.30-3.80)	364	

Reagents:

6860CalStockW_00074 Amount Added: 2500.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:54 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15006.d

Injection Date: 15-Nov-2016 12:43:33 Instrument ID: LC_LCMS2

Lims ID: STD500

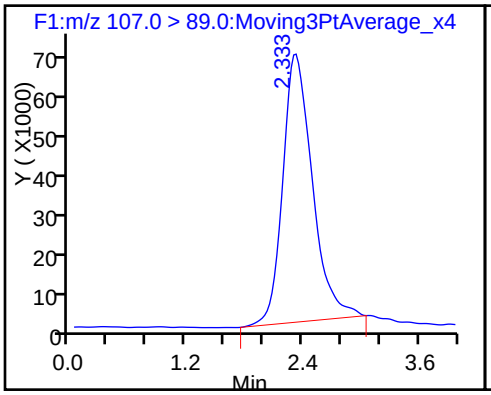
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 8

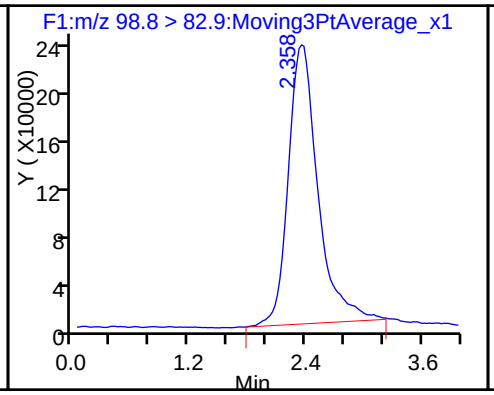
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

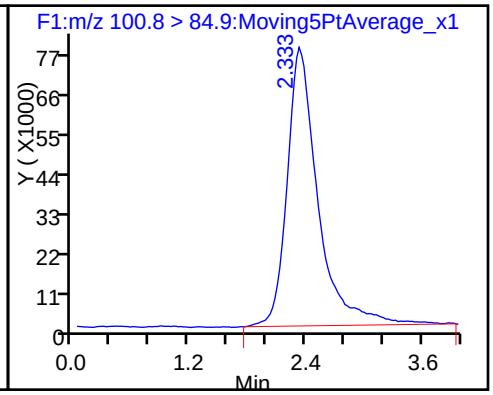
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d
Lims ID: STD1000
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 15-Nov-2016 12:49:01 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: 1000 prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:53 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1589822	204.0		199	
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	10201025	981.8		161	
100.8 > 84.9	2.358	2.358	0.0	1.011	3290567		3.10(2.30-3.80)	160	

Reagents:

6860CalStockW_00074 Amount Added: 5000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:53 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Injection Date: 15-Nov-2016 12:49:01 Instrument ID: LC_LCMS2

Lims ID: STD1000

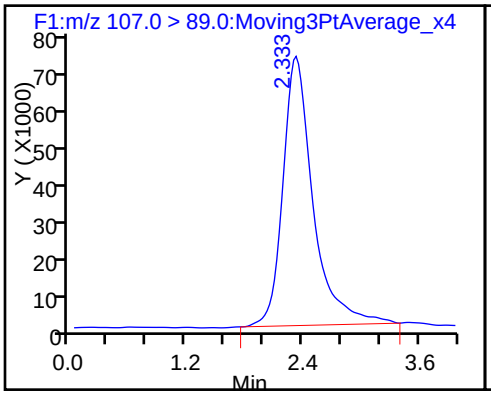
Client ID:

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

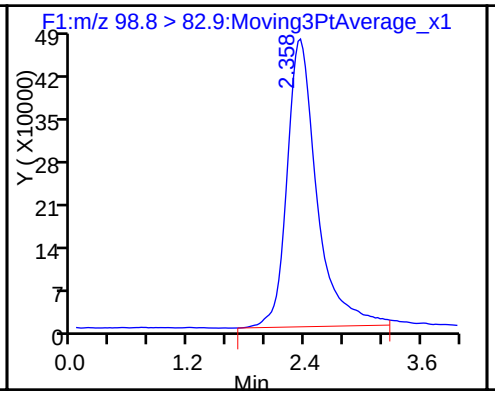
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

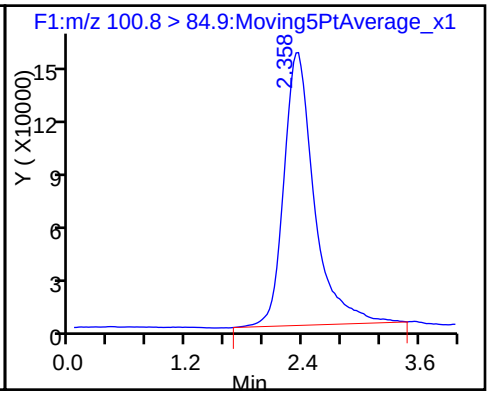
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICV 280-351565/11 Calibration Date: 11/15/2016 12:59

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15009.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.391		0.210	0.200	5.1	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15009.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2016 12:59:33 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: ICV prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist:

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:51 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:38:59

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1529757	204.0		127	
2 Perchlorate									M
98.8 > 82.9	2.358	2.358	0.0	1.011	2086100	210.2		61.7	M
100.8 > 84.9	2.358	2.358	0.0	1.011	691429		3.02(2.30-3.80)	87.9	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860ICVStockW_00030 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:51 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15009.d

Injection Date: 15-Nov-2016 12:59:33 Instrument ID: LC_LCMS2

Lims ID: ICV

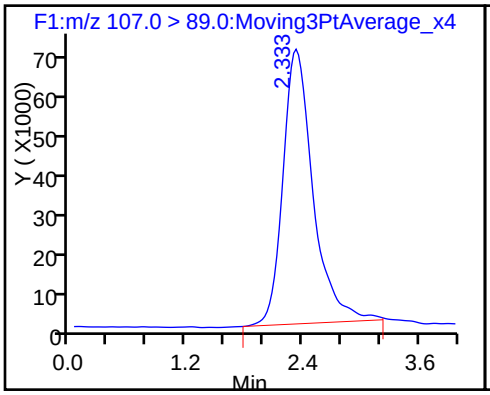
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 11

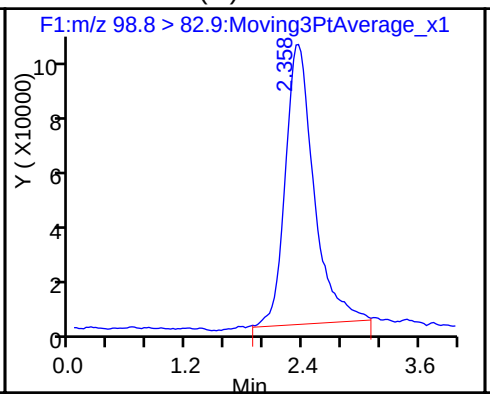
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

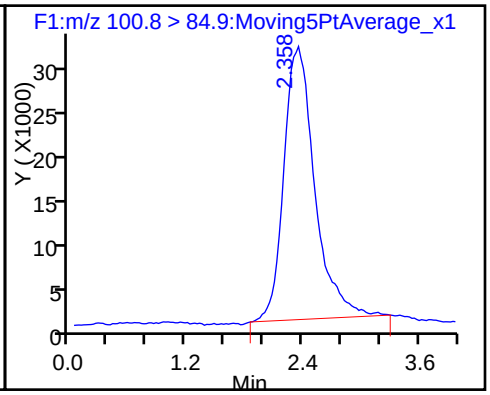
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate



Manual Integration/User Assign Peak Report

TestAmerica Denver

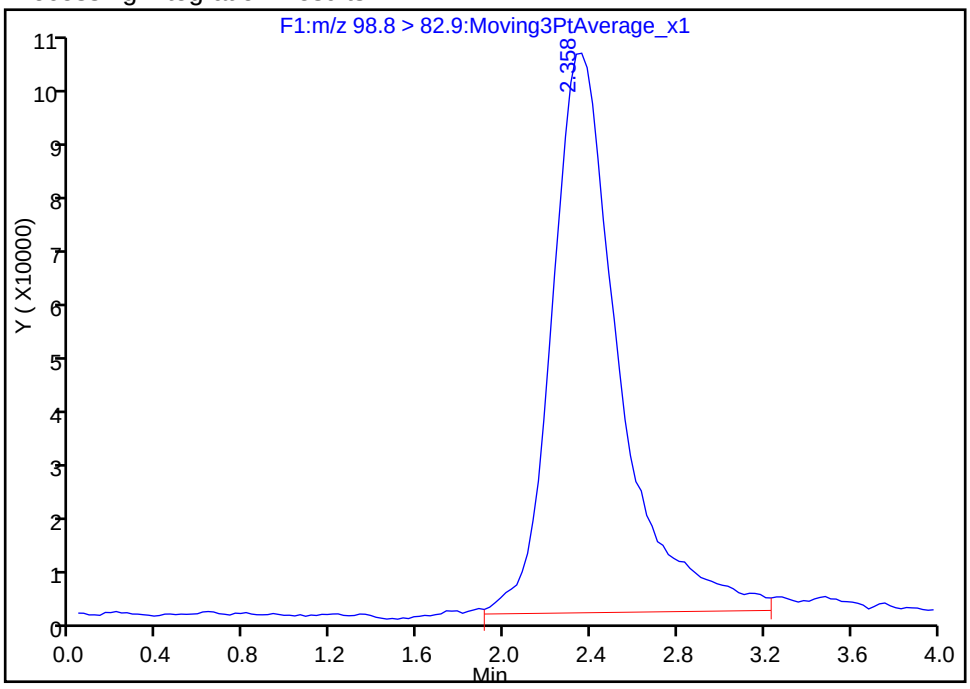
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15009.d
Injection Date: 15-Nov-2016 12:59:33 Instrument ID: LC_LCMS2
Lims ID: ICV
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 1

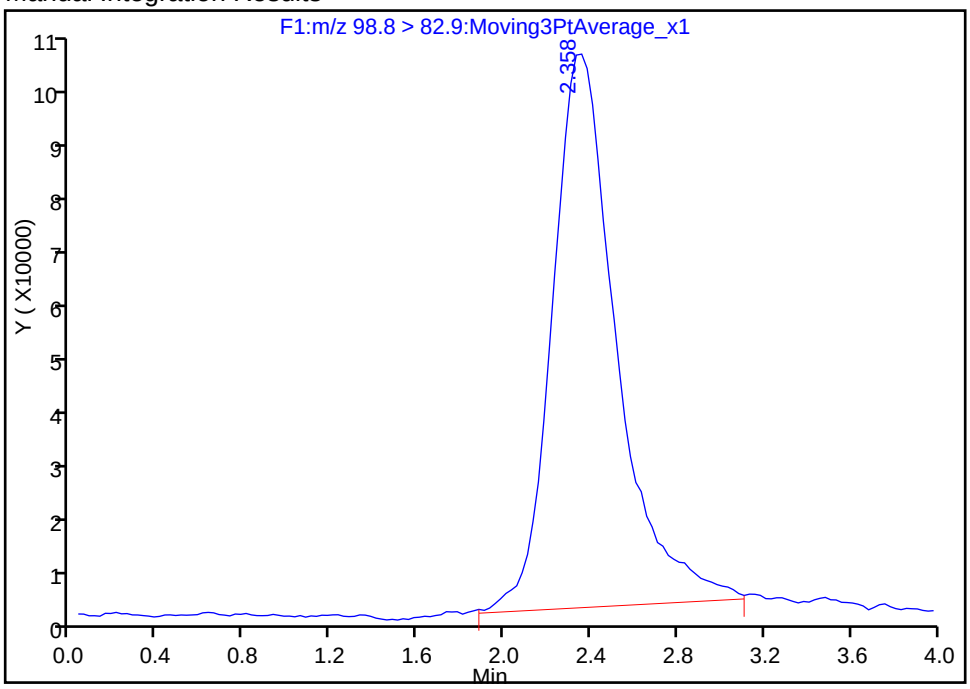
Processing Integration Results

RT: 2.36
Area: 2201874
Amount: 221.7357
Amount Units: ng/l



Manual Integration Results

RT: 2.36
Area: 2086100
Amount: 210.1778
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:38:59
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351565/21 Calibration Date: 11/15/2016 13:51

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15019.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.244		0.188	0.200	-5.9	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15019.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 13:51:26 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCV prep 11/15/16 exp 11/22/16 #1 INJ 1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:42 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.308	2.308	0.0		1328758	204.0		120	
2 Perchlorate									
98.8 > 82.9	2.333	2.333	0.0	1.011	1619909	188.1		71.0	
100.8 > 84.9	2.308	2.333	-0.025	1.000	552428		2.93(2.30-3.80)	78.7	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:42 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15019.d

Injection Date: 15-Nov-2016 13:51:26 Instrument ID: LC_LCMS2

Lims ID: CCV

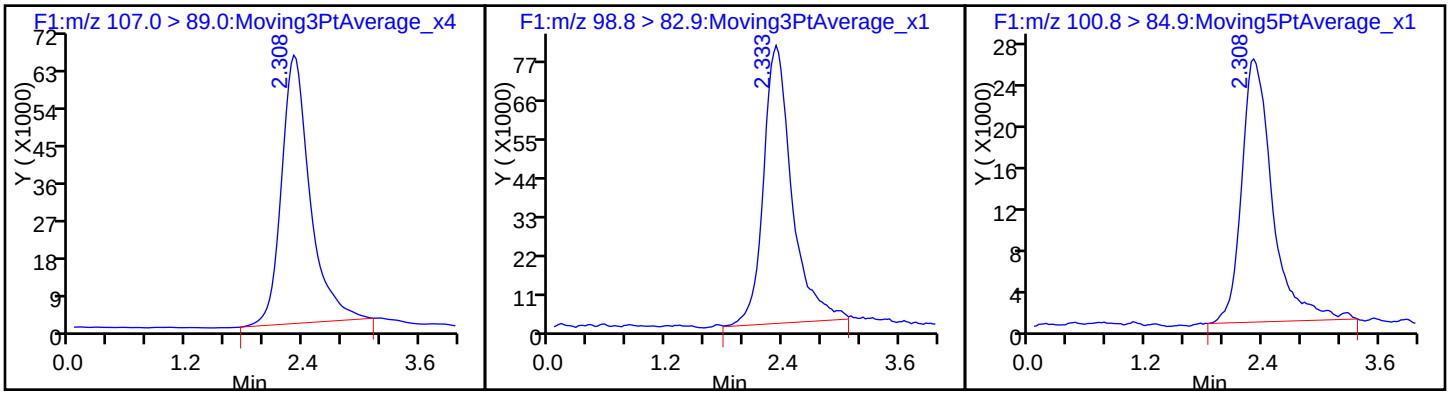
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 21

Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

* 1 Perchlorate-18O 2 Perchlorate 2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351565/34 Calibration Date: 11/15/2016 15:23

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15032.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.179		0.178	0.200	-10.8	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15032.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 15:23:34 ALS Bottle#: 0 Worklist Smp#: 34
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCV prep 11/15/16 exp 11/22/16 #1 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:29 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1333916	204.0		159	
2 Perchlorate									
98.8 > 82.9	2.333	2.333	0.0	1.000	1541420	178.4		71.4	
100.8 > 84.9	2.333	2.333	0.0	1.000	492544		3.13(2.30-3.80)	52.9	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:29 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15032.d

Injection Date: 15-Nov-2016 15:23:34 Instrument ID: LC_LCMS2

Lims ID: CCV

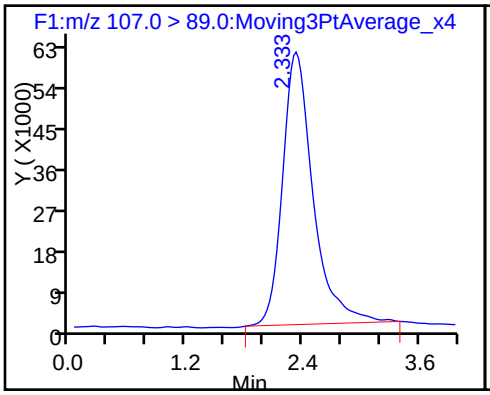
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 34

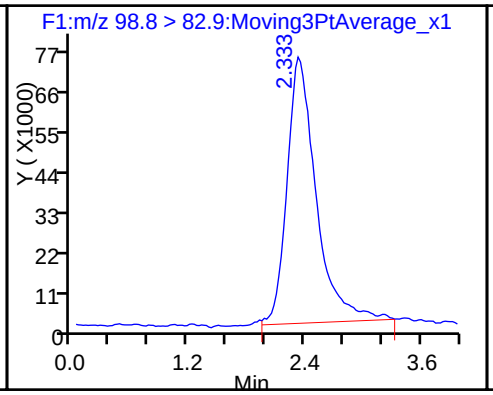
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

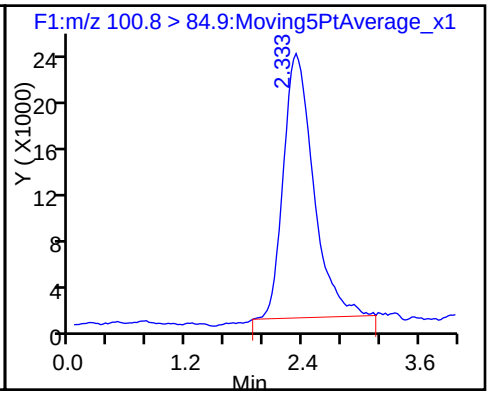
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVL 280-351565/35 Calibration Date: 11/15/2016 15:28

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15033.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.272		0.0210	0.0200	4.9	30.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15033.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 15-Nov-2016 15:28:38 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCVL prep 11/15/16 exp 11/22/16 #1 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:27 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:41:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.337	2.337	0.0		1169725	204.0		222	
2 Perchlorate									M
98.8 > 82.9	2.337	2.337	0.0	1.000	145908	21.0		12.9	M
100.8 > 84.9	2.312	2.337	-0.025	0.989	49382		2.95(2.30-3.80)	7.1	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 100.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:27 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15033.d

Injection Date: 15-Nov-2016 15:28:38 Instrument ID: LC_LCMS2

Lims ID: CCVL

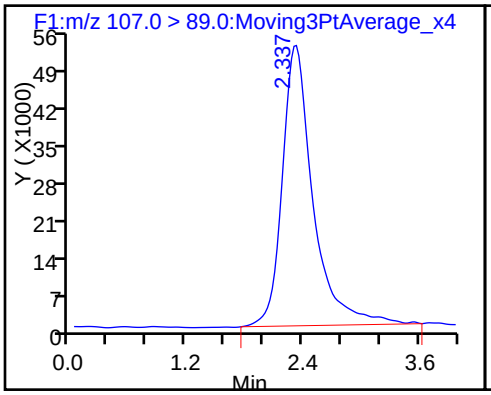
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 35

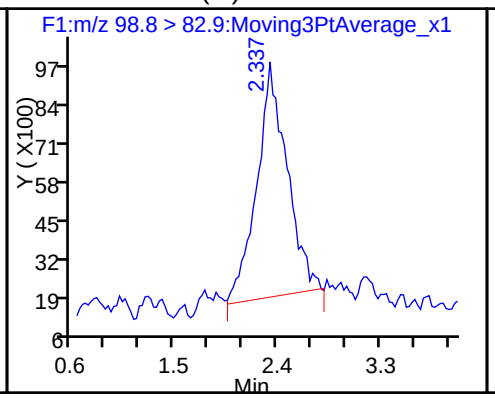
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

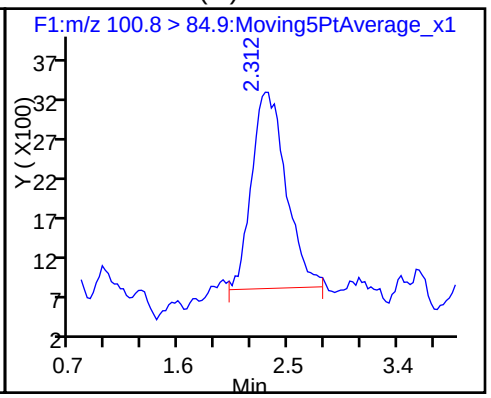
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

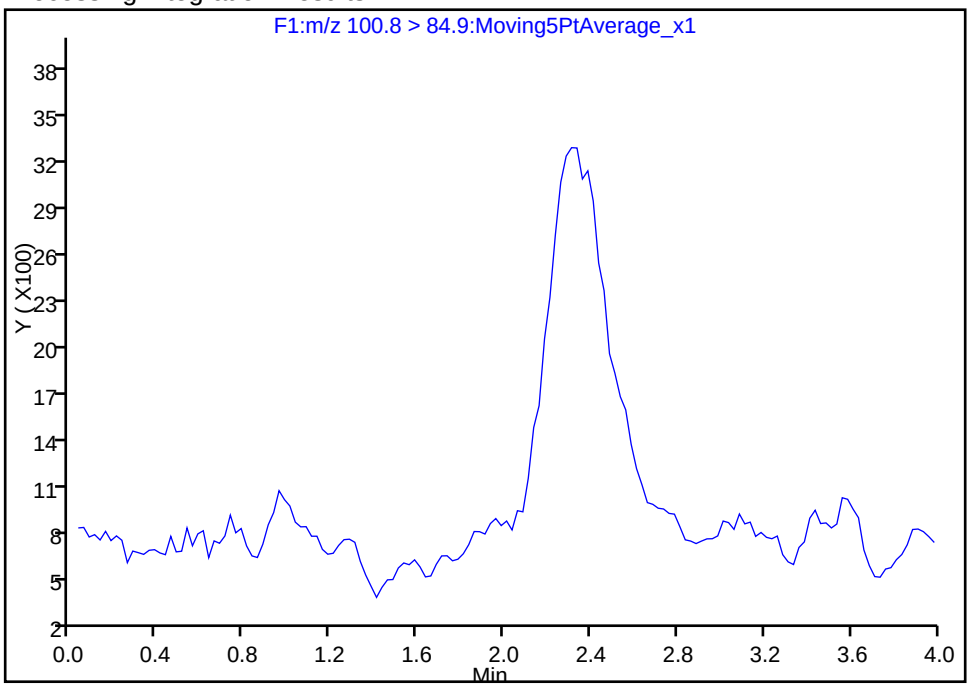
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15033.d
Injection Date: 15-Nov-2016 15:28:38 Instrument ID: LC_LCMS2
Lims ID: CCVL
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 2

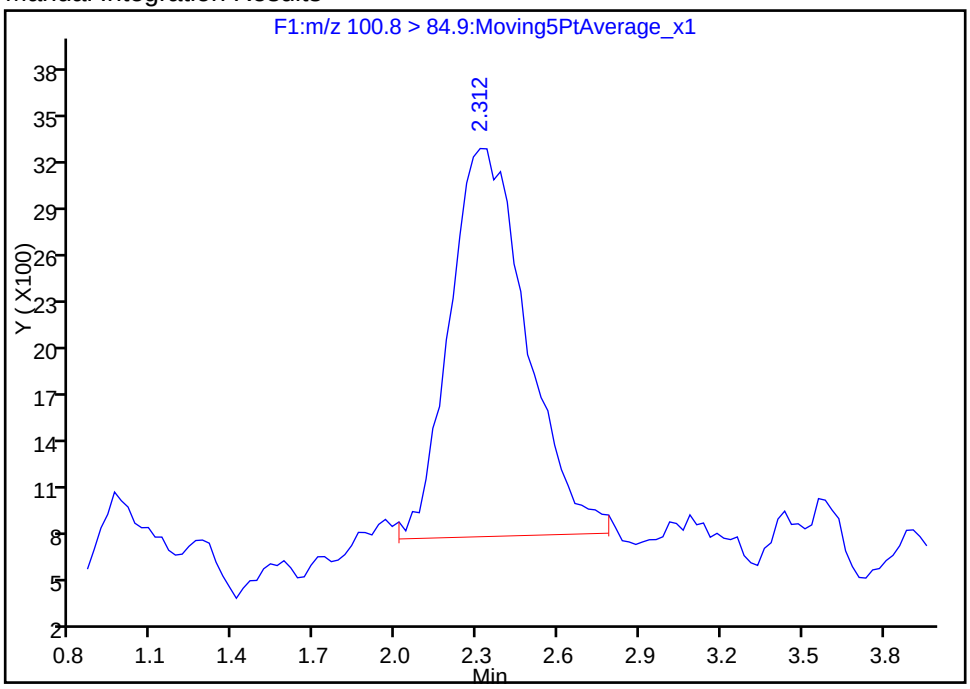
Not Detected
Expected RT: 2.34

Processing Integration Results



Manual Integration Results

RT: 2.31
Area: 49382
Amount: 20.970044
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:41:28
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

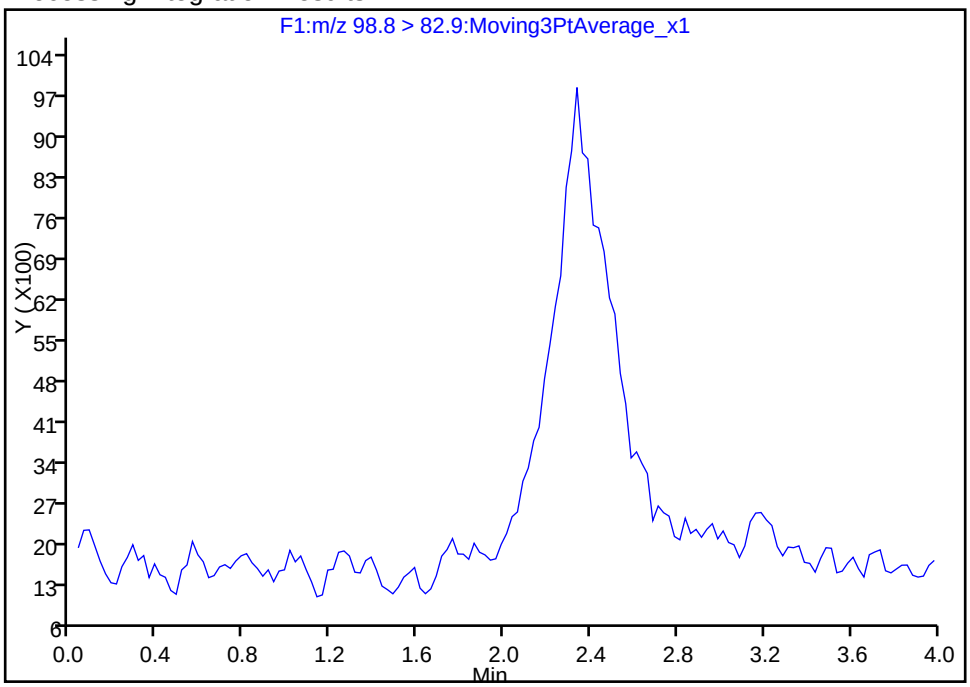
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15033.d
Injection Date: 15-Nov-2016 15:28:38 Instrument ID: LC_LCMS2
Lims ID: CCVL
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 1

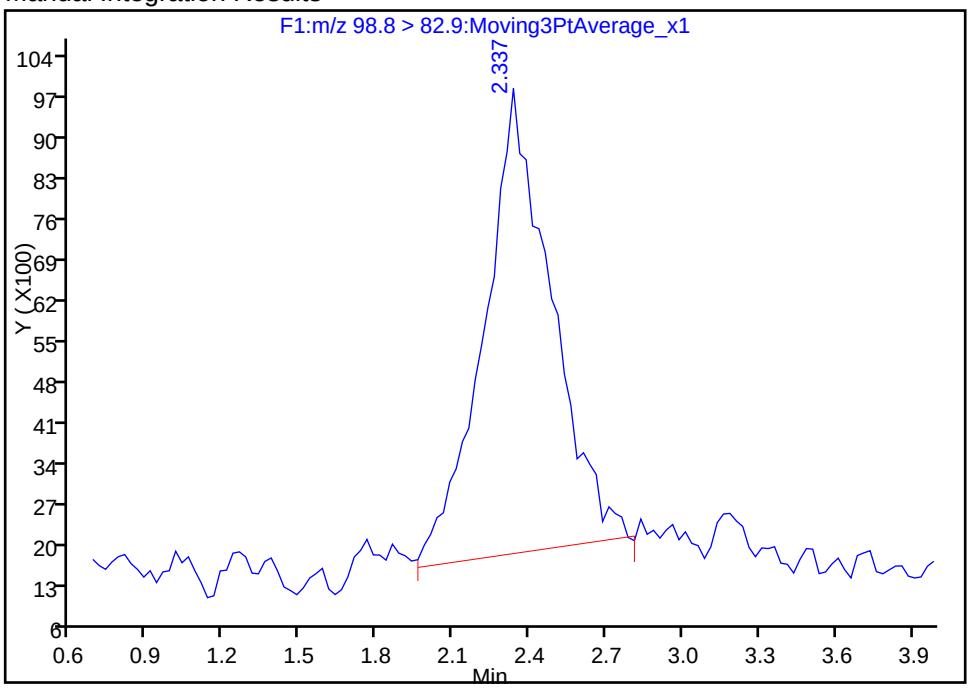
Not Detected
Expected RT: 2.34

Processing Integration Results



Manual Integration Results

RT: 2.34
Area: 145908
Amount: 20.970044
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:41:28
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351565/47 Calibration Date: 11/15/2016 16:29

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15045.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.249		0.189	0.200	-5.5	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15045.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 16:29:23 ALS Bottle#: 0 Worklist Smp#: 47
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCV prep 11/15/16 exp 11/22/16 #1 INJ 3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:15 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1405321	204.0		255	
2 Perchlorate									
98.8 > 82.9	2.333	2.333	0.0	1.000	1721390	189.0		91.2	
100.8 > 84.9	2.333	2.333	0.0	1.000	535200		3.22(2.30-3.80)	60.8	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:15 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15045.d

Injection Date: 15-Nov-2016 16:29:23 Instrument ID: LC_LCMS2

Lims ID: CCV

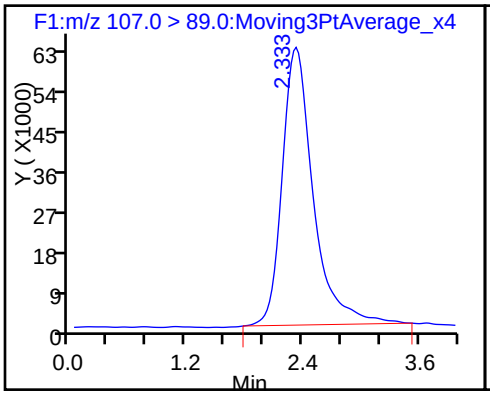
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 47

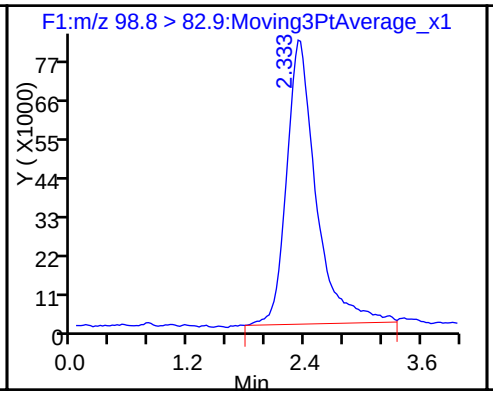
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

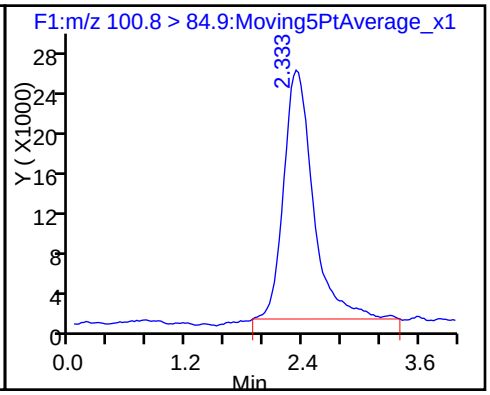
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVL 280-351565/48 Calibration Date: 11/15/2016 16:34

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15046.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.350		0.0221	0.0200	10.7	30.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15046.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 15-Nov-2016 16:34:28 ALS Bottle#: 0 Worklist Smp#: 48
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCVL prep 11/15/16 exp 11/22/16 #1 INJ 3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:14 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:45:47

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1185118	204.0		208	
2 Perchlorate									M
98.8 > 82.9	2.333	2.333	0.0	1.000	156891	22.1		10.4	M
100.8 > 84.9	2.308	2.333	-0.025	0.989	55986		2.80(2.30-3.80)	10.5	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 100.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:14 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15046.d

Injection Date: 15-Nov-2016 16:34:28 Instrument ID: LC_LCMS2

Lims ID: CCVL

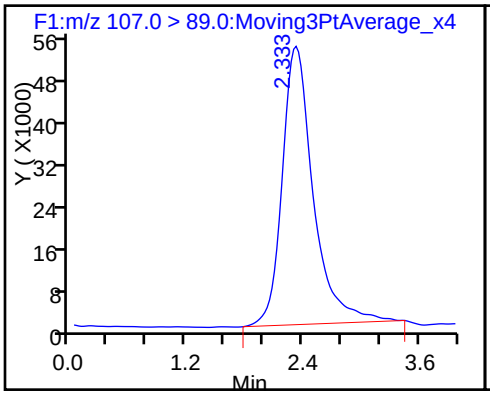
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 48

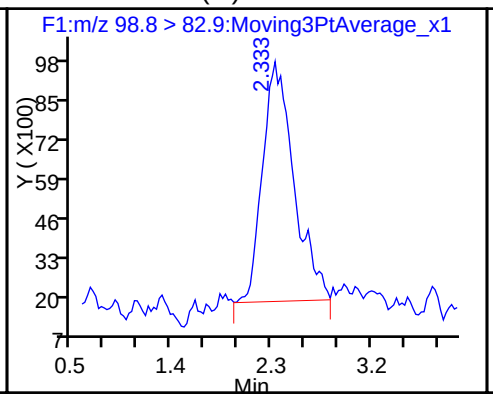
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

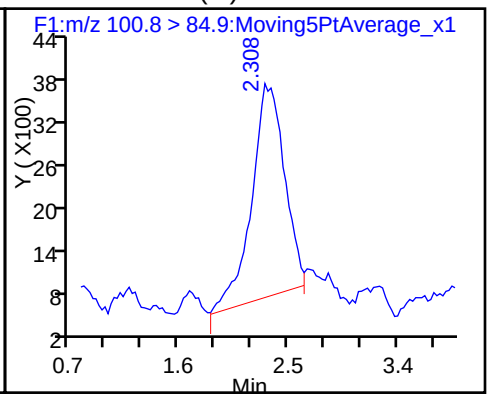
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

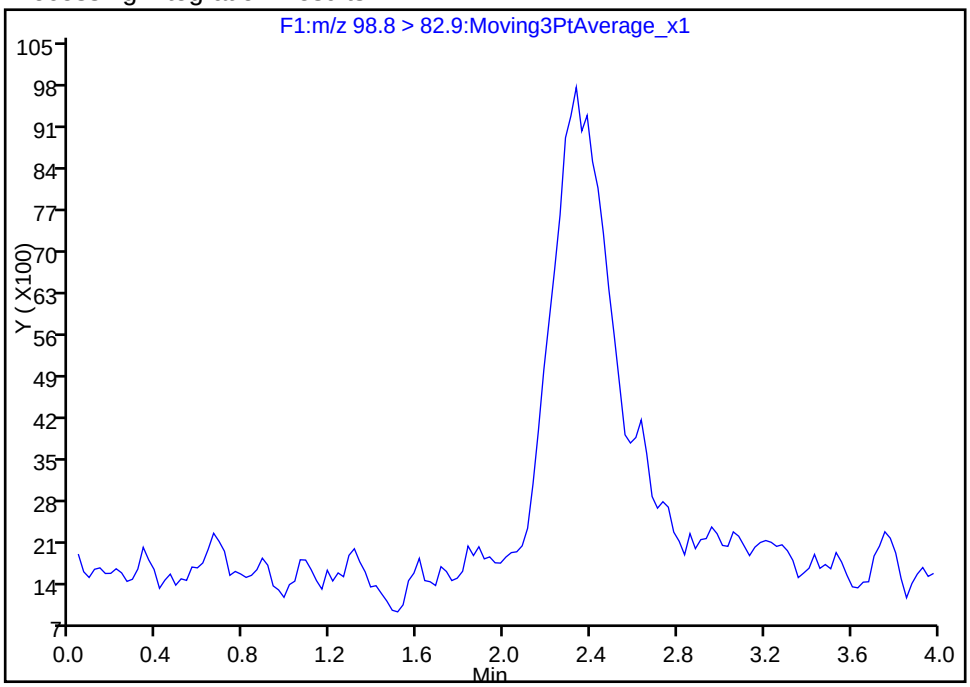
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15046.d				
Injection Date:	15-Nov-2016 16:34:28	Instrument ID:	LC_LCMS2		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

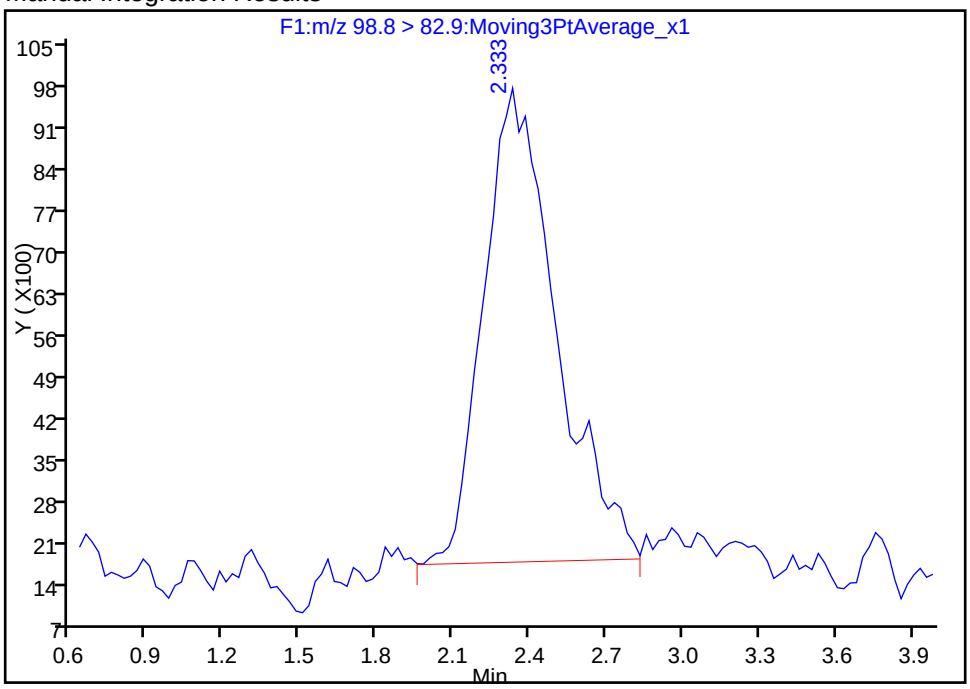
Not Detected
Expected RT: 2.33

Processing Integration Results



Manual Integration Results

RT: 2.33
Area: 156891
Amount: 22.137913
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:45:47
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

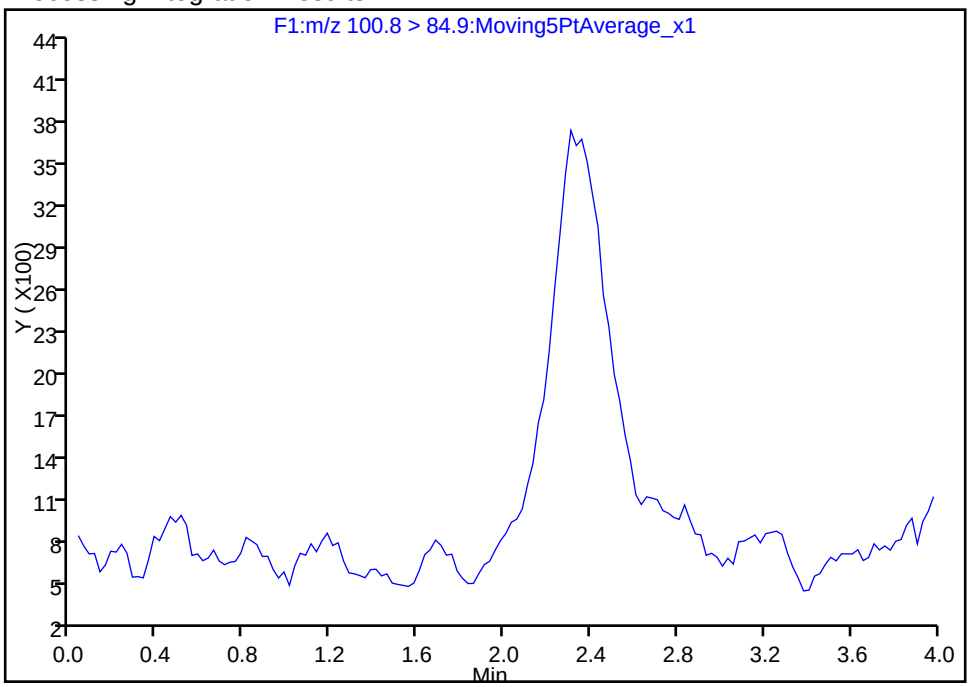
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15046.d				
Injection Date:	15-Nov-2016 16:34:28	Instrument ID:	LC_LCMS2		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 2

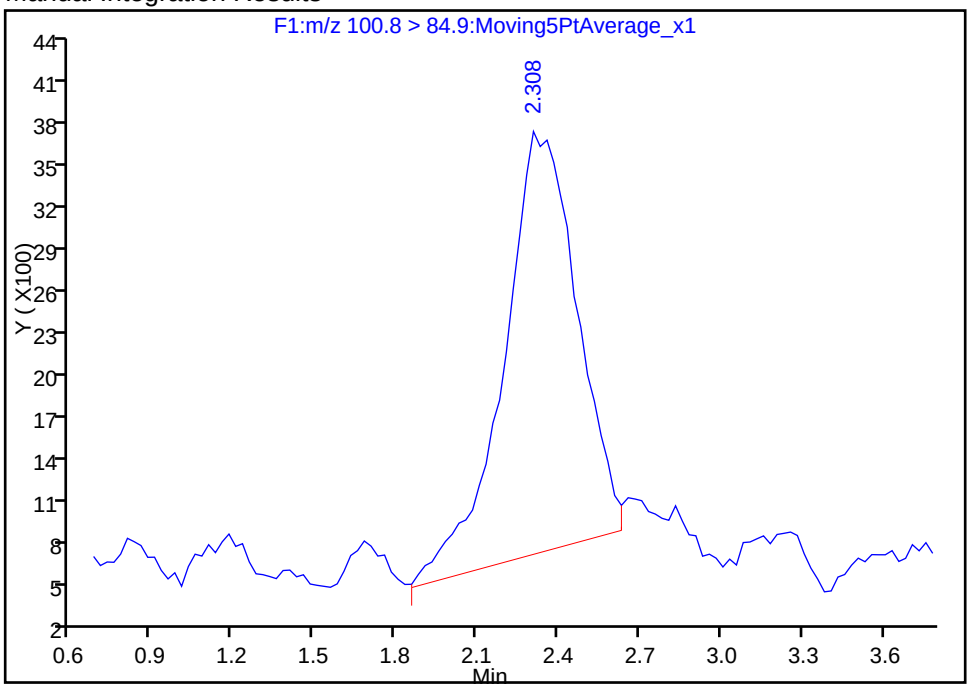
Not Detected
Expected RT: 2.33

Processing Integration Results



Manual Integration Results

RT: 2.31
Area: 55986
Amount: 22.137913
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:45:47
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351565/60 Calibration Date: 11/15/2016 17:35

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15058.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.229		0.186	0.200	-7.0	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15058.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 17:35:48 ALS Bottle#: 0 Worklist Smp#: 60
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCV prep 11/15/16 exp 11/22/16 #2 INJ 1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:02 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1531156	204.0		245	
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	1845376	186.0		60.1	
100.8 > 84.9	2.333	2.358	-0.025	1.000	664986		2.78(2.30-3.80)	88.2	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:03 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15058.d

Injection Date: 15-Nov-2016 17:35:48 Instrument ID: LC_LCMS2

Lims ID: CCV

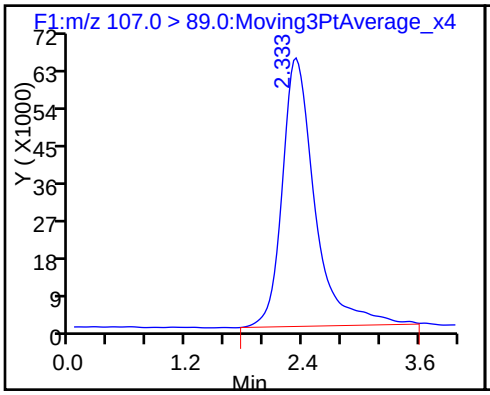
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 60

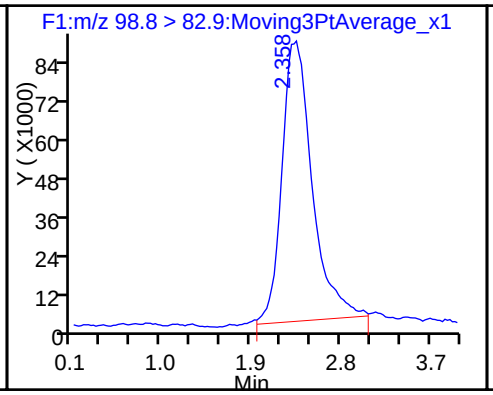
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

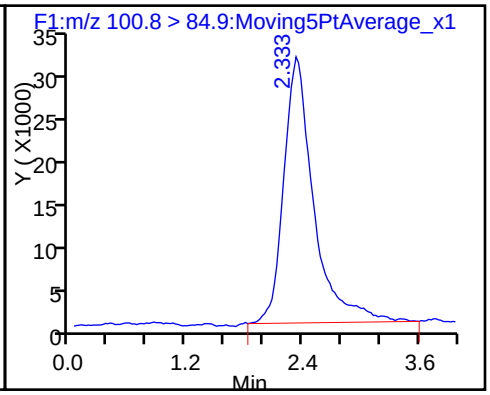
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVL 280-351565/61 Calibration Date: 11/15/2016 17:40

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15059.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.403		0.0229	0.0200	14.6	30.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15059.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 15-Nov-2016 17:40:58 ALS Bottle#: 0 Worklist Smp#: 61
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCVL prep 11/15/16 exp 11/22/16 #2 INJ 1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:01 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:48:55

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1361603	204.0		225	
2 Perchlorate									M
98.8 > 82.9	2.358	2.358	0.0	1.011	187230	22.9		9.2	M
100.8 > 84.9	2.258	2.358	-0.100	0.968	59901		3.13(2.30-3.80)	7.8	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 100.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:01 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15059.d

Injection Date: 15-Nov-2016 17:40:58 Instrument ID: LC_LCMS2

Lims ID: CCVL

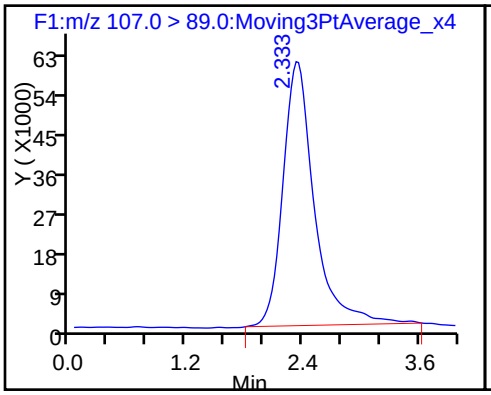
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 61

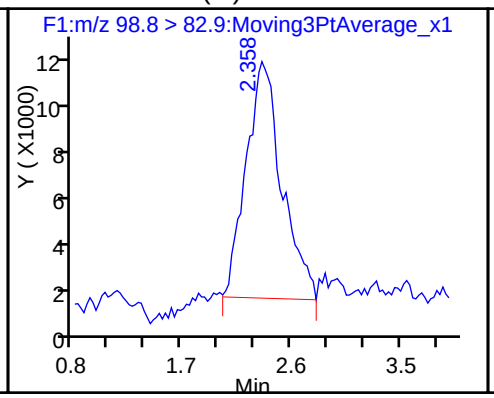
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

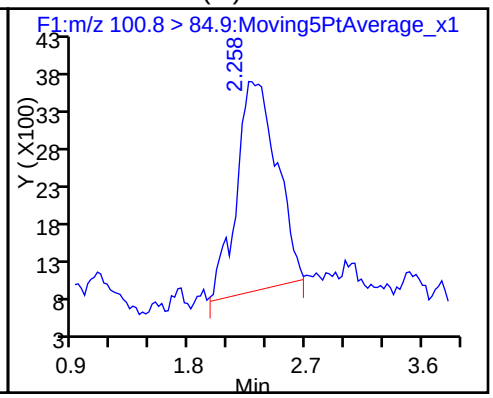
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

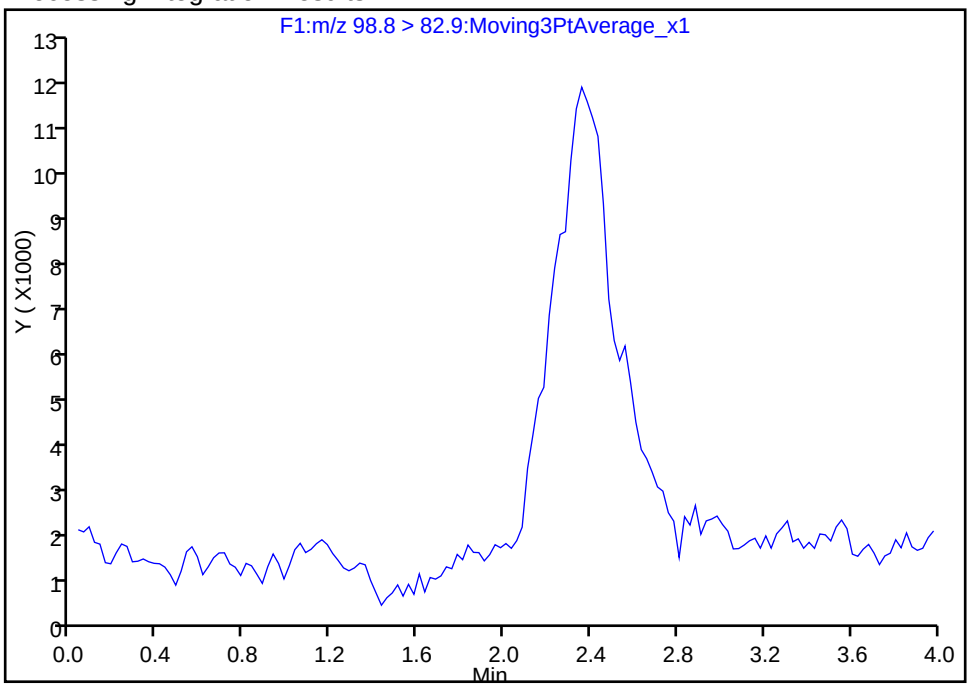
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15059.d				
Injection Date:	15-Nov-2016 17:40:58	Instrument ID:	LC_LCMS2		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	61
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

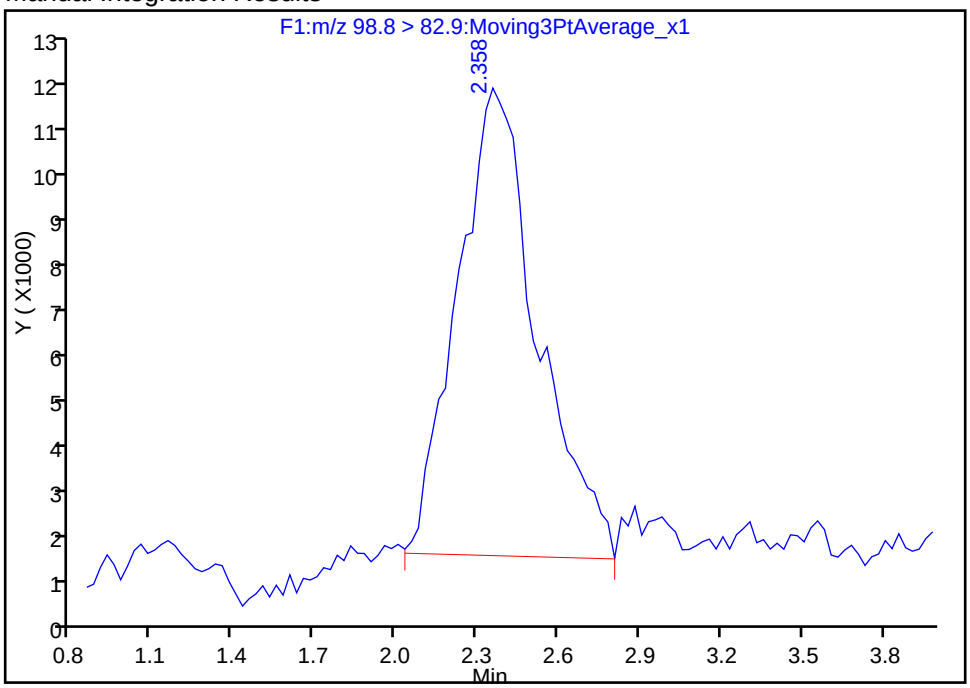
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.36
Area: 187230
Amount: 22.920245
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:48:55
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

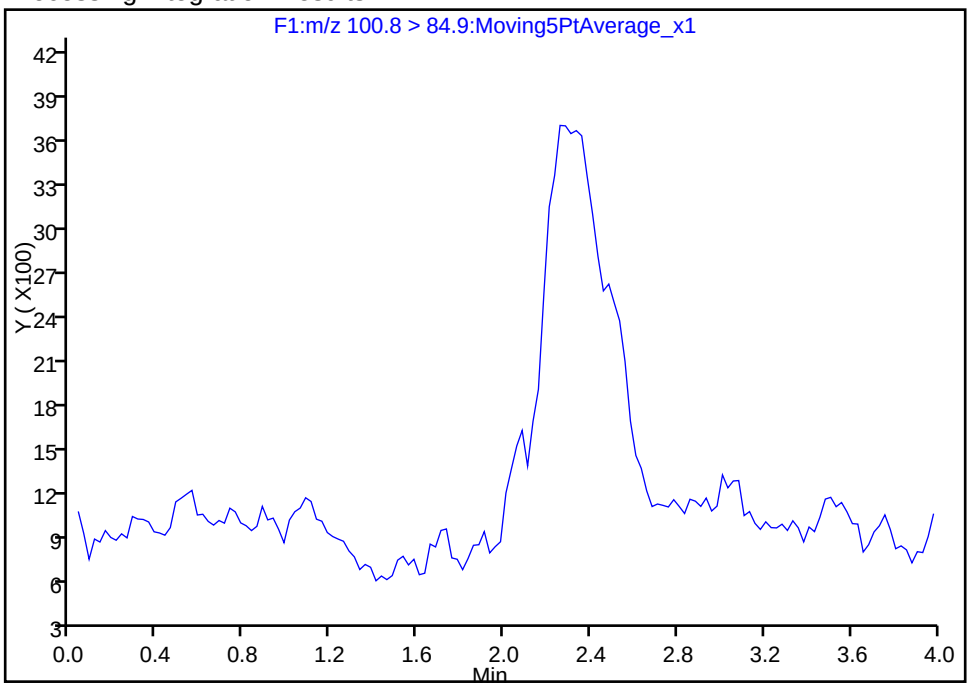
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15059.d
Injection Date: 15-Nov-2016 17:40:58 Instrument ID: LC_LCMS2
Lims ID: CCVL
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 61
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 2

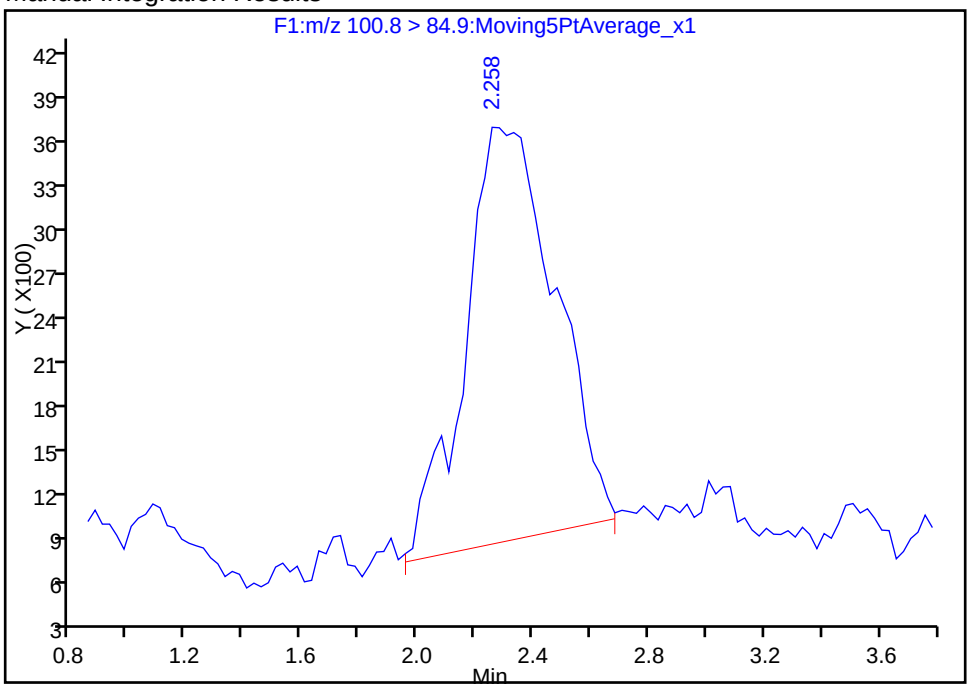
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.26
Area: 59901
Amount: 22.920245
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:48:55
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCV 280-351565/69 Calibration Date: 11/15/2016 18:22

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15067.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.387		0.210	0.200	4.8	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15067.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Nov-2016 18:22:28 ALS Bottle#: 0 Worklist Smp#: 69
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCV prep 11/15/16 exp 11/22/16 #2 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:56:53 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
2 Perchlorate									
98.8 > 82.9	2.358	2.358	0.0	1.011	2086277	209.6		66.3	
100.8 > 84.9	2.358	2.358	0.0	1.011	643963		3.24(2.30-3.80)	49.8	
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1534091	204.0		219	

Reagents:

6860CalStockW_00074 Amount Added: 1000.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:56:53 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15067.d

Injection Date: 15-Nov-2016 18:22:28 Instrument ID: LC_LCMS2

Lims ID: CCV

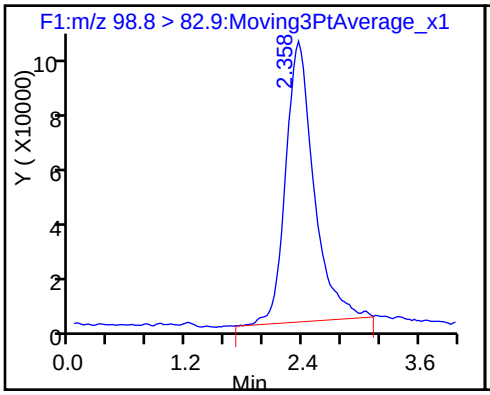
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 69

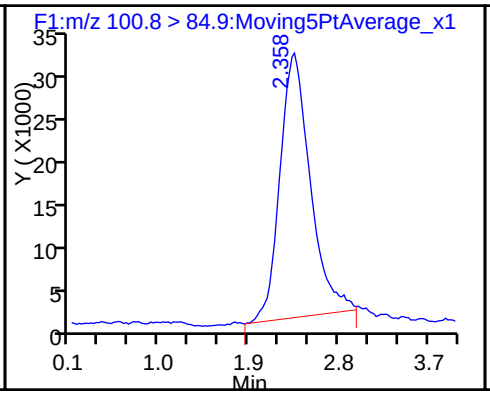
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

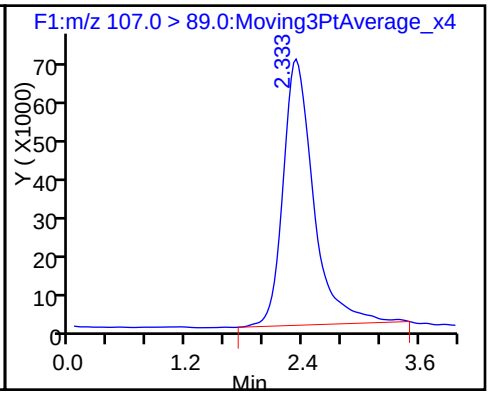
2 Perchlorate



2 Perchlorate



* 1 Perchlorate-18O



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: CCVL 280-351565/70 Calibration Date: 11/15/2016 18:27

Instrument ID: LC_LCMS2 Calib Start Date: 11/15/2016 12:23

GC Column: IonPac ID: 2.00(mm) Calib End Date: 11/15/2016 12:49

Lab File ID: IC216K15068.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Lin1		1.356		0.0222	0.0200	11.1	30.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15068.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 15-Nov-2016 18:27:38 ALS Bottle#: 0 Worklist Smp#: 70
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCVL prep 11/15/16 exp 11/22/16 #2 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist: chrom-6860*sub1

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:56:52 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:51:45

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1400963	204.0		217	
2 Perchlorate									M
98.8 > 82.9	2.308	2.308	0.0	0.989	186232	22.2		10.6	M
100.8 > 84.9	2.358	2.308	0.050	1.011	61087		3.05(2.30-3.80)	8.4	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 100.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:56:52 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15068.d

Injection Date: 15-Nov-2016 18:27:38 Instrument ID: LC_LCMS2

Lims ID: CCVL

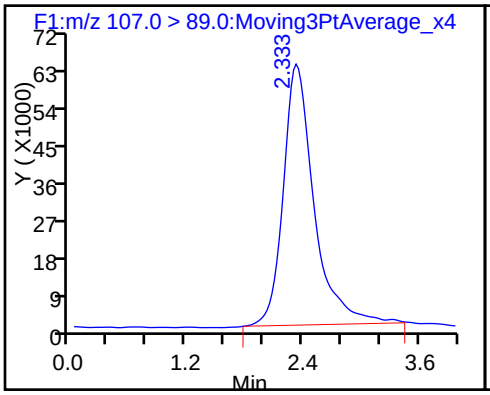
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 70

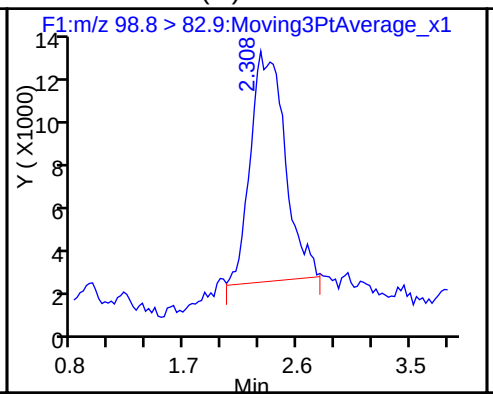
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

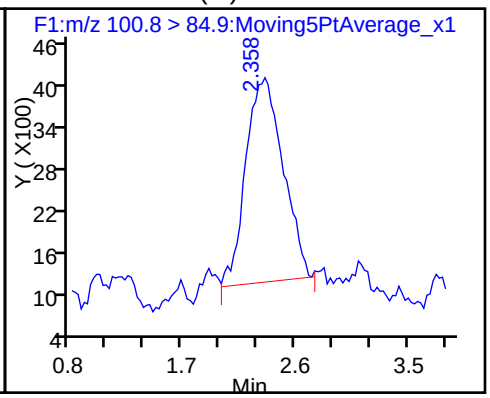
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

TestAmerica Denver

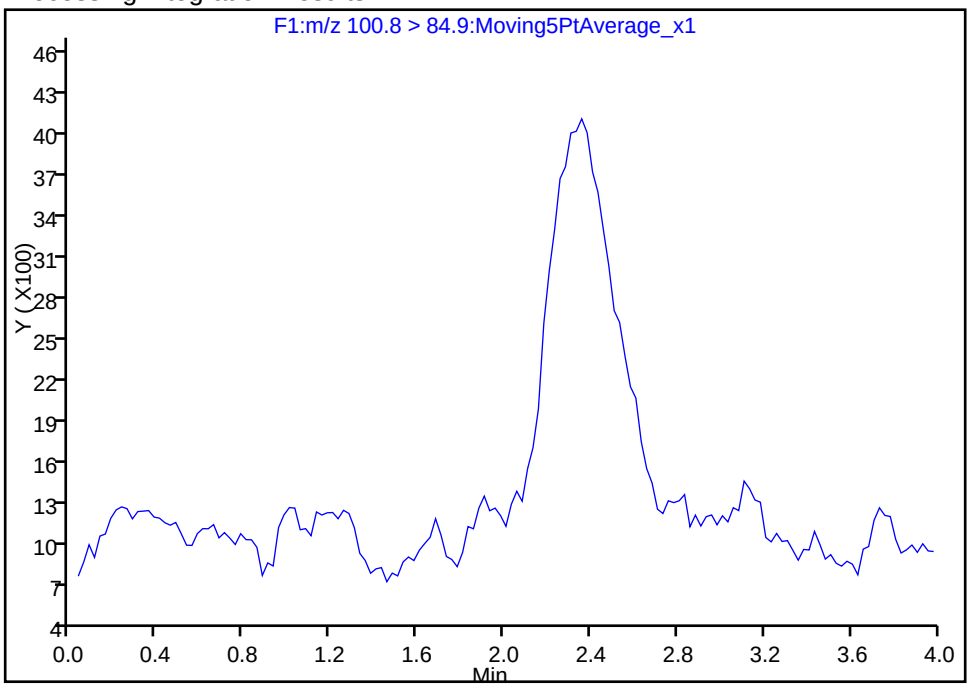
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15068.d				
Injection Date:	15-Nov-2016 18:27:38	Instrument ID:	LC_LCMS2		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	70
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 2

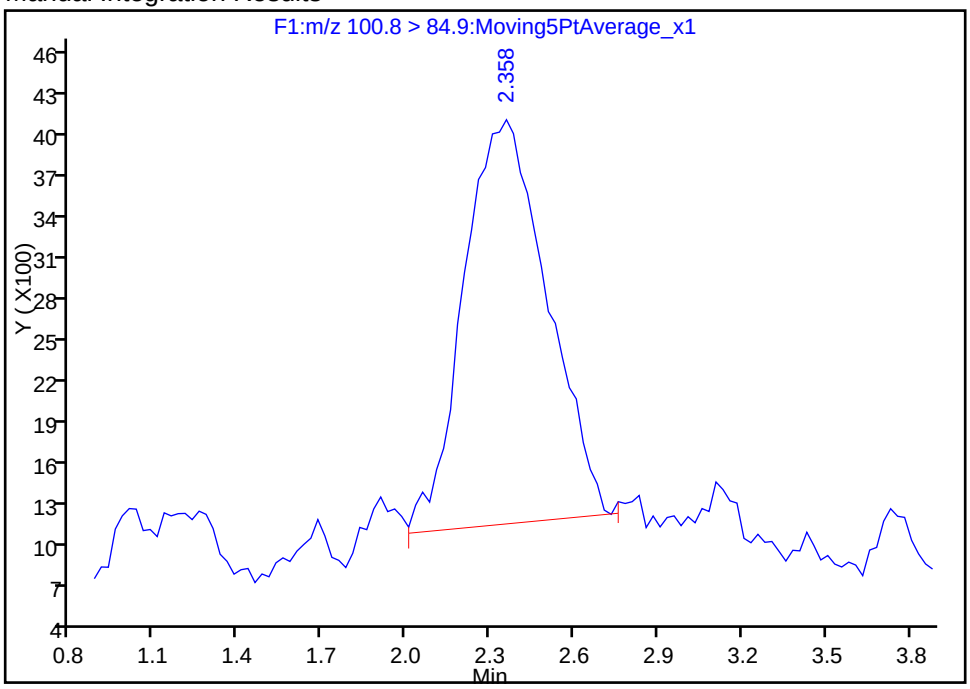
Not Detected
Expected RT: 2.31

Processing Integration Results



Manual Integration Results

RT: 2.36
Area: 61087
Amount: 22.221469
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:51:45
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

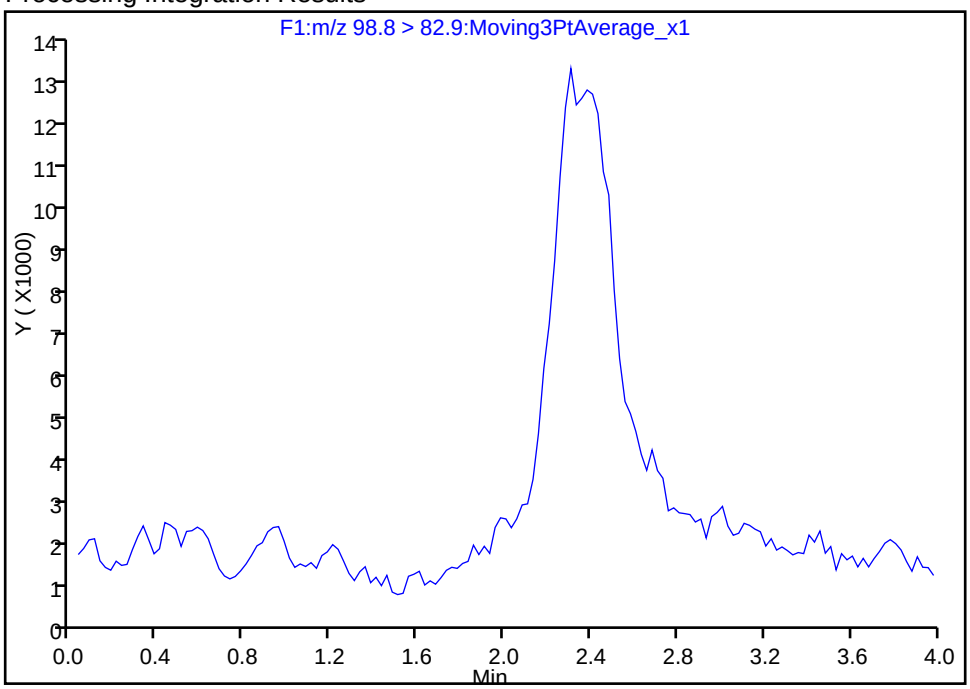
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15068.d				
Injection Date:	15-Nov-2016 18:27:38	Instrument ID:	LC_LCMS2		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	70
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

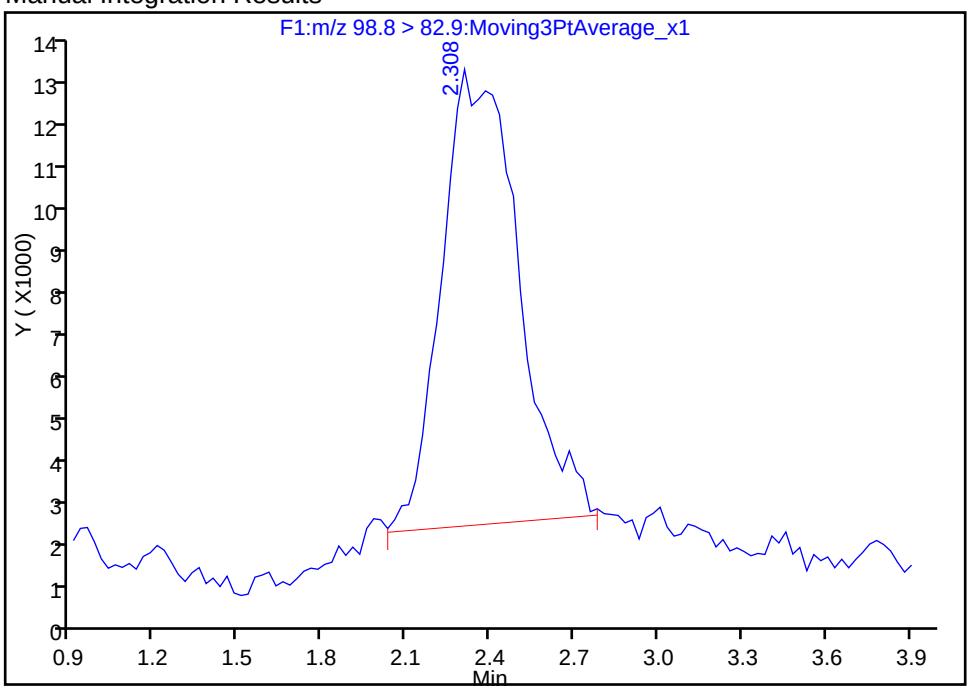
Processing Integration Results

Not Detected
Expected RT: 2.31



Manual Integration Results

RT: 2.31
Area: 186232
Amount: 22.221469
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:51:45
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 280-351565/44

Matrix: Water Lab File ID: IC216K15042.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 16:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15042.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	15-Nov-2016 16:14:21	ALS Bottle#:	0	Worklist Smp#:	44
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Sample Info:	mb				
Misc. Info.:	IC216K15				
Operator ID:		Instrument ID:	LC_LCMS2		
Method:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m				
Limit Group:	LC - 6860 Perchlorate				
Last Update:	16-Nov-2016 09:57:15	Calib Date:	15-Nov-2016 12:49:01		
Integrator:	RTE				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d				
Column 1 :	Ion PAC AS-16 (2.00 mm)		Det: F1:MRM		
Process Host:	XAWRK007				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.308	2.337	-0.029		1356299	204.0		228	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:18 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15042.d

Injection Date: 15-Nov-2016 16:14:21 Instrument ID: LC_LCMS2

Lims ID: MB

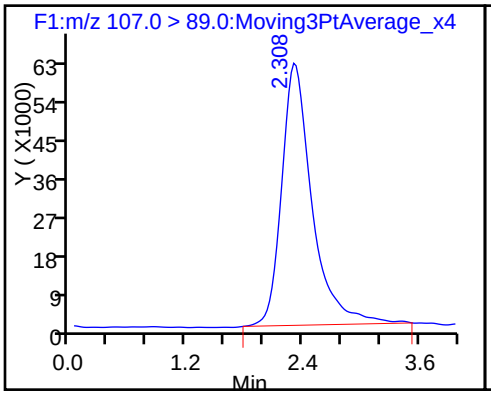
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 44

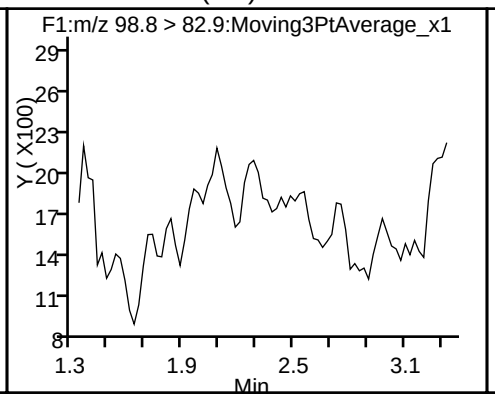
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

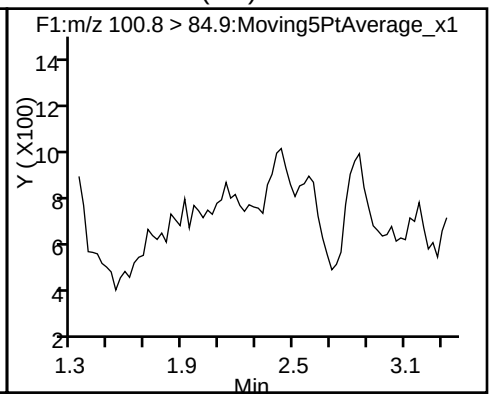
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 280-351565/23

Matrix: Water Lab File ID: IC216K15021.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 14:26

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15021.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 15-Nov-2016 14:26:58 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCB prep 11/15/16 exp 11/22/16 #1 INJ 1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:29 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.308	0.025		1365328	204.0		211	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:40 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15021.d

Injection Date: 15-Nov-2016 14:26:58 Instrument ID: LC_LCMS2

Lims ID: CCB

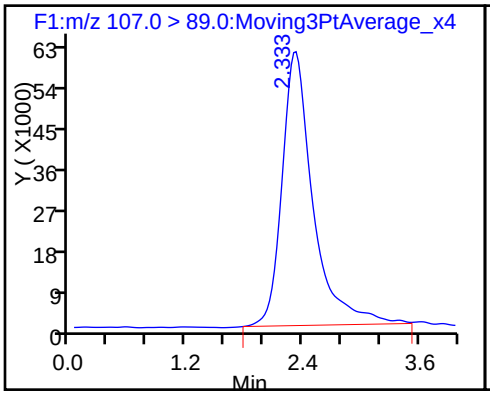
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 23

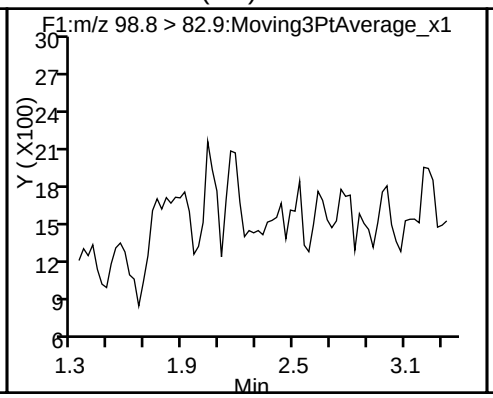
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

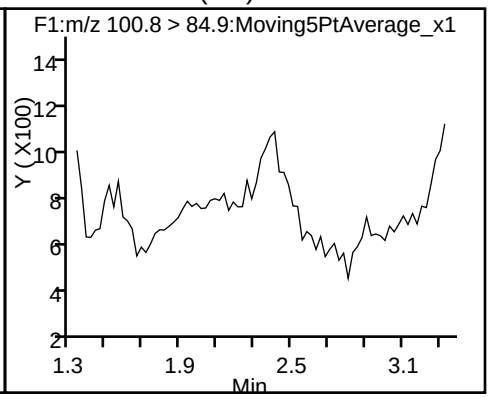
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 280-351565/36

Matrix: Water Lab File ID: IC216K15034.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 15:33

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15034.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 15-Nov-2016 15:33:46 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCB prep 11/15/16 exp 11/22/16 #1 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:15 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.337	-0.004		1378503	204.0		173	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:26 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15034.d

Injection Date: 15-Nov-2016 15:33:46 Instrument ID: LC_LCMS2

Lims ID: CCB

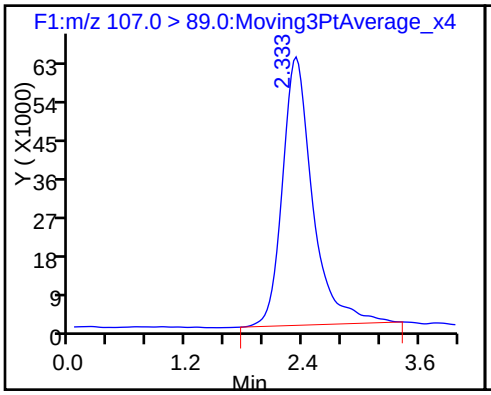
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 36

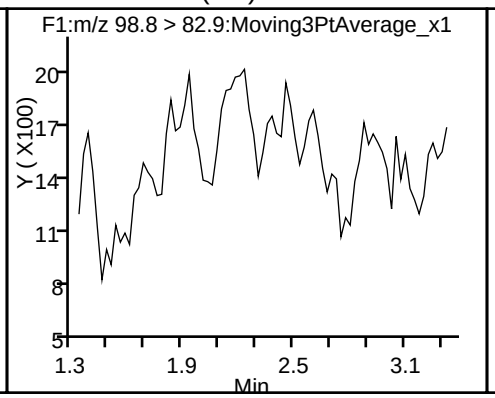
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

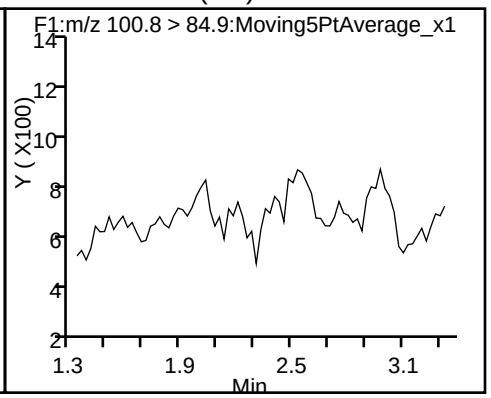
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: CCB 280-351565/49

Matrix: Water | Lab File ID: IC216K15047.d

Analysis Method: 6860 | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 11/15/2016 16:39

Con. Extract Vol.: | Dilution Factor: 1

Injection Volume: 250(uL) | GC Column: IonPac ID: 2(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15047.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 15-Nov-2016 16:39:36 ALS Bottle#: 0 Worklist Smp#: 49
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCB prep 11/15/16 exp 11/22/16 #1 INJ 3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:02 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1399658	204.0		177	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:13 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15047.d

Injection Date: 15-Nov-2016 16:39:36 Instrument ID: LC_LCMS2

Lims ID: CCB

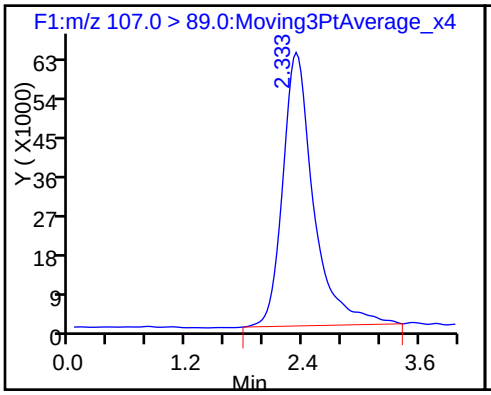
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 49

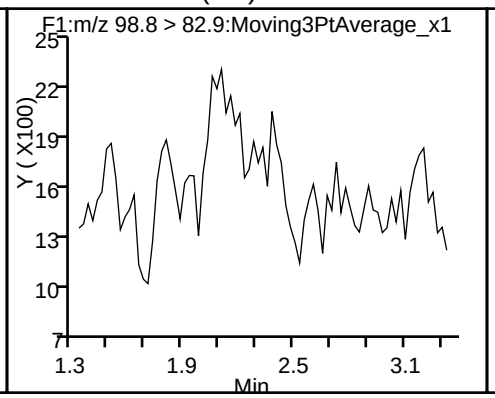
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

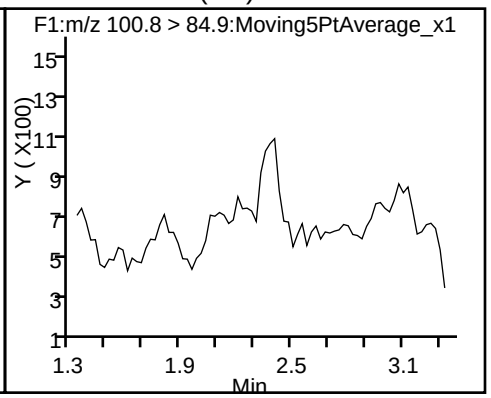
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-90409-1

SDG No.:

Client Sample ID: | Lab Sample ID: CCB 280-351565/62

Matrix: Water | Lab File ID: IC216K15060.d

Analysis Method: 6860 | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 5(mL) | Date Analyzed: 11/15/2016 17:46

Con. Extract Vol.: | Dilution Factor: 1

Injection Volume: 250(uL) | GC Column: IonPac ID: 2(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15060.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 15-Nov-2016 17:46:08 ALS Bottle#: 0 Worklist Smp#: 62
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCB prep 11/15/16 exp 11/22/16 #2 INJ 1
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:56:53 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.312	2.333	-0.021		1411286	204.0		172	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:00 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15060.d

Injection Date: 15-Nov-2016 17:46:08 Instrument ID: LC_LCMS2

Lims ID: CCB

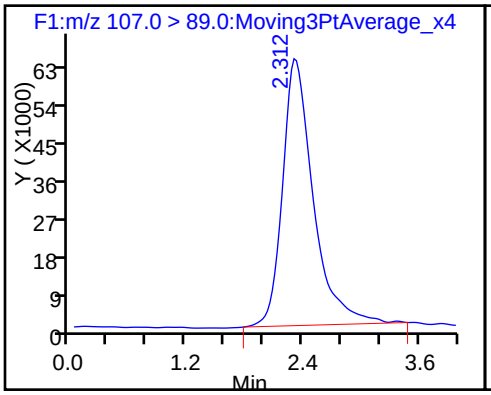
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 62

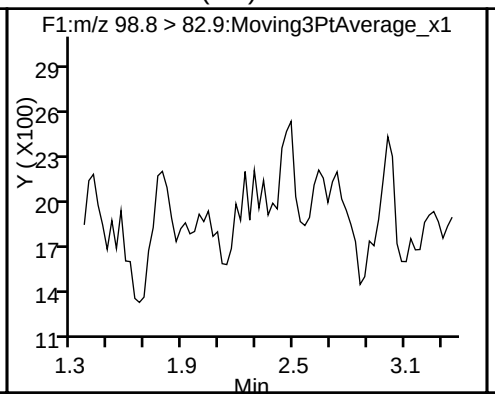
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

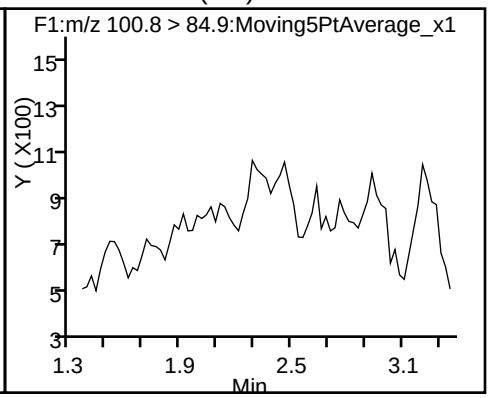
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 280-351565/71

Matrix: Water Lab File ID: IC216K15069.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 18:32

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15069.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 15-Nov-2016 18:32:48 ALS Bottle#: 0 Worklist Smp#: 71
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: CCB prep 11/15/16 exp 11/22/16 #2 INJ 2
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:56:49 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1400959	204.0		180	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:56:51 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15069.d

Injection Date: 15-Nov-2016 18:32:48 Instrument ID: LC_LCMS2

Lims ID: CCB

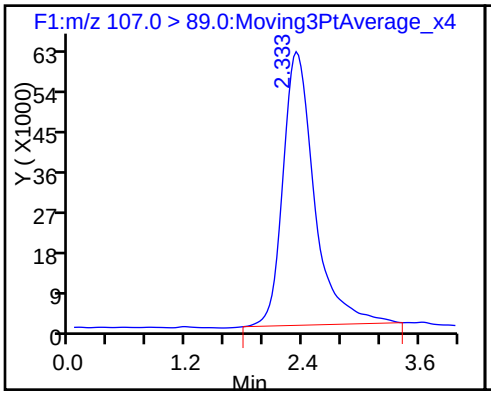
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 71

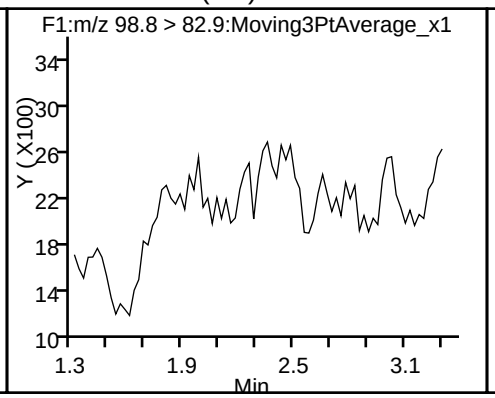
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

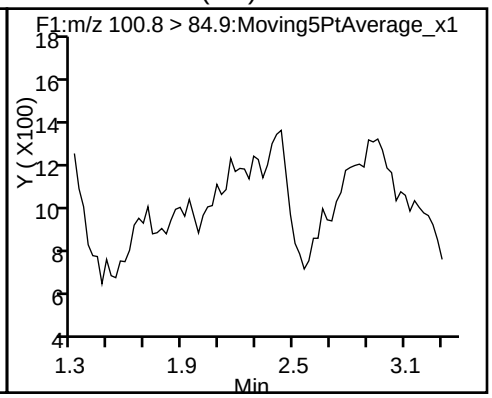
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 280-351565/10

Matrix: Water Lab File ID: IC216K15008.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 12:54

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.010	U	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15008.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 15-Nov-2016 12:54:27 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: ICB prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:51 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.333	0.0		1575672	204.0		204	

Reagents:

6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:52 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15008.d

Injection Date: 15-Nov-2016 12:54:27 Instrument ID: LC_LCMS2

Lims ID: ICB

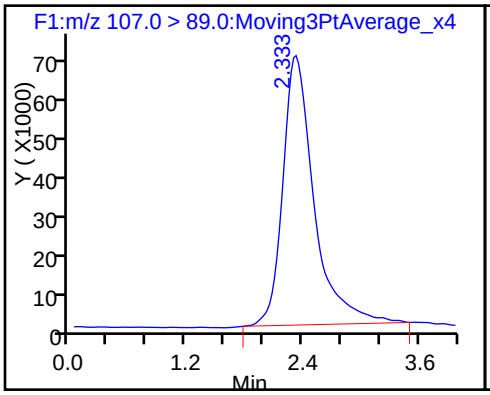
Client ID:

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

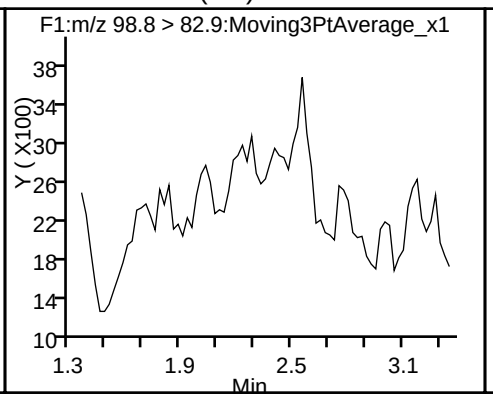
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

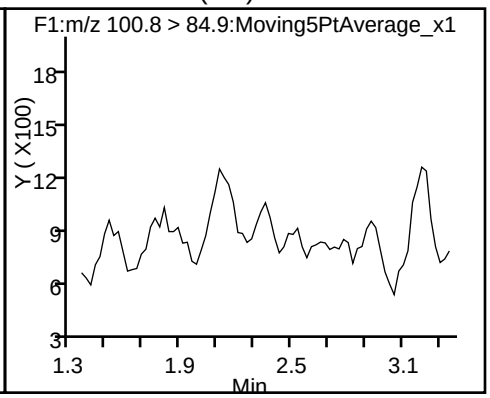
* 1 Perchlorate-18O



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-351565/45

Matrix: Water Lab File ID: IC216K15043.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 16:19

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.0475	J M	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15043.d				
Lims ID:	LCS				
Client ID:					
Sample Type:	LCS				
Inject. Date:	15-Nov-2016 16:19:19	ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Sample Info:	lcs				
Misc. Info.:	IC216K15				
Operator ID:		Instrument ID:	LC_LCMS2		
Method:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m				
Limit Group:	LC - 6860 Perchlorate				
Last Update:	16-Nov-2016 09:57:15	Calib Date:	15-Nov-2016 12:49:01		
Integrator:	RTE				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d				
Column 1 :	Ion PAC AS-16 (2.00 mm)		Det: F1:MRM		
Process Host:	XAWRK007				

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:45:30

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.333	2.337	-0.004		1379885	204.0		147	
2 Perchlorate									M
98.8 > 82.9	2.308	2.337	-0.029	0.989	411456	47.5		31.6	M
100.8 > 84.9	2.333	2.337	-0.004	1.000	137712		2.99(2.30-3.80)	21.2	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860LCSspkH2O_00031	Amount Added: 50.00	Units: uL		
6860-IS-Spike_00061	Amount Added: 50.00	Units: uL	Run Reagent	

Report Date: 16-Nov-2016 09:57:17 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15043.d

Injection Date: 15-Nov-2016 16:19:19 Instrument ID: LC_LCMS2

Lims ID: LCS

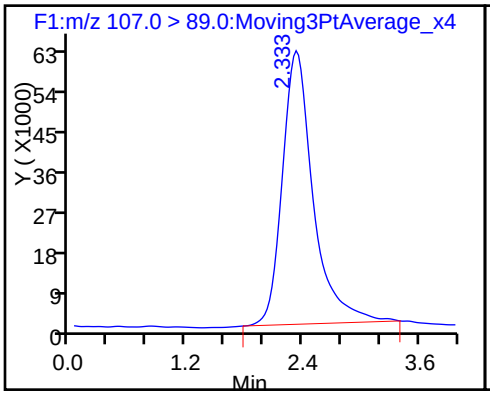
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 45

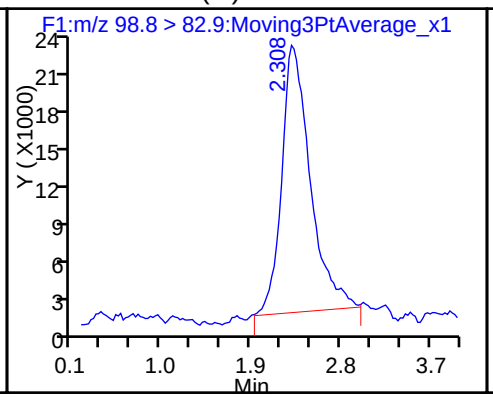
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

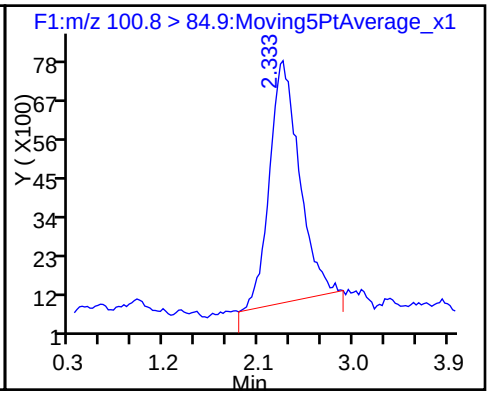
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate



Manual Integration/User Assign Peak Report

TestAmerica Denver

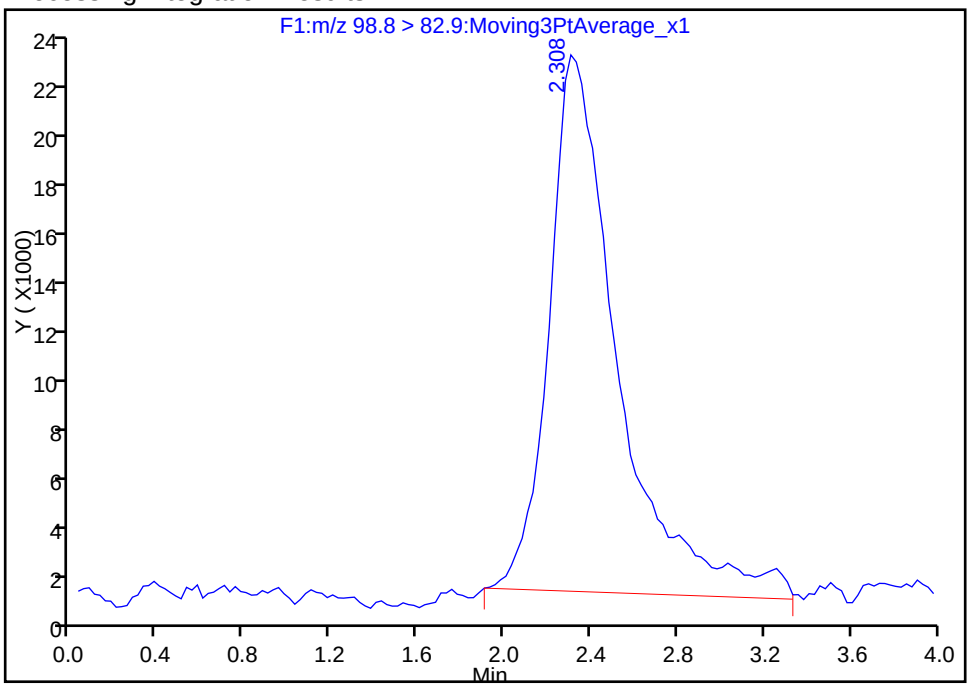
Data File:	\\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15043.d				
Injection Date:	15-Nov-2016 16:19:19	Instrument ID:	LC_LCMS2		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	250.0 ul	Dil. Factor:	1.0000		
Method:	6860	Limit Group:	LC - 6860 Perchlorate		
Column:	Ion PAC AS-16 (2.00 mm)	Detector	F1:MRM		

2 Perchlorate, CAS: 14797-73-0

Signal: 1

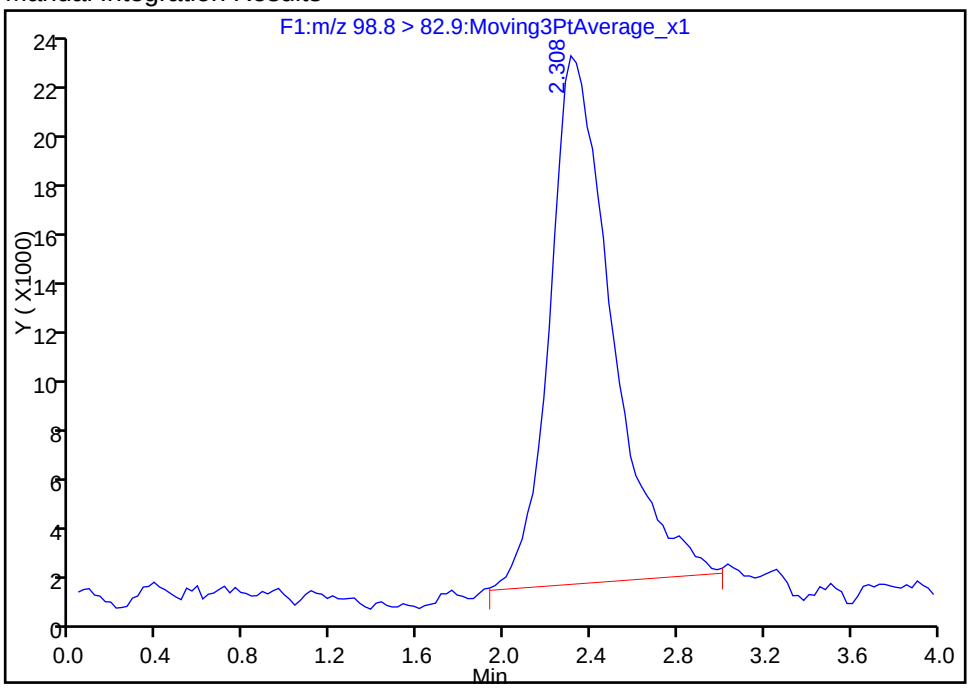
Processing Integration Results

RT: 2.31
Area: 459040
Amount: 52.724251
Amount Units: ng/l



Manual Integration Results

RT: 2.31
Area: 411456
Amount: 47.457952
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:45:30

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: DLCK 280-351565/12

Matrix: Water Lab File ID: IC216K15010.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 13:04

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.0428	J M	0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15010.d
Lims ID: DLCK
Client ID:
Sample Type: DLCK
Inject. Date: 15-Nov-2016 13:04:39 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: DLCK prep 11/13/16 exp 11/20/16 #3
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:42 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

First Level Reviewer: fiedlerh Date: 16-Nov-2016 09:39:15

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.335	2.333	0.002		1542446	204.0		218	
2 Perchlorate									M
98.8 > 82.9	2.360	2.358	0.002	1.011	413314	42.8		18.7	M
100.8 > 84.9	2.310	2.358	-0.048	0.989	148468		2.78(2.30-3.80)	29.3	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

6860CalStockW_00074 Amount Added: 250.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:50 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15010.d

Injection Date: 15-Nov-2016 13:04:39 Instrument ID: LC_LCMS2

Lims ID: DLCK

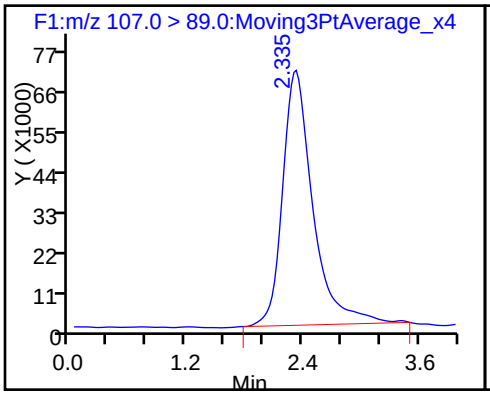
Client ID:

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

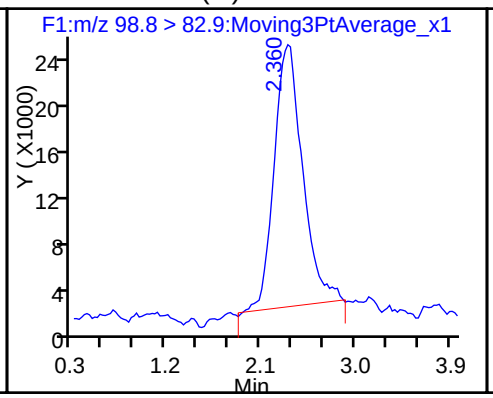
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

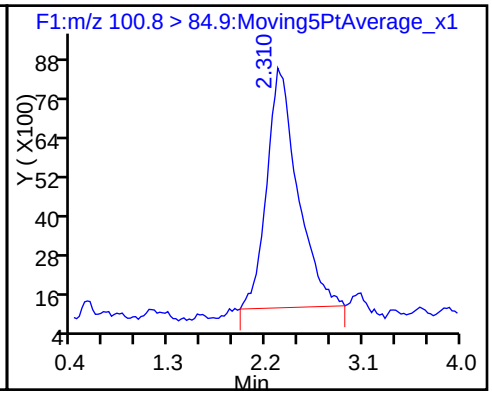
* 1 Perchlorate-18O



2 Perchlorate (M)



2 Perchlorate



Manual Integration/User Assign Peak Report

TestAmerica Denver

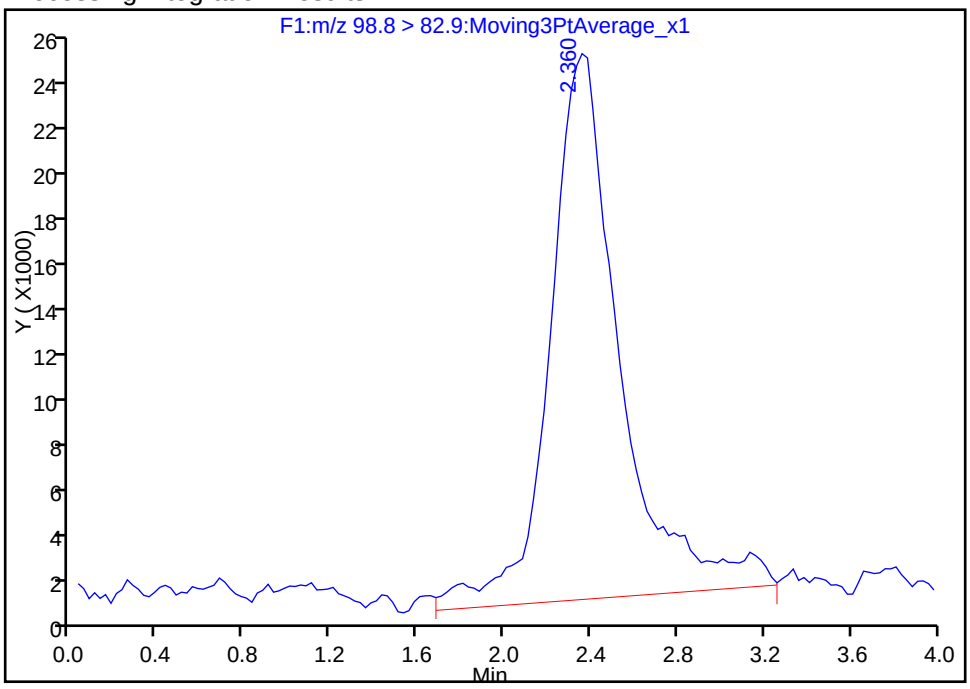
Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15010.d
Injection Date: 15-Nov-2016 13:04:39 Instrument ID: LC_LCMS2
Lims ID: DLCK
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Method: 6860 Limit Group: LC - 6860 Perchlorate
Column: Ion PAC AS-16 (2.00 mm) Detector F1:MRM

2 Perchlorate, CAS: 14797-73-0

Signal: 1

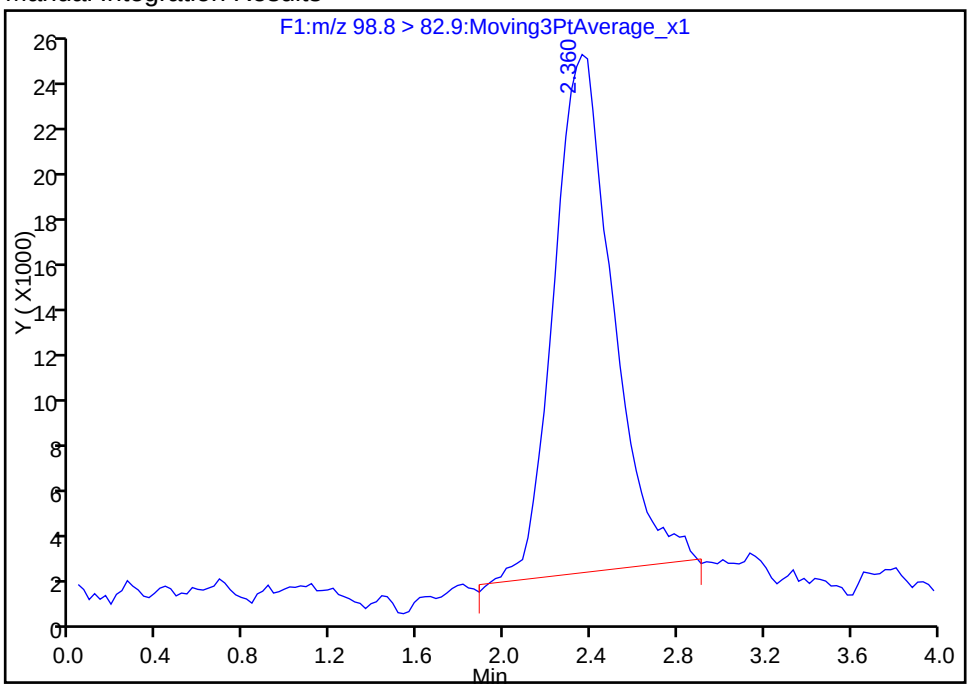
Processing Integration Results

RT: 2.36
Area: 518577
Amount: 53.264703
Amount Units: ng/l



Manual Integration Results

RT: 2.36
Area: 413314
Amount: 42.842651
Amount Units: ng/l



Reviewer: fiedlerh, 16-Nov-2016 09:39:15
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Client Sample ID: Lab Sample ID: INF 280-351565/46

Matrix: Water Lab File ID: IC216K15044.d

Analysis Method: 6860 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/15/2016 16:24

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 250(uL) GC Column: IonPac ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351565 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.0609		0.050	0.010	0.0040

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15044.d
Lims ID: INF
Client ID:
Sample Type: INF
Inject. Date: 15-Nov-2016 16:24:21 ALS Bottle#: 0 Worklist Smp#: 46
Injection Vol: 250.0 ul Dil. Factor: 1.0000
Sample Info: inf
Misc. Info.: IC216K15
Operator ID: Instrument ID: LC_LCMS2
Sublist:

Method: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\6860.m
Limit Group: LC - 6860 Perchlorate
Last Update: 16-Nov-2016 09:57:15 Calib Date: 15-Nov-2016 12:49:01
Integrator: RTE
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15007.d

Column 1 : Ion PAC AS-16 (2.00 mm) Det: F1:MRM
Process Host: XAWRK007

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/l	Ratio(Limits)	S/N	Flags
* 1 Perchlorate-18O									
107.0 > 89.0	2.233	2.337	-0.104		870310	204.0		88.9	
2 Perchlorate									
98.8 > 82.9	2.258	2.337	-0.079	1.011	336165	60.9		13.6	
100.8 > 84.9	2.283	2.337	-0.054	1.022	102699		3.27(2.30-3.80)	11.0	

Reagents:

6860_INF_Soln_00010 Amount Added: 5.00 Units: mL
6860LCSspkH2O_00031 Amount Added: 50.00 Units: uL
6860-IS-Spike_00061 Amount Added: 50.00 Units: uL Run Reagent

Report Date: 16-Nov-2016 09:57:16 Chrom Revision: 2.2 14-Nov-2016 08:15:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\LC_LCMS2\20161115-53160.b\IC216K15044.d

Injection Date: 15-Nov-2016 16:24:21 Instrument ID: LC_LCMS2

Lims ID: INF

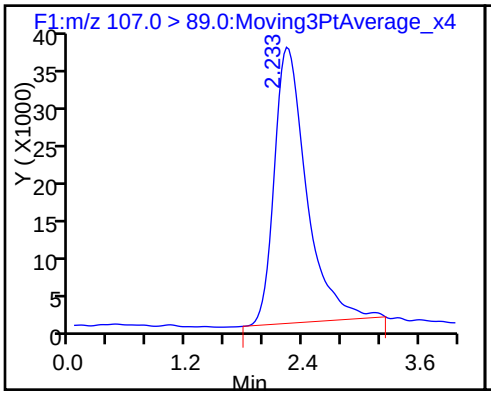
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 46

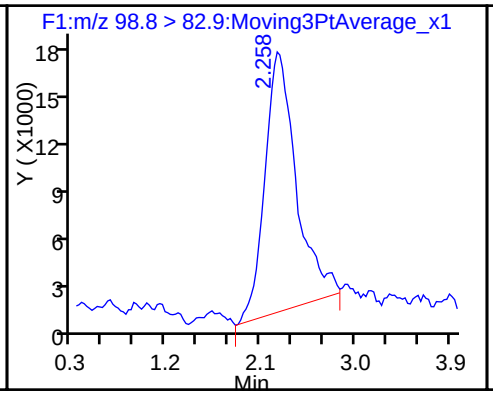
Injection Vol: 250.0 ul Dil. Factor: 1.0000

Method: 6860 Limit Group: LC - 6860 Perchlorate

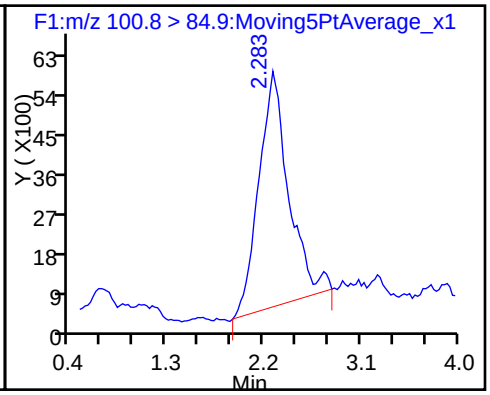
* 1 Perchlorate-18O



2 Perchlorate



2 Perchlorate



LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: LC_LCMS2 Start Date: 11/15/2016 12:23

Analysis Batch Number: 351565 End Date: 11/15/2016 18:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD020 280-351565/4 IC		11/15/2016 12:23	1	IC216K15002.d	IonPac 2(mm)
STD050 280-351565/5 IC		11/15/2016 12:28	1	IC216K15003.d	IonPac 2(mm)
STD100 280-351565/6 IC		11/15/2016 12:33	1	IC216K15004.d	IonPac 2(mm)
STD200 280-351565/7 ICISAV		11/15/2016 12:38	1	IC216K15005.d	IonPac 2(mm)
STD500 280-351565/8 IC		11/15/2016 12:43	1	IC216K15006.d	IonPac 2(mm)
STD1000 280-351565/9 IC		11/15/2016 12:49	1	IC216K15007.d	IonPac 2(mm)
ICB 280-351565/10		11/15/2016 12:54	1	IC216K15008.d	IonPac 2(mm)
ICV 280-351565/11		11/15/2016 12:59	1	IC216K15009.d	IonPac 2(mm)
DLCK 280-351565/12		11/15/2016 13:04	1	IC216K15010.d	IonPac 2(mm)
ZZZZZ		11/15/2016 13:09	1		IonPac 2(mm)
ZZZZZ		11/15/2016 13:14	1		IonPac 2(mm)
INF 280-351565/15		11/15/2016 13:20	1		IonPac 2(mm)
ZZZZZ		11/15/2016 13:25	50		IonPac 2(mm)
ZZZZZ		11/15/2016 13:30	1		IonPac 2(mm)
ZZZZZ		11/15/2016 13:35	1		IonPac 2(mm)
ZZZZZ		11/15/2016 13:41	1		IonPac 2(mm)
ZZZZZ		11/15/2016 13:46	1		IonPac 2(mm)
CCV 280-351565/21		11/15/2016 13:51	1	IC216K15019.d	IonPac 2(mm)
CCVL 280-351565/22		11/15/2016 13:56	1		IonPac 2(mm)
CCB 280-351565/23		11/15/2016 14:26	1	IC216K15021.d	IonPac 2(mm)
ZZZZZ		11/15/2016 14:32	1		IonPac 2(mm)
ZZZZZ		11/15/2016 14:37	1		IonPac 2(mm)
ZZZZZ		11/15/2016 14:42	1		IonPac 2(mm)
ZZZZZ		11/15/2016 14:47	1		IonPac 2(mm)
ZZZZZ		11/15/2016 14:52	2		IonPac 2(mm)
ZZZZZ		11/15/2016 14:58	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:03	2000		IonPac 2(mm)
ZZZZZ		11/15/2016 15:08	2		IonPac 2(mm)
ZZZZZ		11/15/2016 15:13	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:18	1		IonPac 2(mm)
CCV 280-351565/34		11/15/2016 15:23	1	IC216K15032.d	IonPac 2(mm)
CCVL 280-351565/35		11/15/2016 15:28	1	IC216K15033.d	IonPac 2(mm)
CCB 280-351565/36		11/15/2016 15:33	1	IC216K15034.d	IonPac 2(mm)
ZZZZZ		11/15/2016 15:38	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:44	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:49	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:54	1		IonPac 2(mm)
ZZZZZ		11/15/2016 15:59	1		IonPac 2(mm)
ZZZZZ		11/15/2016 16:04	1		IonPac 2(mm)
ZZZZZ		11/15/2016 16:09	1		IonPac 2(mm)
MB 280-351565/44		11/15/2016 16:14	1	IC216K15042.d	IonPac 2(mm)
LCS 280-351565/45		11/15/2016 16:19	1	IC216K15043.d	IonPac 2(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: LC_LCMS2 Start Date: 11/15/2016 12:23

Analysis Batch Number: 351565 End Date: 11/15/2016 18:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
INF 280-351565/46		11/15/2016 16:24	1	IC216K15044.d	IonPac 2(mm)
CCV 280-351565/47		11/15/2016 16:29	1	IC216K15045.d	IonPac 2(mm)
CCVL 280-351565/48		11/15/2016 16:34	1	IC216K15046.d	IonPac 2(mm)
CCB 280-351565/49		11/15/2016 16:39	1	IC216K15047.d	IonPac 2(mm)
ZZZZZ		11/15/2016 16:44	1		IonPac 2(mm)
ZZZZZ		11/15/2016 16:49	1		IonPac 2(mm)
ZZZZZ		11/15/2016 16:54	1		IonPac 2(mm)
ZZZZZ		11/15/2016 16:59	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:05	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:10	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:15	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:20	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:25	500		IonPac 2(mm)
ZZZZZ		11/15/2016 17:30	1		IonPac 2(mm)
CCV 280-351565/60		11/15/2016 17:35	1	IC216K15058.d	IonPac 2(mm)
CCVL 280-351565/61		11/15/2016 17:40	1	IC216K15059.d	IonPac 2(mm)
CCB 280-351565/62		11/15/2016 17:46	1	IC216K15060.d	IonPac 2(mm)
ZZZZZ		11/15/2016 17:51	1		IonPac 2(mm)
ZZZZZ		11/15/2016 17:56	5000		IonPac 2(mm)
ZZZZZ		11/15/2016 18:01	5000		IonPac 2(mm)
ZZZZZ		11/15/2016 18:06	10		IonPac 2(mm)
ZZZZZ		11/15/2016 18:12	500		IonPac 2(mm)
280-90409-1		11/15/2016 18:17	1	IC216K15066.d	IonPac 2(mm)
CCV 280-351565/69		11/15/2016 18:22	1	IC216K15067.d	IonPac 2(mm)
CCVL 280-351565/70		11/15/2016 18:27	1	IC216K15068.d	IonPac 2(mm)
CCB 280-351565/71		11/15/2016 18:32	1	IC216K15069.d	IonPac 2(mm)

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

Project: Ravenna, OH, LL2/Fuze and Booster Quarry

Client Sample ID	Lab Sample ID
LL2mw-271-110116-GW	280-90409-1
LL2mw-261-103116-GW	280-90409-2
LL2mw-500-103116-GW	280-90409-3
FBQmw-175-110116-GW	280-90409-4

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL2mw-271-110116-GW
Lab Sample ID: 280-90409-1
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 11/01/2016 10:13
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	58000	1000	140	35	ug/L			1	6010C
Iron	5000	100	85	22	ug/L			1	6010C
Magnesium	19000	500	40	11	ug/L			1	6010C
Potassium	1200	3000	940	240	ug/L	J		1	6010C
Sodium	4500	5000	350	92	ug/L	J		1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	14	5.0	1.0	0.33	ug/L			1	6020A
Barium	3.6	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	14	10	1.8	0.50	ug/L			1	6020A
Cobalt	8.6	1.0	0.20	0.054	ug/L			1	6020A
Copper	0.60	2.0	1.8	0.56	ug/L	J		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	560	3.5	0.95	0.31	ug/L		Q	1	6020A
Nickel	39	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	2.4	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL2mw-261-103116-GW
Lab Sample ID: 280-90409-2
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 10/31/2016 14:40
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	63000	1000	140	35	ug/L			1	6010C
Iron	3600	100	85	22	ug/L			1	6010C
Magnesium	20000	500	40	11	ug/L			1	6010C
Potassium	1400	3000	940	240	ug/L	J		1	6010C
Sodium	12000	5000	350	92	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	14	5.0	1.0	0.33	ug/L			1	6020A
Barium	21	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	22	10	1.8	0.50	ug/L			1	6020A
Cobalt	1.3	1.0	0.20	0.054	ug/L			1	6020A
Copper	0.98	2.0	1.8	0.56	ug/L	J		1	6020A
Lead	0.18	3.0	0.70	0.18	ug/L	J		1	6020A
Manganese	450	3.5	0.95	0.31	ug/L		Q	1	6020A
Nickel	3.9	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.077	1.0	0.20	0.050	ug/L	J		1	6020A
Vanadium	1.7	6.0	2.0	0.50	ug/L	J		1	6020A
Zinc	2.2	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL2mw-500-103116-GW
Lab Sample ID: 280-90409-3
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 10/31/2016 14:50
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	65000	1000	140	35	ug/L			1	6010C
Iron	4100	100	85	22	ug/L			1	6010C
Magnesium	21000	500	40	11	ug/L			1	6010C
Potassium	1500	3000	940	240	ug/L	J		1	6010C
Sodium	13000	5000	350	92	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	16	5.0	1.0	0.33	ug/L			1	6020A
Barium	19	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	4.6	10	1.8	0.50	ug/L	J		1	6020A
Cobalt	1.3	1.0	0.20	0.054	ug/L			1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.23	3.0	0.70	0.18	ug/L	J		1	6020A
Manganese	460	3.5	0.95	0.31	ug/L		Q	1	6020A
Nickel	3.8	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	8.0	20	8.0	2.0	ug/L	U		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FBQmw-175-110116-GW
Lab Sample ID: 280-90409-4
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 11/01/2016 16:12
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	410	300	70	18	ug/L			1	6010C
Calcium	9400	1000	140	35	ug/L			1	6010C
Iron	1200	100	85	22	ug/L			1	6010C
Magnesium	4600	500	40	11	ug/L			1	6010C
Potassium	950	3000	940	240	ug/L	J		1	6010C
Sodium	1800	5000	350	92	ug/L	J		1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	0.38	5.0	1.0	0.33	ug/L	J		1	6020A
Barium	11	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.092	1.0	0.30	0.080	ug/L	J		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.0	10	1.8	0.50	ug/L	J		1	6020A
Cobalt	0.46	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	0.59	2.0	1.8	0.56	ug/L	J		1	6020A
Lead	0.71	3.0	0.70	0.18	ug/L	J		1	6020A
Manganese	9.9	3.5	0.95	0.31	ug/L		Q	1	6020A
Nickel	7.4	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	11	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP ICVH_00359 Concentration Units: ug/L

CCV Source: ICP CCVH_00501

Analyte	ICVH 280-351243/6 11/13/2016 12:41				CCVH 280-351243/64 11/13/2016 15:12				CCVH 280-351243/77 11/13/2016 15:44			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	39800		40000	99	47700		50000	95	46800		50000	94
Iron	77900		80000	97	50000		50000	100	49300		50000	99
Sodium	40500		40000	101	240000		250000	96	237000		250000	95

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP ICVH_00359 Concentration Units: ug/L

CCV Source: ICP CCVH_00501

Analyte	CCVH 280-351243/90 11/13/2016 16:17				CCVH 280-351243/102 11/13/2016 16:47							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	46600		50000	93	46300		50000	93				
Iron	49200		50000	98	48400		50000	97				
Sodium	237000		250000	95	238000		250000	95				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP ICV_00218 Concentration Units: ug/L

CCV Source: ICP CCV_00231

Analyte	ICV 280-351243/7 11/13/2016 12:43				CCV 280-351243/65 11/13/2016 15:14				CCV 280-351243/78 11/13/2016 15:47			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	256	J	250	102	487		500	97	470		500	94
Calcium	1990		2000	99	5120		5000	102	5060		5000	101
Iron	253		250	101	2450		2500	98	2420		2500	97
Magnesium	9950		10000	100	19100		20000	95	18600		20000	93
Potassium	19800		20000	99	49700		50000	99	48900		50000	98
Sodium	2080	J	2000	104	4970	J	5000	99	4910	J	5000	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP ICV_00218 Concentration Units: ug/L

CCV Source: ICP CCV_00231

Analyte	CCV 280-351243/91 11/13/2016 16:19				CCV 280-351243/103 11/13/2016 16:49							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	469		500	94	470		500	94				
Calcium	5030		5000	101	4940		5000	99				
Iron	2400		2500	96	2400		2500	96				
Magnesium	18600		20000	93	18400		20000	92				
Potassium	48600		50000	97	48200		50000	96				
Sodium	4900	J	5000	98	4920	J	5000	98				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP LLCCV_01920 Concentration Units: ug/L

CCV Source: ICP LLCCV_01920

Analyte	ICVL 280-351243/8 11/13/2016 12:46				CCVL 280-351243/67 11/13/2016 15:19				CCVL 280-351243/80 11/13/2016 15:52			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	102	J	100	102	98.0	J	100	98	95.3	J	100	95
Calcium	198	J	200	99	209	J	200	105	200	J	200	100
Iron	104		100	104	104		100	104	98.8	J	100	99
Magnesium	203	J	200	102	201	J	200	100	191	J	200	96
Potassium	3010		3000	100	3040		3000	101	3000		3000	100
Sodium	1050	J	1000	105	1030	J	1000	103	1000	J	1000	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ICP LLCCV_01920 Concentration Units: ug/L

CCV Source: ICP LLCCV_01920

Analyte	CCVL 280-351243/93 11/13/2016 16:24				CCVL 280-351243/105 11/13/2016 16:54							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	94.8	J	100	95	95.6	J	100	96				
Calcium	195	J	200	98	197	J	200	99				
Iron	99.2	J	100	99	99.6	J	100	100				
Magnesium	192	J	200	96	191	J	200	96				
Potassium	2980	J	3000	99	2980	J	3000	99				
Sodium	1010	J	1000	101	1020	J	1000	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: MS 77 ICV_01342 Concentration Units: ug/L

CCV Source: ms 77 ccv_01343

Analyte	ICV 280-351011/9 11/10/2016 15:33				CCV 280-351011/100 11/10/2016 21:32				CCV 280-351011/112 11/10/2016 22:18			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	38.9		40.0	97	49.0		50.0	98	50.4		50.0	101
Arsenic	42.0		40.0	105	51.5		50.0	103	50.2		50.0	100
Barium	39.5		40.0	99	49.4		50.0	99	50.1		50.0	100
Beryllium	40.8		40.0	102	51.9		50.0	104	51.4		50.0	103
Cadmium	41.5		40.0	104	50.4		50.0	101	48.7		50.0	97
Chromium	41.1		40.0	103	51.6		50.0	103	52.1		50.0	104
Cobalt	40.9		40.0	102	50.6		50.0	101	51.0		50.0	102
Copper	40.2		40.0	100	49.9		50.0	100	50.0		50.0	100
Lead	40.9		40.0	102	50.9		50.0	102	49.8		50.0	100
Manganese	42.6		40.0	106	52.7		50.0	105	51.2		50.0	102
Nickel	40.1		40.0	100	51.7		50.0	103	52.1		50.0	104
Selenium	40.7		40.0	102	50.6		50.0	101	51.5		50.0	103
Silver	38.0		40.0	95	50.3		50.0	101	49.4		50.0	99
Thallium	40.3		40.0	101	51.0		50.0	102	50.0		50.0	100
Vanadium	42.0		40.0	105	52.1		50.0	104	52.3		50.0	105
Zinc	42.3		40.0	106	53.4		50.0	107	51.7		50.0	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: MS 77 ICV_01342 Concentration Units: ug/L

CCV Source: ms 77 ccv_01343

Analyte	CCV 280-351011/125 11/10/2016 23:07											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	48.1		50.0	96								
Arsenic	52.4		50.0	105								
Barium	49.3		50.0	99								
Beryllium	49.8		50.0	100								
Cadmium	48.9		50.0	98								
Chromium	50.4		50.0	101								
Cobalt	51.3		50.0	103								
Copper	49.5		50.0	99								
Lead	49.7		50.0	99								
Manganese	52.0		50.0	104								
Nickel	49.3		50.0	99								
Selenium	50.4		50.0	101								
Silver	48.0		50.0	96								
Thallium	49.3		50.0	99								
Vanadium	51.7		50.0	103								
Zinc	49.8		50.0	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ms 77 LLCCV_01144 Concentration Units: ug/L

CCV Source: ms 77 LLCCV_01144

Analyte	ICVL 280-351011/12 11/10/2016 15:48				ICVL 280-351011/13 11/10/2016 15:53				CCVL 280-351011/102 11/10/2016 21:40			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	1.87	J	2.00	94	1.99	J	2.00	100	1.92	J	2.00	96
Arsenic	5.23		5.00	105	5.01		5.00	100	5.30		5.00	106
Barium	1.00		1.00	100	0.853	J	1.00	85	0.869	J	1.00	87
Beryllium	1.24		1.00	124	1.15		1.00	115	1.04		1.00	104
Cadmium	1.10		1.00	110	0.887	J	1.00	89	0.938	J	1.00	94
Chromium	2.16		2.00	108	1.81	J	2.00	91	1.91	J	2.00	96
Cobalt	1.01		1.00	101	1.05		1.00	105	1.11		1.00	111
Copper	2.18		2.00	109	2.12		2.00	106	1.77	J	2.00	89
Lead	1.07		1.00	107	1.04		1.00	104	1.01		1.00	101
Manganese	0.950	J	1.00	95	1.13		1.00	113	1.06		1.00	106
Nickel	1.99	J	2.00	99	2.02		2.00	101	2.07		2.00	104
Selenium	5.25		5.00	105	5.15		5.00	103	4.80	J	5.00	96
Silver	5.24		5.00	105	5.27		5.00	105	4.91	J	5.00	98
Thallium	1.02		1.00	102	1.07		1.00	107	1.05		1.00	105
Vanadium	5.29		5.00	106	4.76	J	5.00	95	4.88	J	5.00	98
Zinc	10.3		10.0	103	10.1		10.0	101	11.9		10.0	119

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ms 77 LLCCV_01144 Concentration Units: ug/L

CCV Source: ms 77 LLCCV_01144

Analyte	CCVL 280-351011/114 11/10/2016 22:25				CCVL 280-351011/127 11/10/2016 23:15							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.18		2.00	109	2.14		2.00	107				
Arsenic	5.39		5.00	108	4.93	J	5.00	99				
Barium	0.789	J	1.00	79	0.776	J	1.00	78				
Beryllium	1.19		1.00	119	0.786	J	1.00	79				
Cadmium	1.02		1.00	102	1.07		1.00	107				
Chromium	1.95	J	2.00	98	2.19		2.00	109				
Cobalt	1.01		1.00	101	1.06		1.00	106				
Copper	1.87	J	2.00	93	1.98	J	2.00	99				
Lead	0.984	J	1.00	98	1.02		1.00	102				
Manganese	1.19		1.00	119	1.38		1.00	138				
Nickel	1.96	J	2.00	98	2.22		2.00	111				
Selenium	5.00		5.00	100	5.02		5.00	100				
Silver	5.01		5.00	100	5.02		5.00	100				
Thallium	1.01		1.00	101	1.01		1.00	101				
Vanadium	5.13		5.00	103	5.03		5.00	101				
Zinc	10.4		10.0	104	11.0		10.0	110				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: MS 77 ICV_01343 Concentration Units: ug/L

CCV Source: ms 77 ccv_01344

Analyte	ICV 280-351276/10 11/11/2016 16:56				CCV 280-351276/36 11/11/2016 18:39				CCV 280-351276/40 11/11/2016 18:54			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Manganese	43.0		40.0	107	49.0		50.0	98	52.2		50.0	104
Antimony	37.2		40.0	93	51.5		50.0	103	50.4		50.0	101
Arsenic	41.3		40.0	103	50.2		50.0	100	50.6		50.0	101
Barium	41.3		40.0	103	50.8		50.0	102	52.8		50.0	106
Beryllium	42.8		40.0	107	51.5		50.0	103	52.4		50.0	105
Cadmium	42.0		40.0	105	49.8		50.0	100	49.9		50.0	100
Chromium	40.7		40.0	102	49.9		50.0	100	50.1		50.0	100
Cobalt	40.6		40.0	101	49.9		50.0	100	49.3		50.0	99
Copper	40.8		40.0	102	49.5		50.0	99	49.2		50.0	98
Lead	40.8		40.0	102	51.3		50.0	103	51.2		50.0	102
Nickel	41.1		40.0	103	49.5		50.0	99	48.9		50.0	98
Selenium	41.2		40.0	103	51.5		50.0	103	51.1		50.0	102
Silver	36.2		40.0	90	49.7		50.0	99	49.4		50.0	99
Thallium	40.1		40.0	100	50.6		50.0	101	50.5		50.0	101
Vanadium	39.6		40.0	99	47.6		50.0	95	50.3		50.0	101
Zn	40.3		40.0	101	48.5		50.0	97	51.8		50.0	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: ms 77 LLCCV_01145 Concentration Units: ug/L

CCV Source: ms 77 LLCCV_01145

Analyte	ICVL 280-351276/13 11/11/2016 17:07				CCVL 280-351276/38 11/11/2016 18:46				CCVL 280-351276/42 11/11/2016 19:01			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Manganese	0.865	J	1.00	87	1.30		1.00	130	0.945	J	1.00	95
Antimony	1.91	J	2.00	96	2.08		2.00	104	2.27		2.00	114
Arsenic	5.20		5.00	104	5.18		5.00	104	4.99	J	5.00	100
Barium	0.922	J	1.00	92	1.04		1.00	104	1.07		1.00	107
Beryllium	1.13		1.00	113	1.06		1.00	106	1.26		1.00	126
Cadmium	1.14		1.00	114	1.11		1.00	111	0.965	J	1.00	97
Chromium	2.10		2.00	105	2.06		2.00	103	1.89	J	2.00	94
Cobalt	1.02		1.00	102	0.990	J	1.00	99	1.06		1.00	106
Copper	1.88	J	2.00	94	1.84	J	2.00	92	1.98	J	2.00	99
Lead	1.03		1.00	103	1.09		1.00	109	1.05		1.00	105
Nickel	1.95	J	2.00	97	2.01		2.00	101	1.82	J	2.00	91
Selenium	5.04		5.00	101	5.21		5.00	104	5.17		5.00	103
Silver	5.09		5.00	102	5.29		5.00	106	4.85	J	5.00	97
Thallium	1.04		1.00	104	1.06		1.00	106	1.02		1.00	102
Vanadium	5.10		5.00	102	4.59	J	5.00	92	4.12	J	5.00	82
Zn	9.56	J	10.0	96	9.39	J	10.0	94	10.7		10.0	107

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: Hg Biwk ICV_00208 Concentration Units: ug/L

CCV Source: Hg Daily Spk_01788

Analyte	ICV 280-351009/9-A 11/11/2016 15:42				CCV 280-351009/12-A 11/11/2016 17:11				CCV 280-351009/12-A 11/11/2016 17:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.01		4.00	100	5.11		5.00	102	5.03		5.00	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICV Source: Hg Biwk ICV_00208 Concentration Units: ug/L

CCV Source: Hg Daily Spk_01788

Analyte	CCV 280-351009/12-A 11/11/2016 18:05											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.09		5.00	102								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Method: 6010C Instrument ID: MT_025

Lab Sample ID: CRI 280-351243/12 Concentration Units: ug/L

CRQL Check Standard Source: ICP CRI_00540

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	100	105	J	105	80-120
Calcium	200	211	J	106	80-120
Magnesium	200	212	J	106	80-120
Potassium	1000	1040	J	104	80-120
Sodium	1000	1170	J	117	80-120

Lab Sample ID: CRI 280-351243/13 Concentration Units: ug/L

CRQL Check Standard Source: ICPALTCRI_00007

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Iron	100	98.6	J	99	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Method: 6020A Instrument ID: MT_077

Lab Sample ID: CRI 280-351011/14 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 RL_01227

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	1.00	1.02	J	102	80-120
Arsenic	1.00	1.14	J	114	80-120
Beryllium	1.00	1.19		119	80-120
Cadmium	1.00	1.13		113	80-120
Chromium	1.00	1.01	J	101	80-120
Cobalt	1.00	1.03		103	80-120
Copper	1.00	0.853	J	85	80-120
Lead	1.00	1.06		106	80-120
Manganese	1.00	0.980	J	98	80-120
Nickel	1.00	1.07	J	107	80-120
Selenium	1.00	1.01	J	101	80-120
Silver	1.00	0.969	J	97	80-120
Thallium	1.00	1.02		102	80-120
Vanadium	1.00	0.840	J	84	80-120

Lab Sample ID: CRI 280-351011/15 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 alt RL_00039

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Barium	1.00	0.981	J	98	80-120
Zinc	10.0	11.7		117	80-120

Lab Sample ID: CRI 280-351276/15 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 RL_01228

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	1.00	1.10	J	110	80-120
Arsenic	1.00	1.19	J	119	80-120
Barium	1.00	0.992	J	99	80-120
Beryllium	1.00	0.934	J	93	80-120
Chromium	1.00	0.974	J	97	80-120
Cobalt	1.00	1.03		103	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Method: 6020A Instrument ID: MT_077

Lab Sample ID: CRI 280-351276/15 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 RL_01228

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Copper	1.00	1.00	J	100	80-120
Lead	1.00	0.976	J	98	80-120
Manganese	1.00	1.05		105	80-120
Selenium	1.00	0.996	J	100	80-120
Silver	1.00	0.971	J	97	80-120
Thallium	1.00	0.976	J	98	80-120
Vanadium	1.00	1.02	J	102	80-120

Lab Sample ID: CRI 280-351276/16 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 alt RL_00233

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Cadmium	1.00	1.08		108	80-120
Nickel	2.00	2.11		106	80-120
Zn	10.0	11.0		110	80-120

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-351243/11 11/13/2016 12:53		CCB 280-351243/66 11/13/2016 15:17		CCB 280-351243/79 11/13/2016 15:49		CCB 280-351243/92 11/13/2016 16:22	
		Found	C	Found	C	Found	C	Found	C
Aluminum	300	70	U	70	U	70	U	70	U
Calcium	1000	140	U	140	U	140	U	140	U
Iron	100	85	U	85	U	85	U	85	U
Magnesium	500	40	U	40	U	40	U	40	U
Potassium	3000	940	U	940	U	940	U	940	U
Sodium	5000	350	U	350	U	350	U	350	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-351243/104 11/13/2016 16:51							
		Found	C	Found	C	Found	C	Found	C
Aluminum	300	70	U						
Calcium	1000	140	U						
Iron	100	85	U						
Magnesium	500	40	U						
Potassium	3000	940	U						
Sodium	5000	350	U						

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-351011/10 11/10/2016 15:37		CCB 280-351011/101 11/10/2016 21:36		CCB 280-351011/113 11/10/2016 22:22		CCB 280-351011/126 11/10/2016 23:11	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	1.0	U	1.0	U	1.0	U	1.0	U
Arsenic	5.0	1.0	U	1.0	U	1.0	U	1.0	U
Barium	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Beryllium	1.0	0.30	U	0.30	U	0.30	U	0.0880	J
Cadmium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Chromium	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Cobalt	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Copper	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Lead	1.0	0.70	U	0.70	U	0.70	U	0.70	U
Manganese	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Nickel	2.0	1.0	U	1.0	U	1.0	U	1.0	U
Selenium	5.0	2.0	U	2.0	U	2.0	U	2.0	U
Silver	5.0	0.10	U	0.10	U	0.10	U	0.10	U
Thallium	1.0	0.20	U	0.20	U	0.0510	J	0.20	U
Vanadium	5.0	2.0	U	2.0	U	2.0	U	2.0	U
Zinc	10	8.0	U	8.0	U	8.0	U	8.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-351276/12 11/11/2016 17:04		CCB 280-351276/37 11/11/2016 18:42		CCB 280-351276/41 11/11/2016 18:58			
		Found	C	Found	C	Found	C	Found	C
Manganese	1.0	0.95	U	0.95	U	0.95	U		
Antimony	2.0	1.0	U	1.0	U	1.0	U		
Arsenic	5.0	1.0	U	1.0	U	1.0	U		
Barium	1.0	0.95	U	0.95	U	0.95	U		
Beryllium	1.0	0.30	U	0.30	U	0.30	U		
Cadmium	1.0	1.0	U	1.0	U	1.0	U		
Chromium	2.0	1.8	U	1.8	U	1.8	U		
Cobalt	1.0	0.20	U	0.20	U	0.20	U		
Copper	2.0	1.8	U	1.8	U	1.8	U		
Lead	1.0	0.70	U	0.70	U	0.70	U		
Nickel	2.0	1.0	U	0.409	J	0.384	J		
Selenium	5.0	2.0	U	2.0	U	2.0	U		
Silver	5.0	0.10	U	0.10	U	0.10	U		
Thallium	1.0	0.20	U	0.20	U	0.20	U		
Vanadium	5.0	2.0	U	2.0	U	2.0	U		
Zn	10	8.0	U	8.0	U	8.0	U		

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-351009/10-A 11/11/2016 15:44		CCB 280-351009/13-A 11/11/2016 17:13		CCB 280-351009/13-A 11/11/2016 17:40		CCB 280-351009/13-A 11/11/2016 18:07	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.080	U	0.080	U	0.080	U	0.080	U

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-350904/1-A

Instrument Code: MT_025 Batch No.: 351243

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	70	U		6010C_DOD5
7440-70-2	Calcium	140	U		6010C_DOD5
7439-89-6	Iron	85	U		6010C_DOD5
7439-95-4	Magnesium	40	U		6010C_DOD5
7440-09-7	Potassium	940	U		6010C_DOD5
7440-23-5	Sodium	350	U		6010C_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-349785/1-A

Instrument Code: MT_077 Batch No.: 351011

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	1.0	U		6020A_DOD5
7440-38-2	Arsenic	1.0	U		6020A_DOD5
7440-39-3	Barium	0.95	U		6020A_DOD5
7440-41-7	Beryllium	0.30	U		6020A_DOD5
7440-43-9	Cadmium	1.0	U		6020A_DOD5
7440-47-3	Chromium	1.12	J		6020A_DOD5
7440-48-4	Cobalt	0.20	U		6020A_DOD5
7440-50-8	Copper	1.8	U		6020A_DOD5
7439-92-1	Lead	0.70	U		6020A_DOD5
7439-96-5	Manganese	0.356	J	Q	6020A_DOD5
7440-02-0	Nickel	1.0	U		6020A_DOD5
7782-49-2	Selenium	2.0	U		6020A_DOD5
7440-22-4	Silver	0.10	U		6020A_DOD5
7440-28-0	Thallium	0.20	U		6020A_DOD5
7440-62-2	Vanadium	2.0	U		6020A_DOD5
7440-66-6	Zinc	8.0	U		6020A_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-350470/1-A

Instrument Code: MT_034 Batch No.: 351251

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.080	U		7470A_DOD5

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSA 280-351243/14 Instrument ID: MT_025

Lab File ID: 25A111316.asc ICS Source: ICP ICSA_00133

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500000**	**503830**	**101**
Calcium	**500000**	**459130**	**92**
Iron	**200000**	**185580**	**93**
Magnesium	**500000**	**493070**	**99**
Potassium		**29.5**	
Sodium		**150**	
Antimony		*-0.220*	
Arsenic		*-3.70*	
Barium		*-0.140*	
Beryllium		*-0.0200*	
Boron		*-2.12*	
Cadmium		*0.740*	
Chromium		*1.30*	
Cobalt		*-0.150*	
Copper		*1.30*	
Lead		*-3.81*	
Lithium		*1.60*	
Molybdenum		*-3.54*	
Nickel		*0.230*	
Phosphorus		*-1.86*	
Selenium		*-1.00*	
Silicon		*12.4*	
Silver		*-0.0500*	
SiO2		*26.5*	
Thallium		*-0.0300*	
Tin		*-0.830*	
Titanium		*0.720*	
Vanadium		*-0.940*	
Zinc		*1.54*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSAB 280-351243/15 Instrument ID: MT_025

Lab File ID: 25A111316.asc ICS Source: ICP ICSAB_00143

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**500000**	**506160**	**101**
Calcium	**500000**	**461220**	**92**
Iron	**200000**	**185870**	**93**
Magnesium	**500000**	**486320**	**97**
Potassium	**50000**	**52900**	**106**
Sodium	**50000**	**51307**	**103**
Antimony	*1000*	*996*	*100*
Arsenic	*2000*	*2041*	*102*
Barium	*500*	*501*	*100*
Beryllium	*500*	*487*	*97*
Boron	*2000*	*1938*	*97*
Cadmium	*1000*	*1041*	*104*
Chromium	*500*	*485*	*97*
Cobalt	*500*	*465*	*93*
Copper	*500*	*518*	*104*
Lead	*1000*	*945*	*95*
Lithium	*1000*	*1024*	*102*
Manganese	*500*	*490*	*98*
Molybdenum	*1000*	*906*	*91*
Nickel	*1000*	*929*	*93*
Phosphorus	*2000*	*1983*	*99*
Selenium	*5000*	*4982*	*100*
Silicon	*10000*	*10087*	*101*
Silver	*1000*	*1085*	*109*
SiO2	*21400*	*21586*	*101*
Strontium	*1000*	*980*	*98*
Thallium	*10000*	*8585*	*86*
Tin	*10000*	*9055*	*91*
Titanium	*1000*	*987*	*99*
Vanadium	*500*	*493*	*99*
Zinc	*1000*	*966*	*97*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSA 280-351011/17 Instrument ID: MT_077

Lab File ID: 017ICSA_Li111016.D ICS Source: ms 77 icsa_00247

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**-0.0050**	
Arsenic		**0.0790**	
Barium		**0.0880**	
Beryllium		**0.0000**	
Cadmium		**0.169**	
Chromium		**1.41**	
Cobalt		**0.0020**	
Copper		**0.429**	
Lead		**0.206**	
Manganese		**1.42**	
Nickel		**0.105**	
Selenium		**0.0150**	
Silver		**0.0110**	
Thallium		**0.0070**	
Vanadium		**-0.0560**	
Zinc		**0.517**	
Molybdenum	*2000*	*2035*	*102*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSAB 280-351011/18 Instrument ID: MT_077

Lab File ID: 018ICSB_Li111016.D ICS Source: ms 77 icsab_00250

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**105**	**105**
Arsenic	**100**	**105**	**105**
Barium	**100**	**103**	**103**
Beryllium	**100**	**108**	**108**
Cadmium	**100**	**102**	**102**
Chromium	**100**	**104**	**104**
Cobalt	**100**	**102**	**102**
Copper	**100**	**99.1**	**99**
Lead	**100**	**97.9**	**98**
Manganese	**100**	**109**	**109**
Nickel	**100**	**100.0**	**100**
Selenium	**100**	**101**	**101**
Silver	**100**	**99.0**	**99**
Thallium	**100**	**97.7**	**98**
Vanadium	**100**	**107**	**107**
Zinc	**100**	**103**	**103**
Molybdenum	*2100*	*2194*	*104*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSA 280-351011/128 Instrument ID: MT_077

Lab File ID: 128ICSA_Li111016.D ICS Source: ms 77 icsa_00247

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.0550**	
Arsenic		**0.0710**	
Barium		**0.0880**	
Beryllium		**0.0380**	
Cadmium		**0.122**	
Chromium		**1.39**	
Cobalt		**0.0070**	
Copper		**0.491**	
Lead		**0.190**	
Manganese		**1.52**	
Nickel		**0.118**	
Selenium		**0.0720**	
Silver		**0.0330**	
Thallium		**0.0180**	
Vanadium		**-0.190**	
Zinc		**0.458**	
Molybdenum	*2000*	*2014*	*101*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSAB 280-351011/129 Instrument ID: MT_077

Lab File ID: 129ICSB_Li111016.D ICS Source: ms 77 icsab_00250

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**98.8**	**99**
Arsenic	**100**	**102**	**102**
Barium	**100**	**97.3**	**97**
Beryllium	**100**	**107**	**107**
Cadmium	**100**	**96.4**	**96**
Chromium	**100**	**102**	**102**
Cobalt	**100**	**99.2**	**99**
Copper	**100**	**96.9**	**97**
Lead	**100**	**92.8**	**93**
Manganese	**100**	**101**	**101**
Nickel	**100**	**97.9**	**98**
Selenium	**100**	**99.4**	**99**
Silver	**100**	**93.1**	**93**
Thallium	**100**	**92.7**	**93**
Vanadium	**100**	**104**	**104**
Zinc	**100**	**99.3**	**99**
Molybdenum	*2100*	*2126*	*101*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSA 280-351276/18 Instrument ID: MT_077

Lab File ID: 021ICSA.d ICS Source: ms 77 icsa_00247

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Manganese		**1.20**	
Antimony		*0.0740*	
Arsenic		*0.0350*	
Barium		*0.0280*	
Beryllium		*0.0410*	
Cadmium		*0.140*	
Chromium		*1.29*	
Cobalt		*0.0130*	
Copper		*0.556*	
Lead		*0.190*	
Molybdenum	*2000*	*2065*	*103*
Nickel		*0.113*	
Selenium		*0.0070*	
Silver		*0.0170*	
Thallium		*0.0070*	
Vanadium		*0.181*	
Zn		*-0.669*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Lab Sample ID: ICSAB 280-351276/19 Instrument ID: MT_077

Lab File ID: 022ICSB.d ICS Source: ms 77 icsab_00250

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Manganese	**100**	**101**	**101**
Antimony	*100*	*106*	*106*
Arsenic	*100*	*104*	*104*
Barium	*100*	*102*	*102*
Beryllium	*100*	*107*	*107*
Cadmium	*100*	*102*	*102*
Chromium	*100*	*102*	*102*
Cobalt	*100*	*99.9*	*100*
Copper	*100*	*98.9*	*99*
Lead	*100*	*97.5*	*98*
Molybdenum	*2100*	*2175*	*104*
Nickel	*100*	*96.9*	*97*
Selenium	*100*	*103*	*103*
Silver	*100*	*98.5*	*98*
Thallium	*100*	*96.8*	*97*
Vanadium	*100*	*101*	*101*
Zn	*100*	*98.7*	*99*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-350904/2-A

Lab Name: TestAmerica Denver Job No.: 280-90409-1

Sample Matrix: Water LCS Source: ICP SPK 3A_00123

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	2000	1860		93	86	115		6010C
Calcium	50000	51900		104	87	113		6010C
Iron	1000	997		100	87	115		6010C
Magnesium	50000	48600		97	85	113		6010C
Potassium	50000	51300		103	86	114		6010C
Sodium	50000	50500		101	87	115		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-349785/2-A

Lab Name: TestAmerica Denver Job No.: 280-90409-1

Sample Matrix: Water LCS Source: MS spike 2_00048

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Antimony	40.0	37.5		94	85	117		6020A
Arsenic	40.0	41.1		103	84	116		6020A
Barium	40.0	38.7		97	86	114		6020A
Beryllium	40.0	40.3		101	83	121		6020A
Cadmium	40.0	38.7		97	87	115		6020A
Chromium	40.0	41.6		104	85	116		6020A
Cobalt	40.0	40.7		102	86	115		6020A
Copper	40.0	39.4		99	85	118		6020A
Lead	40.0	40.1		100	88	115		6020A
Manganese	40.0	40.2		101	87	115	Q	6020A
Nickel	40.0	41.2		103	85	117		6020A
Selenium	40.0	38.6		97	80	120		6020A
Silver	40.0	39.9		100	85	116		6020A
Thallium	40.0	39.5		99	82	116		6020A
Vanadium	40.0	40.1		100	86	115		6020A
Zinc	40.0	41.5		104	83	119		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-350470/2-A

Lab Name: TestAmerica Denver Job No.: 280-90409-1

Sample Matrix: Water LCS Source: Hg Daily Spk_01788

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	5.36		107	82	119		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_025

Method: 6010C DL Date: 02/16/2014 00:00

Prep Method: 3010A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum	167	300	18
Calcium	317.9	1000	34.5
Iron	259.9	100	22
Magnesium	279	500	10.7
Potassium	766.4	3000	237
Sodium	589.5	5000	91.6

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_025

Method: 6010C XMDL Date: 03/13/2014 10:04

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum		300	18
Calcium		1000	34.5
Iron		100	22
Magnesium		500	10.7
Potassium		3000	237
Sodium		5000	91.6

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A DL Date: 11/27/2014 00:00

Prep Method: 3020A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Antimony	121	6	0.4
Arsenic	75	5	0.33
Barium	137	3	0.29
Beryllium	9	1	0.08
Cadmium	111	1	0.265
Chromium	52	10	0.5
Cobalt	59	1	0.054
Copper	63	2	0.56
Lead	208	3	0.18
Manganese	55	3.5	0.31
Nickel	60	3	0.3
Selenium	78	5	0.7
Silver	107	5	0.033
Thallium	205	1	0.05
Vanadium	51	6	0.5
Zinc	66	20	2

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A XMDL Date: 11/27/2014 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony		2	0.4
Arsenic		5	0.33
Barium		1	0.29
Beryllium		1	0.08
Cadmium		1	0.265
Chromium		2	0.5
Cobalt		1	0.054
Copper		2	0.56
Lead		1	0.18
Manganese		1	0.31
Nickel		2	0.3
Selenium		5	0.7
Silver		5	0.033
Thallium		1	0.05
Vanadium		5	0.5
Zinc		10	2

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_034

Method: 7470A DL Date: 08/09/2015 00:00

Prep Method: 7470A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Mercury	253.7	0.2	0.027

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: MT_034

Method: 7470A XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.027

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Aluminum	167.079													0.000343	
Aluminum	309.271														
Antimony	206.833		-0.000006						-0.000010			0.009006		0.000024	
Arsenic	189.042		-0.000009						0.000005					-0.000020	
Barium	455.403														
Beryllium	313.042														
Bismuth	223.061		-0.000012			-0.000360			-0.000016			0.001346		0.000174	
Boron	208.959														
Cadmium	228.802			0.004327		-0.000082					0.000036				
Calcium	317.933										-0.000132				
Chromium	205.552						-0.001699							0.000010	
Cobalt	228.616					0.000052						0.000001			
Copper	324.754													0.000010	
Iron	259.940										0.070287				
Iron	271.441										0.076500				
Lead	220.353		-0.000065					-0.000040	-0.000011		0		0.000658	-0.000005	
Lithium	670.784								0.000009						
Magnesium	279.079													0.000149	
Manganese	257.610		0.000001											0.000009	
Molybdenum	202.030														
Nickel	231.604						-0.000094		-0.000007		-0.000384			0.000021	
Phosphorus	178.284		0.000002												
Potassium	766.490														
Selenium	196.090		0.000014						-0.000005					0.000005	
Silicon	288.158														
Silver	328.068														
Sodium	589.592														
Sodium	818.326														
Strontium	407.771								0.000067						
Sulfur	182.034		-0.000003						0.000037						

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Thallium	190.856		-0.000001						0.000002		0.001114	0.000274		-0.000033	
Thorium	283.730									0.000025		0.000144		0.000720	
Tin	189.989														
Titanium	334.904								0.000005			0.000255			
Uranium	370.152				0.001475				-0.000168			-0.003937		-0.003838	
Vanadium	292.402											-0.002416		0.000006	
Zinc	206.200		0.000002					-0.000075				-0.000468		0.000007	
Zirconium	339.198													-0.000029	

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	SiO2	Sn	Sr
Aluminum	309.271		0.001655												
Aluminum	167.079														
Antimony	206.833				-0.021002		-0.000498					0.000031	0.000031	0.000093	
Arsenic	189.042				0.000879							-0.000100			
Barium	455.403														
Beryllium	313.042														
Bismuth	223.061													-0.001095	
Boron	208.959				0.036727										
Cadmium	228.802														
Calcium	317.933														
Chromium	205.552				0.000377		0.000035					0.000000	0.000000		
Cobalt	228.616			-0.000001	-0.001642		0.000125								
Copper	324.754				0.000377										
Iron	259.940		-0.000894												
Iron	271.441		0.000330												
Lead	220.353				-0.000474		0.000027					0.000246	0.000246		
Lithium	670.784		0.000001												
Magnesium	279.079			-0.004762											
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604				0.000080										
Phosphorus	178.284				-0.001297										
Potassium	766.490														
Selenium	196.090			0.000474											
Silicon	288.158				-0.001696										
Silver	328.068			0.000114	-0.000029										
Sodium	818.326														
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034			0.000590	-0.007495										

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	Pb	S	Sb	Se	Si	SiO2	Sn	Sr
Thallium	190.856			0.000104											
Thorium	283.730		-0.000031		0.001202		0.000116								
Tin	189.989														
Titanium	334.904		0.000001		0.000220										
Uranium	370.152														
Vanadium	292.402		-0.000023	-0.000132	-0.016697										
Zinc	206.200				0.000123										
Zirconium	339.198				0.000270										

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Aluminum	167.079														
Aluminum	309.271														
Antimony	206.833		-0.000119		-0.001924	0.000070		-0.000720							
Arsenic	189.042														
Barium	455.403							0.000631							
Beryllium	313.042		0			0.000043									
Bismuth	223.061		-		-0.003000										
Boron	208.959														
Cadmium	228.802				-0.000172										
Calcium	317.933	0.000027													
Chromium	205.552	0.002490	0		-0.000210	0.000270		-0.000710							
Cobalt	228.616		0.002396		0.000180										
Copper	324.754	0.003648	-0.000200		-0.000990	-0.000078		-0.003223							
Iron	259.940					-0.209500									
Iron	271.441					-0.209000	-0.033000	-0.033							
Lead	220.353		-0.000058		0.001102			-0.000169							
Lithium	670.784														
Magnesium	279.079	-0.016400	0.000196		-0.006018										
Manganese	257.610	-0.000636			0.000099										
Molybdenum	202.030				-0.000094										
Nickel	231.604														
Phosphorus	178.284				0.000030										
Potassium	766.490														
Selenium	196.090	-0.000057		-0.000481	-0.000758										
Silicon	288.158														
Silver	328.068	0.000214			0.0010386			0.003966							
Sodium	589.592														
Sodium	818.326														
Strontium	407.771														
Sulfur	182.034	0.000409				-0.001026									

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

ICP-AES Instrument ID: MT_025 Date: 06/13/2016

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Thallium	190.856	-0.000005	0		0.000038	0.000659									
Thorium	283.730				0.026785			0.003118							
Tin	189.989	-0.000081	-0.000188		0.000171										
Titanium	334.904	0.006776			-0.000731										
Uranium	370.152		0.007353												
Vanadium	292.402	0.001165	0.000643		-0.001180										
Zinc	206.200		0												
Zirconium	339.198	0.044492			-0.000206										

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-90409-1

SDG No.:

Instrument ID: MT_025 Date: 10/03/2016 09:51

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Aluminum		900	6010C
Calcium		900	6010C
Iron		1800	6010C
Magnesium		1350	6010C
Potassium		450	6010C
Sodium		9000	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-90409-1

SDG No.:

Instrument ID: MT_077 Date: 10/03/2016 09:54

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony		3600	6020A
Arsenic		3600	6020A
Barium		4500	6020A
Beryllium		3600	6020A
Cadmium		3600	6020A
Chromium		4500	6020A
Cobalt		3600	6020A
Copper		4500	6020A
Lead		4500	6020A
Manganese		18000	6020A
Nickel		4500	6020A
Selenium		3600	6020A
Silver		270	6020A
Thallium		3600	6020A
Vanadium		3600	6020A
Zinc		4500	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-350904/1-A	11/11/2016 14:45	350904		50	50
LCS 280-350904/2-A	11/11/2016 14:45	350904		50	50
280-90409-1	11/11/2016 14:45	350904		50	50
280-90409-2	11/11/2016 14:45	350904		50	50
280-90409-3	11/11/2016 14:45	350904		50	50
280-90409-4	11/11/2016 14:45	350904		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-349785/1-A	11/03/2016 21:53	349785		50	50
LCS 280-349785/2-A	11/03/2016 21:53	349785		50	50
280-90409-1	11/03/2016 21:53	349785		50	50
280-90409-2	11/03/2016 21:53	349785		50	50
280-90409-3	11/03/2016 21:53	349785		50	50
280-90409-4	11/03/2016 21:53	349785		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-350470/1-A	11/11/2016 12:30	350470		30	50
LCS 280-350470/2-A	11/11/2016 12:30	350470		30	50
280-90409-1	11/11/2016 12:30	350470		30	50
280-90409-2	11/11/2016 12:30	350470		30	50
280-90409-3	11/11/2016 12:30	350470		30	50
280-90409-4	11/11/2016 12:30	350470		30	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 11/13/2016 12:28 End Date: 11/13/2016 16:54

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na																			
ICIS 280-351243/1	1		12:28	X	X	X	X	X	X																			
IC 280-351243/2			12:31	X	X	X	X	X	X																			
IC 280-351243/3			12:33	X	X	X	X	X	X																			
ZZZZZZ			12:36																									
ZZZZZZ			12:38																									
ICVH 280-351243/6	1		12:41	X	X	X	X	X	X																			
ICV 280-351243/7	1		12:43	X	X	X	X	X	X																			
ICVL 280-351243/8	1		12:46	X	X	X	X	X	X																			
CCVH 280-351243/9			12:48																									
CCV 280-351243/10			12:51																									
ICB 280-351243/11	1		12:53	X	X	X	X	X	X																			
CRI 280-351243/12	1		12:56	X	X		X	X	X																			
CRI 280-351243/13	1		13:02			X																						
ICSA 280-351243/14	1		13:06	X	X	X	X	X	X																			
ICSAB 280-351243/15	1		13:09	X	X	X	X	X	X																			
LRA 280-351243/16			13:12																									
CCVH 280-351243/17			13:14																									
CCV 280-351243/18			13:17																									
CCB 280-351243/19			13:19																									
CCVL 280-351243/20			13:22																									
ZZZZZZ			13:24																									
ZZZZZZ			13:27																									
ZZZZZZ			13:29																									
ZZZZZZ			13:32																									
ZZZZZZ			13:34																									
ZZZZZZ			13:37																									
CCVH 280-351243/27			13:39																									
CCV 280-351243/28			13:42																									
CCB 280-351243/29			13:44																									
CCVL 280-351243/30			13:47																									
ZZZZZZ			13:49																									
ZZZZZZ			13:52																									
ZZZZZZ			13:54																									
ZZZZZZ			13:57																									
ZZZZZZ			13:59																									
ZZZZZZ			14:02																									
ZZZZZZ			14:04																									
ZZZZZZ			14:07																									
ZZZZZZ			14:09																									
CCVH 280-351243/40			14:12																									
CCV 280-351243/41			14:14																									
CCB 280-351243/42			14:17																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 11/13/2016 12:28 End Date: 11/13/2016 16:54

Lab Sample Id	D/F	Type	Time	Analytes																									
				Al	Ca	Fe	K	Mg	Na																				
CCVL 280-351243/43			14:19																										
ZZZZZZ			14:22																										
ZZZZZZ			14:24																										
ZZZZZZ			14:27																										
ZZZZZZ			14:29																										
ZZZZZZ			14:32																										
ZZZZZZ			14:34																										
ZZZZZZ			14:36																										
ZZZZZZ			14:39																										
CCVH 280-351243/52			14:41																										
CCV 280-351243/53			14:44																										
CCB 280-351243/54			14:46																										
CCVL 280-351243/55			14:49																										
ZZZZZZ			14:51																										
ZZZZZZ			14:54																										
ZZZZZZ			14:57																										
ZZZZZZ			14:59																										
ZZZZZZ			15:02																										
ZZZZZZ			15:04																										
ZZZZZZ			15:07																										
ZZZZZZ			15:09																										
CCVH 280-351243/64	1		15:12	X	X	X	X	X	X																				
CCV 280-351243/65	1		15:14	X	X	X	X	X	X																				
CCB 280-351243/66	1		15:17	X	X	X	X	X	X																				
CCVL 280-351243/67	1		15:19	X	X	X	X	X	X																				
MB 280-350904/1-A	1	T	15:22	X	X	X	X	X	X																				
LCS 280-350904/2-A	1	T	15:24	X	X	X	X	X	X																				
ZZZZZZ			15:27																										
ZZZZZZ			15:29																										
ZZZZZZ			15:32																										
ZZZZZZ			15:34																										
ZZZZZZ			15:37																										
ZZZZZZ			15:39																										
ZZZZZZ			15:42																										
CCVH 280-351243/77	1		15:44	X	X	X	X	X	X																				
CCV 280-351243/78	1		15:47	X	X	X	X	X	X																				
CCB 280-351243/79	1		15:49	X	X	X	X	X	X																				
CCVL 280-351243/80	1		15:52	X	X	X	X	X	X																				
ZZZZZZ			15:54																										
ZZZZZZ			15:57																										
ZZZZZZ			15:59																										
ZZZZZZ			16:02																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_025 Analysis Method: 6010C

Start Date: 11/13/2016 12:28 End Date: 11/13/2016 16:54

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na																			
280-90409-1	1	T	16:04	X	X	X	X	X	X																			
280-90409-2	1	T	16:07	X	X	X	X	X	X																			
280-90409-3	1	T	16:09	X	X	X	X	X	X																			
280-90409-4	1	T	16:12	X	X	X	X	X	X																			
ZZZZZZ			16:14																									
CCVH 280-351243/90	1		16:17	X	X	X	X	X	X																			
CCV 280-351243/91	1		16:19	X	X	X	X	X	X																			
CCB 280-351243/92	1		16:22	X	X	X	X	X	X																			
CCVL 280-351243/93	1		16:24	X	X	X	X	X	X																			
ZZZZZZ			16:27																									
ZZZZZZ			16:30																									
ZZZZZZ			16:32																									
ZZZZZZ			16:35																									
ZZZZZZ			16:37																									
ZZZZZZ			16:39																									
ZZZZZZ			16:42																									
ZZZZZZ			16:44																									
CCVH 280-351243/102	1		16:47	X	X	X	X	X	X																			
CCV 280-351243/103	1		16:49	X	X	X	X	X	X																			
CCB 280-351243/104	1		16:51	X	X	X	X	X	X																			
CCVL 280-351243/105	1		16:54	X	X	X	X	X	X																			

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/10/2016 15:02 End Date: 11/10/2016 23:34

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
RINSE 280-351011/1			15:02																								
RINSE 280-351011/2			15:06																								
RINSE 280-351011/3			15:10																								
RINSE 280-351011/4			15:13																								
RINSE 280-351011/5			15:18																								
RINSE 280-351011/6			15:22																								
ICIS 280-351011/7			15:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
IC 280-351011/8	1		15:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICV 280-351011/9	1		15:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICB 280-351011/10	1		15:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			15:43																								
ICVL 280-351011/12	1		15:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICVL 280-351011/13	1		15:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CRI 280-351011/14	1		16:02	X	X		X	X	X	X	X	X	X	X	X	X	X	X									
CRI 280-351011/15	1		16:09			X													X								
ZZZZZZ			16:14																								
ICSA 280-351011/17	1		16:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 280-351011/18	1		16:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
RINSE 280-351011/19			16:25																								
LRA 280-351011/20			16:29																								
RINSE 280-351011/21			16:33																								
CCV 280-351011/22			16:37																								
CCB 280-351011/23			16:41																								
ZZZZZZ			16:44																								
ZZZZZZ			16:48																								
ZZZZZZ			16:52																								
ZZZZZZ			16:56																								
ZZZZZZ			16:59																								
ZZZZZZ			17:03																								
ZZZZZZ			17:07																								
ZZZZZZ			17:11																								
ZZZZZZ			17:15																								
CCV 280-351011/33			17:18																								
CCB 280-351011/34			17:22																								
ZZZZZZ			17:26																								
ZZZZZZ			17:30																								
ZZZZZZ			17:34																								
ZZZZZZ			17:37																								
ZZZZZZ			17:41																								
CCV 280-351011/40			17:45																								
CCB 280-351011/41			17:49																								
ZZZZZZ			17:53																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/10/2016 15:02 End Date: 11/10/2016 23:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
ZZZZZZ			17:56																									
ZZZZZZ			18:00																									
ZZZZZZ			18:04																									
ZZZZZZ			18:08																									
ZZZZZZ			18:12																									
ZZZZZZ			18:15																									
ZZZZZZ			18:19																									
CCV 280-351011/50			18:23																									
CCB 280-351011/51			18:27																									
CCVL 280-351011/52			18:31																									
ZZZZZZ			18:34																									
ZZZZZZ			18:38																									
ZZZZZZ			18:42																									
ZZZZZZ			18:46																									
ZZZZZZ			18:50																									
ZZZZZZ			18:53																									
ZZZZZZ			18:57																									
ZZZZZZ			19:01																									
CCV 280-351011/61			19:05																									
CCB 280-351011/62			19:08																									
CCVL 280-351011/63			19:12																									
ZZZZZZ			19:16																									
ZZZZZZ			19:20																									
ZZZZZZ			19:24																									
ZZZZZZ			19:27																									
ZZZZZZ			19:31																									
ZZZZZZ			19:35																									
ZZZZZZ			19:39																									
ZZZZZZ			19:42																									
ZZZZZZ			19:46																									
ZZZZZZ			19:50																									
CCV 280-351011/74			19:54																									
CCB 280-351011/75			19:58																									
CCVL 280-351011/76			20:01																									
ZZZZZZ			20:05																									
ZZZZZZ			20:09																									
ZZZZZZ			20:13																									
ZZZZZZ			20:16																									
ZZZZZZ			20:20																									
ZZZZZZ			20:24																									
ZZZZZZ			20:28																									
ZZZZZZ			20:32																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/10/2016 15:02 End Date: 11/10/2016 23:34

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
ZZZZZZ			20:35																								
ZZZZZZ			20:39																								
CCV 280-351011/87			20:43																								
CCB 280-351011/88			20:47																								
CCVL 280-351011/89			20:51																								
ZZZZZZ			20:54																								
ZZZZZZ			20:58																								
ZZZZZZ			21:02																								
ZZZZZZ			21:06																								
ZZZZZZ			21:10																								
ZZZZZZ			21:13																								
ZZZZZZ			21:17																								
ZZZZZZ			21:21																								
ZZZZZZ			21:25																								
ZZZZZZ			21:29																								
CCV 280-351011/100	1		21:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 280-351011/101	1		21:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCVL 280-351011/102	1		21:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
MB 280-349785/1-A	1	T	21:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
LCS 280-349785/2-A	1	T	21:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			21:51																								
ZZZZZZ			21:55																								
ZZZZZZ			21:59																								
ZZZZZZ			22:03																								
ZZZZZZ			22:06																								
ZZZZZZ			22:10																								
ZZZZZZ			22:14																								
CCV 280-351011/112	1		22:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 280-351011/113	1		22:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCVL 280-351011/114	1		22:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-90409-1	1	T	22:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-90409-2	1	T	22:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-90409-3	1	T	22:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-90409-4	1	T	22:41	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X								
ZZZZZZ			22:44																								
ZZZZZZ			22:48																								
ZZZZZZ			22:52																								
ZZZZZZ			22:56																								
ZZZZZZ			23:00																								
ZZZZZZ			23:03																								
CCV 280-351011/125	1		23:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 280-351011/126	1		23:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/10/2016 15:02 End Date: 11/10/2016 23:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
CCVL 280-351011/127	1		23:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ICSA 280-351011/128	1		23:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ICSAB 280-351011/129	1		23:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
RINSE 280-351011/130			23:26																									
CCV 280-351011/131			23:30																									
CCB 280-351011/132			23:34																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/11/2016 16:05 End Date: 11/12/2016 02:54

Lab Sample Id	D/F	Type	Time	Analytes
				Mn
RINSE 280-351276/1			16:05	
RINSE 280-351276/2			16:09	
RINSE 280-351276/3			16:13	
RINSE 280-351276/4			16:17	
RINSE 280-351276/5			16:20	
RINSE 280-351276/6			16:24	
RINSE 280-351276/7			16:45	
ICIS 280-351276/8			16:48	X
IC 280-351276/9	1		16:52	X
ICV 280-351276/10	1		16:56	X
ICB 280-351276/11			17:00	
ICB 280-351276/12	1		17:04	X
ICVL 280-351276/13	1		17:07	X
ZZZZZZ			17:11	
CRI 280-351276/15	1		17:17	X
CRI 280-351276/16	1		17:22	
ZZZZZZ			17:26	
ICSA 280-351276/18	1		17:30	X
ICSAB 280-351276/19	1		17:34	X
RINSE 280-351276/20			17:38	
LRA 280-351276/21			17:41	
RINSE 280-351276/22			17:45	
CCV 280-351276/23			17:49	
CCB 280-351276/24			17:53	
CCVL 280-351276/25			17:57	
ZZZZZZ			18:01	
ZZZZZZ			18:04	
ZZZZZZ			18:08	
ZZZZZZ			18:12	
ZZZZZZ			18:16	
ZZZZZZ			18:20	
ZZZZZZ			18:23	
ZZZZZZ			18:27	
ZZZZZZ			18:31	
ZZZZZZ			18:35	
CCV 280-351276/36	1		18:39	X
CCB 280-351276/37	1		18:42	X
CCVL 280-351276/38	1		18:46	X
280-90409-4	1	T	18:50	X
CCV 280-351276/40	1		18:54	X
CCB 280-351276/41	1		18:58	X
CCVL 280-351276/42	1		19:01	X

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/11/2016 16:05 End Date: 11/12/2016 02:54

Lab Sample Id	D/F	Type	Time	Analytes
				Mn
ZZZZZZ			19:05	
ZZZZZZ			19:09	
ZZZZZZ			19:13	
ZZZZZZ			19:17	
ZZZZZZ			19:20	
ZZZZZZ			19:24	
ZZZZZZ			19:28	
ZZZZZZ			19:32	
ZZZZZZ			19:35	
CCV 280-351276/52			19:39	
CCB 280-351276/53			19:43	
CCVL 280-351276/54			19:47	
ZZZZZZ			19:51	
ZZZZZZ			19:54	
ZZZZZZ			19:58	
ZZZZZZ			20:02	
ZZZZZZ			20:08	
ZZZZZZ			20:12	
ZZZZZZ			20:16	
ZZZZZZ			20:19	
ZZZZZZ			20:23	
CCV 280-351276/64			20:27	
CCB 280-351276/65			20:31	
CCVL 280-351276/66			20:34	
ZZZZZZ			20:38	
ZZZZZZ			20:42	
ZZZZZZ			20:46	
ZZZZZZ			20:50	
ZZZZZZ			20:53	
ZZZZZZ			20:57	
ZZZZZZ			21:01	
ZZZZZZ			21:05	
ZZZZZZ			21:08	
CCV 280-351276/76			21:12	
CCB 280-351276/77			21:16	
CCVL 280-351276/78			21:20	
ZZZZZZ			21:24	
ZZZZZZ			21:27	
ZZZZZZ			21:31	
ZZZZZZ			21:35	
ZZZZZZ			21:39	
ZZZZZZ			21:43	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/11/2016 16:05 End Date: 11/12/2016 02:54

Lab Sample Id	D/F	Type	Time	Analytes
				Mn
ZZZZZZ			21:46	
ZZZZZZ			21:50	
ZZZZZZ			21:54	
CCV 280-351276/88			21:58	
CCB 280-351276/89			22:02	
CCVL 280-351276/90			22:05	
ZZZZZZ			22:09	
ZZZZZZ			22:13	
ZZZZZZ			22:17	
ZZZZZZ			22:21	
ZZZZZZ			22:24	
ZZZZZZ			22:28	
ZZZZZZ			22:32	
CCV 280-351276/98			22:36	
CCB 280-351276/99			22:39	
CCVL 280-351276/100			22:43	
ZZZZZZ			22:47	
ZZZZZZ			22:51	
ZZZZZZ			22:55	
ZZZZZZ			22:58	
ZZZZZZ			23:02	
ZZZZZZ			23:06	
ZZZZZZ			23:10	
CCV 280-351276/108			23:13	
CCB 280-351276/109			23:17	
CCVL 280-351276/110			23:21	
ZZZZZZ			23:25	
ZZZZZZ			23:29	
ZZZZZZ			23:32	
ZZZZZZ			23:36	
ZZZZZZ			23:40	
ZZZZZZ			23:44	
CCV 280-351276/117			23:48	
CCB 280-351276/118			23:51	
ZZZZZZ			23:55	
ZZZZZZ			23:59	
ZZZZZZ			00:03	
ZZZZZZ			00:07	
ZZZZZZ			00:10	
CCV 280-351276/124			00:14	
CCB 280-351276/125			00:18	
ZZZZZZ			00:22	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/11/2016 16:05 End Date: 11/12/2016 02:54

Lab Sample Id	D/F	Type	Time	Analytes
				Mn
ZZZZZZ			00:26	
ZZZZZZ			00:29	
ZZZZZZ			00:33	
ZZZZZZ			00:37	
ZZZZZZ			00:41	
ZZZZZZ			00:44	
ZZZZZZ			00:48	
CCV 280-351276/134			00:52	
CCB 280-351276/135			00:56	
ZZZZZZ			01:00	
ZZZZZZ			01:03	
ZZZZZZ			01:07	
ZZZZZZ			01:11	
ZZZZZZ			01:15	
ZZZZZZ			01:19	
ZZZZZZ			01:23	
ZZZZZZ			01:26	
ZZZZZZ			01:30	
CCV 280-351276/145			01:34	
CCB 280-351276/146			01:38	
ZZZZZZ			01:42	
ZZZZZZ			01:45	
ZZZZZZ			01:49	
ZZZZZZ			01:53	
ZZZZZZ			01:57	
ZZZZZZ			02:01	
ZZZZZZ			02:05	
ZZZZZZ			02:08	
CCV 280-351276/155			02:12	
CCB 280-351276/156			02:16	
ZZZZZZ			02:20	
ZZZZZZ			02:23	
ZZZZZZ			02:27	
ZZZZZZ			02:31	
ZZZZZZ			02:35	
ZZZZZZ			02:39	
ZZZZZZ			02:42	
ZZZZZZ			02:46	
CCV 280-351276/165			02:50	
CCB 280-351276/166			02:54	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/11/2016 16:05 End Date: 11/12/2016 02:54

Lab Sample Id	D/F	Type	Time	Analytes																								
				Mn																								

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_034 Analysis Method: 7470A

Start Date: 11/11/2016 15:24 End Date: 11/11/2016 22:24

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
IC 280-351009/1-A			15:24	X
IC 280-351009/2-A			15:26	X
IC 280-351009/3-A			15:28	X
IC 280-351009/4-A			15:30	X
IC 280-351009/5-A			15:33	X
IC 280-351009/6-A			15:35	X
IC 280-351009/7-A			15:37	X
IC 280-351009/8-A			15:40	X
ICV 280-351009/9-A	1		15:42	X
ICB 280-351009/10-A	1		15:44	X
CRA 280-351009/11-A			15:46	
ZZZZZZ			15:49	
CCV 280-351009/12-A			15:51	
CCB 280-351009/13-A			15:53	
ZZZZZZ			15:55	
ZZZZZZ			15:57	
ZZZZZZ			16:00	
ZZZZZZ			16:02	
ZZZZZZ			16:04	
ZZZZZZ			16:06	
ZZZZZZ			16:09	
ZZZZZZ			16:11	
ZZZZZZ			16:13	
ZZZZZZ			16:15	
CCV 280-351009/12-A			16:18	
CCB 280-351009/13-A			16:20	
ZZZZZZ			16:22	
ZZZZZZ			16:24	
ZZZZZZ			16:27	
ZZZZZZ			16:29	
ZZZZZZ			16:31	
ZZZZZZ			16:33	
ZZZZZZ			16:35	
ZZZZZZ			16:38	
ZZZZZZ			16:40	
ZZZZZZ			16:42	
CCV 280-351009/12-A			16:44	
CCB 280-351009/13-A			16:47	
ZZZZZZ			16:49	
ZZZZZZ			16:51	
ZZZZZZ			16:53	
ZZZZZZ			16:56	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_034 Analysis Method: 7470A

Start Date: 11/11/2016 15:24 End Date: 11/11/2016 22:24

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			16:58	
ZZZZZZ			17:00	
ZZZZZZ			17:02	
ZZZZZZ			17:04	
ZZZZZZ			17:07	
ZZZZZZ			17:09	
CCV 280-351009/12-A	1		17:11	X
CCB 280-351009/13-A	1		17:13	X
ZZZZZZ			17:16	
ZZZZZZ			17:18	
ZZZZZZ			17:20	
MB 280-350470/1-A	1	T	17:22	X
LCS 280-350470/2-A	1	T	17:24	X
ZZZZZZ			17:27	
ZZZZZZ			17:29	
ZZZZZZ			17:31	
ZZZZZZ			17:33	
ZZZZZZ			17:36	
CCV 280-351009/12-A	1		17:38	X
CCB 280-351009/13-A	1		17:40	X
ZZZZZZ			17:42	
ZZZZZZ			17:44	
280-90409-1	1	T	17:47	X
280-90409-2	1	T	17:49	X
280-90409-3	1	T	17:51	X
280-90409-4	1	T	17:53	X
ZZZZZZ			17:56	
ZZZZZZ			17:58	
ZZZZZZ			18:00	
ZZZZZZ			18:02	
CCV 280-351009/12-A	1		18:05	X
CCB 280-351009/13-A	1		18:07	X
ZZZZZZ			18:09	
ZZZZZZ			18:11	
ZZZZZZ			18:13	
ZZZZZZ			18:16	
ZZZZZZ			18:18	
ZZZZZZ			18:20	
ZZZZZZ			18:22	
ZZZZZZ			18:25	
ZZZZZZ			18:27	
ZZZZZZ			18:29	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_034 Analysis Method: 7470A

Start Date: 11/11/2016 15:24 End Date: 11/11/2016 22:24

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
CCV 280-351009/12-A			18:31	
CCB 280-351009/13-A			18:34	
ZZZZZZ			18:36	
ZZZZZZ			18:38	
ZZZZZZ			18:40	
ZZZZZZ			18:43	
ZZZZZZ			18:45	
ZZZZZZ			18:47	
ZZZZZZ			18:49	
ZZZZZZ			18:51	
ZZZZZZ			18:54	
ZZZZZZ			18:56	
CCV 280-351009/12-A			18:58	
CCB 280-351009/13-A			19:00	
ZZZZZZ			19:03	
ZZZZZZ			19:05	
ZZZZZZ			19:07	
ZZZZZZ			19:09	
ZZZZZZ			19:12	
ZZZZZZ			19:14	
ZZZZZZ			19:16	
ZZZZZZ			19:18	
ZZZZZZ			19:20	
ZZZZZZ			19:23	
CCV 280-351009/12-A			19:25	
CCB 280-351009/13-A			19:27	
ZZZZZZ			19:29	
ZZZZZZ			19:32	
ZZZZZZ			19:34	
ZZZZZZ			19:36	
ZZZZZZ			19:38	
ZZZZZZ			19:41	
ZZZZZZ			19:43	
ZZZZZZ			19:45	
ZZZZZZ			19:47	
ZZZZZZ			19:50	
CCV 280-351009/12-A			19:52	
CCB 280-351009/13-A			19:54	
ZZZZZZ			19:56	
ZZZZZZ			19:59	
ZZZZZZ			20:01	
ZZZZZZ			20:03	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_034 Analysis Method: 7470A

Start Date: 11/11/2016 15:24 End Date: 11/11/2016 22:24

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			20:05	
ZZZZZZ			20:08	
ZZZZZZ			20:10	
ZZZZZZ			20:12	
ZZZZZZ			20:14	
ZZZZZZ			20:16	
CCV 280-351009/12-A			20:19	
CCB 280-351009/13-A			20:21	
ZZZZZZ			20:23	
ZZZZZZ			20:25	
ZZZZZZ			20:28	
ZZZZZZ			20:30	
ZZZZZZ			20:32	
ZZZZZZ			20:34	
ZZZZZZ			20:37	
ZZZZZZ			20:39	
ZZZZZZ			20:41	
ZZZZZZ			20:43	
CCV 280-351009/12-A			20:46	
CCB 280-351009/13-A			20:48	
ZZZZZZ			20:50	
ZZZZZZ			20:52	
ZZZZZZ			20:57	
ZZZZZZ			21:03	
ZZZZZZ			21:08	
ZZZZZZ			21:10	
ZZZZZZ			21:12	
ZZZZZZ			21:14	
ZZZZZZ			21:17	
ZZZZZZ			21:19	
CCV 280-351009/12-A			21:21	
CCB 280-351009/13-A			21:23	
ZZZZZZ			21:26	
ZZZZZZ			21:28	
ZZZZZZ			21:30	
CCV 280-351009/12-A			21:32	
CCB 280-351009/13-A			21:35	
ZZZZZZ			21:55	
ZZZZZZ			21:57	
ZZZZZZ			21:59	
ZZZZZZ			22:01	
ZZZZZZ			22:04	

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13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: MT_034 Analysis Method: 7470A

Start Date: 11/11/2016 15:24 End Date: 11/11/2016 22:24

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
CCV 280-351009/12-A			22:06																									
CCB 280-351009/13-A			22:08																									
ZZZZZZ			22:10																									
ZZZZZZ			22:13																									
ZZZZZZ			22:15																									
ZZZZZZ			22:17																									
ZZZZZZ			22:19																									
CCV 280-351009/12-A			22:22																									
CCB 280-351009/13-A			22:24																									

Prep Types:
T = Total/NA

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/10/2016 End Date: 11/10/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q
IC 280-351011/8	15:29	97		99		99		98		97	
ICV 280-351011/9	15:33	97		99		99		99		97	
ICB 280-351011/10	15:37	100		101		99		99		98	
ICVL 280-351011/12	15:48	101		99		100		100		97	
ICVL 280-351011/13	15:53	99		99		100		99		98	
CRI 280-351011/14	16:02	99		99		100		102		97	
CRI 280-351011/15	16:09	101		101		101		103		98	
ICSA 280-351011/17	16:18	90		93		94		95		95	
ICSAB 280-351011/18	16:22	85		91		93		94		95	
CCV 280-351011/100	21:32	84		90		93		91		88	
CCB 280-351011/101	21:36	87		88		93		91		88	
CCVL 280-351011/102	21:40	88		90		93		92		87	
MB 280-349785/1-A	21:44	85		90		93		92		88	
LCS 280-349785/2-A	21:48	85		88		93		93		87	
CCV 280-351011/112	22:18	90		92		96		95		93	
CCB 280-351011/113	22:22	91		92		95		94		92	
CCVL 280-351011/114	22:25	90		91		95		94		92	
280-90409-1	22:29	83		88		93		93		88	
280-90409-2	22:33	83		87		93		93		87	
280-90409-3	22:37	84		88		94		93		88	
280-90409-4	22:41	85		89		94		95		88	
CCV 280-351011/125	23:07	89		89		96		94		90	
CCB 280-351011/126	23:11	89		90		95		94		89	
CCVL 280-351011/127	23:15	91		90		95		94		90	
ICSA 280-351011/128	23:19	79		84		92		91		88	
ICSAB 280-351011/12	23:23	76		82		92		91		91	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/10/2016 End Date: 11/10/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/1	Q	Element Ge/2	Q	Element In	Q	Element Ho-165	Q	Element	Q
IC 280-351011/8	15:29	99		99		99		99			
ICV 280-351011/9	15:33	99		99		99		99			
ICB 280-351011/10	15:37	99		99		98		100			
ICVL 280-351011/12	15:48	99		100		100		99			
ICVL 280-351011/13	15:53	99		99		101		99			
CRI 280-351011/14	16:02	100		103		103		101			
CRI 280-351011/15	16:09	100		102		102		101			
ICSA 280-351011/17	16:18	92		95		94		96			
ICSAB 280-351011/18	16:22	92		92		91		94			
CCV 280-351011/100	21:32	95		93		96		96			
CCB 280-351011/101	21:36	95		94		96		96			
CCVL 280-351011/102	21:40	96		93		97		98			
MB 280-349785/1-A	21:44	95		94		98		98			
LCS 280-349785/2-A	21:48	95		94		99		99			
CCV 280-351011/112	22:18	98		95		99		98			
CCB 280-351011/113	22:22	97		95		97		98			
CCVL 280-351011/114	22:25	96		95		99		99			
280-90409-1	22:29	94		95		98		98			
280-90409-2	22:33	95		94		98		98			
280-90409-3	22:37	96		95		100		99			
280-90409-4	22:41	96		96		100		99			
CCV 280-351011/125	23:07	98		95		101		99			
CCB 280-351011/126	23:11	97		95		100		98			
CCVL 280-351011/127	23:15	96		94		98		99			
ICSA 280-351011/128	23:19	91		91		93		96			
ICSAB 280-351011/12	23:23	91		90		92		95			

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/11/2016 End Date: 11/11/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q
IC 280-351276/9	16:52	96		97		99		98		96	
ICV 280-351276/10	16:56	95		99		98		97		96	
ICB 280-351276/12	17:04	97		98		98		99		97	
ICVL 280-351276/13	17:07	97		100		98		98		97	
CRI 280-351276/15	17:17	98		98		99		100		96	
CRI 280-351276/16	17:22	96		98		99		101		97	
ICSA 280-351276/18	17:30	85		90		92		94		90	
ICSAB 280-351276/19	17:34	82		88		92		94		90	
CCV 280-351276/36	18:39	89		89		94		95		88	
CCB 280-351276/37	18:42	91		89		95		98		90	
CCVL 280-351276/38	18:46	90		89		94		97		90	
280-90409-4	18:50	88		89		95		98		88	
CCV 280-351276/40	18:54	88		90		95		97		89	
CCB 280-351276/41	18:58	91		92		94		97		90	
CCVL 280-351276/42	19:01	91		90		94		97		89	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/11/2016 End Date: 11/11/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/1	Q	Element Ge/2	Q	Element In	Q	Element Ho-165	Q	Element	Q
IC 280-351276/9	16:52	99		97		99		99			
ICV 280-351276/10	16:56	98		97		99		99			
ICB 280-351276/12	17:04	98		99		100		99			
ICVL 280-351276/13	17:07	99		98		102		99			
CRI 280-351276/15	17:17	99		101		104		101			
CRI 280-351276/16	17:22	99		101		104		102			
ICSA 280-351276/18	17:30	92		93		93		97			
ICSAB 280-351276/19	17:34	91		92		92		96			
CCV 280-351276/36	18:39	95		97		98		97			
CCB 280-351276/37	18:42	96		98		101		98			
CCVL 280-351276/38	18:46	96		98		100		98			
280-90409-4	18:50	97		98		101		98			
CCV 280-351276/40	18:54	96		98		101		98			
CCB 280-351276/41	18:58	96		98		99		97			
CCVL 280-351276/42	19:01	96		98		101		99			

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350904 Batch Start Date: 11/11/16 14:45 Batch Analyst: Johnson, Sarah E

Batch Method: 3010A Batch End Date: 11/11/16 19:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ICP SPK 2B 00050	ICP SPK 3A 00123	
MB 280-350904/1		3010A, 6010C		<2	50 mL	50 mL			
LCS 280-350904/2		3010A, 6010C		<2	50 mL	50 mL	0.5 mL	0.5 mL	
280-90409-E-1	LL2mw-271-110116-GW	3010A, 6010C	T	<2	50 mL	50 mL			
280-90409-E-2	LL2mw-261-103116-GW	3010A, 6010C	T	<2	50 mL	50 mL			
280-90409-A-3	LL2mw-500-103116-GW	3010A, 6010C	T	<2	50 mL	50 mL			
280-90409-E-4	FBQmw-175-110116-GW	3010A, 6010C	T	<2	50 mL	50 mL			

Batch Notes	
Lot # of hydrochloric acid	000151528-07/21
Lot # of Nitric Acid	0000148204-06/21
Hot Block ID	3
Oven, Bath or Block Temperature 1	91 Degrees C
Oven, Bath or Block Temperature 2	95 Degrees C
Pipette ID	MET-89
Thermometer ID	908002329
Digestion Tube/Cup ID	1512329
Uncorrected Temperature	91 Degrees C
Uncorrected Temperature 2	95 Degrees C

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349785 Batch Start Date: 11/10/16 07:00 Batch Analyst: Ramirez, Santiago U

Batch Method: 3020A Batch End Date: 11/10/16 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS CALSTD-1 00116	MS spike 2 00048	
MB 280-349785/1		3020A, 6020A			50 mL	50 mL			
LCS 280-349785/2		3020A, 6020A			50 mL	50 mL	0.1 mL	0.1 mL	
280-90409-E-1	LL2mw-271-110116-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-90409-E-2	LL2mw-261-103116-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-90409-A-3	LL2mw-500-103116-GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-90409-A-4	FBQmw-175-110116-GW	3020A, 6020A	T	<2	50 mL	50 mL			

Batch Notes	
Lot # of Nitric Acid	0000148204-06/21
Hot Block ID	04
Oven, Bath or Block Temperature 1	95 Degrees C
Oven, Bath or Block Temperature 2	95 Degrees C
Pipette ID	MET-89
Thermometer ID	QA-16
Digestion Tube/Cup ID	1512329
Uncorrected Temperature	94 Degrees C
Uncorrected Temperature 2	94 Degrees C
Vendor of Reagent used	MACRON

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350470 Batch Start Date: 11/11/16 12:30 Batch Analyst: Henning, Christopher D

Batch Method: 7470A Batch End Date: 11/11/16 14:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Daily Spk 01788		
MB 280-350470/1		7470A, 7470A		<2	30 mL	50 mL			
LCS 280-350470/2		7470A, 7470A		<2	30 mL	50 mL	1.5 mL		
280-90409-E-1	LL2mw-271-110116-GW	7470A, 7470A	T	<2	30 mL	50 mL			
280-90409-E-2	LL2mw-261-103116-GW	7470A, 7470A	T	<2	30 mL	50 mL			
280-90409-A-3	LL2mw-500-103116-GW	7470A, 7470A	T	<2	30 mL	50 mL			
280-90409-A-4	FBQmw-175-110116-GW	7470A, 7470A	T	<2	30 mL	50 mL			

Batch Notes	
Hydroxylamine Hydrochloride ID	149336A-11/09/16
Batch Comment	SYRINGE-6173769/FILTER-9767388
Sulfuric Acid Lot Number	143508-10/26/16
Lot # of hydrochloric acid	4116040-11/03/16
Lot # of Nitric Acid	148204-11/07/16
Hot Block ID	14
Potassium Persulfate ID	MKBW9588V-11/03/16
Potassium Permanganate ID	147114-11/10/16
NaCl ID	158648-08/17/16
Oven, Bath or Block Temperature 1	92 Celsius
Oven, Bath or Block Temperature 2	95 Celsius
Pipette ID	MET70
Stannous Chloride ID	132395-11/11/16
SOP Number	DVMT0017
Temperature	95
Thermometer ID	QA-9
Digestion Tube/Cup ID	1509104
Uncorrected Temperature	91 Celsius
Uncorrected Temperature 2	94 Celsius
Visual ck - digestate F.V. consistency	YES-F.V.CKD

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350470 Batch Start Date: 11/11/16 12:30 Batch Analyst: Henning, Christopher D

Batch Method: 7470A Batch End Date: 11/11/16 14:30

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351009 Batch Start Date: 11/11/16 12:30 Batch Analyst: Henning, Christopher D

Batch Method: 245.1 Batch End Date: 11/11/16 14:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Biwk ICV 00208	Hg Daily Spk 01788	
ICV 280-351009/9		245.1, 7470A		<2	30 mL	50 mL	0.3 mL		
ICB 280-351009/10		245.1, 7470A		<2	30 mL	50 mL			
CCV 280-351009/12		245.1, 7470A		<2	30 mL	50 mL		1.5 mL	
CCB 280-351009/13		245.1, 7470A		<2	30 mL	50 mL			

Batch Notes	
Hydroxylamine Hydrochloride ID	149336A-11/09/16
Batch Comment	DVMT0015
Sulfuric Acid Lot Number	143508-10/26/16
Lot # of hydrochloric acid	4116040-11/03/16
Lot # of Nitric Acid	148204-11/07/16
Hood ID	HOOD4
Hot Block ID	15
Potassium Persulfate ID	MKBW9588V-11/03/16
Potassium Permanganate ID	147114-11/10/16
NaCl ID	158648-08/17/16
Oven, Bath or Block Temperature 1	93 Degrees C
Oven, Bath or Block Temperature 2	95 Degrees C
Pipette ID	MET70
Stannous Chloride ID	132395-11/11/16
Temperature	95 Degrees C
Thermometer ID	QA-25
Digestion Tube/Cup ID	1509104
Uncorrected Temperature	93 Degrees C
Uncorrected Temperature 2	95 Degrees C
Visual ck - digestate F.V. consistency	YES-F.V.CKD

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.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351009 Batch Start Date: 11/11/16 12:30 Batch Analyst: Henning, Christopher D

Batch Method: 245.1 Batch End Date: 11/11/16 14:30

Basis	Basis Description

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.

Sample Name: ICIS Acquired: 11/13/2016 12:28:59 Type: Cal
Method: 6500_025 Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00206**	**.00083**	**-.01671**	**-.00039**	**.00089**	**.01336**	**-.00100**	**-.00230**	**.00904**	**-.00069**	**-.00054**	**-.00072**
Stddev	.00011	.00001	.00122	.00016	.00004	.00178	.00043	.00030	.00104	.00007	.00002	.00025
%RSD	5.5056	1.3214	7.3085	41.888	4.6575	13.333	43.642	13.275	11.554	9.5012	3.0487	34.843
#1	-.00214	.00084	-.01585	-.00050	.00092	.01462	-.00069	-.00251	.00978	-.00074	-.00055	-.00055
#2	-.00198	.00082	-.01758	-.00027	.00086	.01210	-.00130	-.00208	.00830	-.00064	-.00053	-.00090

Elem	Cu3247	Fe2599	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Na8183	Ni2316	P_1782
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00354**	**-.00003**	**.00033**	**-.00168**	**.00243**	**.00031**	**.00005**	**.00018**	**.00954**	**-.01978**	**.00083**	**.00001**
Stddev	.00030	.00009	.00015	.00011	.00064	.00001	.00001	.00007	.00152	.00029	.00064	.00017
%RSD	8.5322	275.68	46.772	6.7348	26.279	4.3462	10.787	39.568	15.942	1.4650	77.456	1273.8
#1	.00375	-.00010	.00044	-.00176	.00198	.00030	.00005	.00024	.01062	-.01999	.00128	.00013
#2	.00332	.00003	.00022	-.00160	.00288	.00032	.00004	.00013	.00847	-.01958	.00037	-.00011

Elem	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00163**	**.00058**	**.00016**	**.00031**	**.00081**	**.00081**	**.00020**	**-.00988**	**-.00073**	**-.00028**	**-.00034**	**.00052**
Stddev	.00015	.00007	.00030	.00010	.00016	.00016	.00002	.00052	.00010	.00004	.00006	.00024
%RSD	9.4696	12.893	188.46	31.906	20.023	20.023	11.525	5.3075	14.388	15.336	16.374	45.729
#1	-.00173	.00052	-.00005	.00024	.00070	.00070	.00018	-.01025	-.00065	-.00025	-.00030	.00069
#2	-.00152	.00063	.00037	.00038	.00092	.00092	.00022	-.00951	-.00080	-.00031	-.00038	.00035

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	**-.00041**	**.00002**	**.00037**
Stddev	.00003	.00000	.00056
%RSD	8.1417	.44498	152.17
#1	-.00038	.00002	.00076
#2	-.00043	.00002	-.00003

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3866.1**	**51929.**	**3988.7**
Stddev	3.9	121.	16.5
%RSD	.10183	.23383	.41422
#1	3863.3	51843.	4000.4
#2	3868.9	52015.	3977.0

Sample Name: ICAL1 Acquired: 11/13/2016 12:31:35 Type: Cal
Method: 6500_025 Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.31123**	**.25968**	**.10831**	**.33181**	**6.3330**	**6.0152**	**1.4671**	**2.1197**	**1.1527**	**.98087**	**.44120**	**.64938**	**4.6812**
Stddev	.00150	.00022	.00015	.00011	.0004	.0114	.0032	.0006	.0001	.00161	.00258	.00001	.0100
%RSD	.48355	.08385	.13669	.03393	.00585	.18907	.22071	.02676	.00595	.16446	.58415	.00200	.21268
#1	.31229	.25953	.10841	.33189	6.3328	6.0233	1.4648	2.1201	1.1527	.98201	.44303	.64937	4.6882
#2	.31016	.25984	.10820	.33173	6.3333	6.0072	1.4693	2.1193	1.1528	.97973	.43938	.64939	4.6742

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.3108**	**1.1832**	**1.6174**	**.51094**	**2.0550**	**.89365**	**.14233**	**.53661**	**.22947**	**.09841**	**.24628**	**.24628**	**.22967**
Stddev	.0027	.0015	.0008	.00265	.0066	.00004	.00054	.00067	.00045	.00023	.00076	.00076	.00005
%RSD	.11659	.12834	.04700	.51799	.32062	.00499	.37850	.12530	.19774	.22947	.31005	.31005	.02268
#1	2.3127	1.1821	1.6168	.51281	2.0597	.89368	.14195	.53613	.22979	.09857	.24574	.24574	.22971
#2	2.3089	1.1842	1.6179	.50906	2.0504	.89362	.14271	.53708	.22915	.09825	.24682	.24682	.22963

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.521**	**.42273**	**.18734**	**.25212**	**.03653**	**.33601**
Stddev	.028	.00020	.00035	.00015	.00015	.00069
%RSD	.24084	.04678	.18599	.05985	.40942	.20494
#1	11.540	.42287	.18759	.25222	.03642	.33650
#2	11.501	.42259	.18709	.25201	.03663	.33552

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3792.9**	**50565.**	**4037.0**
Stddev	1.5	33.	17.5
%RSD	.03878	.06470	.43369
#1	3793.9	50542.	4024.6
#2	3791.9	50588.	4049.4

Sample Name: ICAL2 Acquired: 11/13/2016 12:33:52 Type: Cal
Method: 6500_025 Mode: IR Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Al3092	Bi2230	Fe2714	Na8183	S_1820	Th2837	U_3701
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.4830**	**.30877**	**.58726**	**2.9297**	**.34345**	**.70212**	**.12544**
Stddev	.0095	.00018	.00412	.0072	.00065	.00007	.00006
%RSD	.21249	.05706	.70219	.24600	.18791	.00945	.04745
#1	4.4897	.30889	.59018	2.9348	.34391	.70207	.12548
#2	4.4762	.30864	.58435	2.9246	.34300	.70217	.12540

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3670.8**	**48906.**	**3935.4**
Stddev	.1	255.	8.7
%RSD	.00197	.52078	.22163
#1	3670.8	49086.	3929.2
#2	3670.7	48726.	3941.6

Sample Name: S1-4239350 Acquired: 11/13/2016 12:36:27 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.99138**	**1.0055**	**1.9791**	**.99626**	**1.0086**	**1.0050**	**-.00171**	**10.136**	**.99761**	**.99976**	**1.0041**	**.98499**	**5.0454**
Stddev	.00018	.0041	.0117	.00172	.0043	.0023	.00113	.014	.00119	.00033	.0001	.00186	.0122
%RSD	.01858	.40940	.59197	.17250	.42700	.22714	66.108	.13738	.11976	.03296	.00940	.18833	.24191
#1	.99125	1.0084	1.9874	.99747	1.0116	1.0066	-.00091	10.146	.99845	.99999	1.0042	.98368	5.0540
#2	.99151	1.0026	1.9709	.99504	1.0055	1.0034	-.00250	10.126	.99676	.99952	1.0041	.98631	5.0367
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**100.87**	**2.0163**	**39.924**	**.99530**	**1.0018**	**10.318**	**10.459**	**.99843**	**1.9936**	**2.0029**	**.00473**	**1.9934**	**1.9840**
Stddev	.28	.0019	.021	.00069	.0028	.016	.027	.00020	.0054	.0021	.01007	.0109	.0140
%RSD	.27327	.09457	.05231	.06971	.27883	.15204	.25779	.01971	.27038	.10555	212.89	.54509	.70615
#1	101.06	2.0176	39.909	.99579	1.0038	10.329	10.478	.99829	1.9898	2.0043	-.00239	2.0011	1.9939
#2	100.67	2.0149	39.939	.99481	.99986	10.307	10.440	.99857	1.9975	2.0014	.01186	1.9857	1.9741
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value													
Range													

Elem	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.024**	**21.451**	**2.0072**	**1.0033**	**.01342**	**.99139**	**2.0060**	**.00543**	**.99538**	**1.0017**	**1.0080**
Stddev	.058	.124	.0027	.0010	.00429	.00229	.0056	.00977	.00288	.0046	.0015
%RSD	.57761	.57761	.13589	.09964	32.000	.23087	.28080	180.06	.28933	.46340	.15226
#1	9.9829	21.363	2.0052	1.0040	.01038	.99301	2.0100	.01234	.99742	.99841	1.0091
#2	10.065	21.539	2.0091	1.0026	.01646	.98977	2.0020	-.00148	.99335	1.0050	1.0069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3773.2**	**50223.**	**3966.1**
Stddev	3.6	54.	3.0
%RSD	.09509	.10786	.07438
#1	3770.7	50185.	3964.0
#2	3775.7	50261.	3968.2

Sample Name: S2-4239352 Acquired: 11/13/2016 12:38:45 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00465**	**98.967**	**.00117**	**.00336**	**.00058**	**.00047**	**1.9554**	**-.00239**	**.00091**	**-.00116**	**.00072**	**.00015**	**100.10**
Stddev	.00024	.333	.00100	.00008	.00013	.00001	.0028	.00284	.00035	.00002	.00005	.00056	.11
%RSD	5.1854	.33668	85.758	2.4488	21.965	2.6390	.14110	119.12	38.985	1.5528	6.9996	377.57	.11164
#1	.00448	98.731	.00188	.00342	.00049	.00048	1.9574	-.00440	.00066	-.00117	.00076	-.00025	100.03
#2	.00482	99.202	.00046	.00330	.00067	.00046	1.9535	-.00038	.00116	-.00115	.00069	.00054	100.18
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.28382**	**.00465**	**.08268**	**.00172**	**.00166**	**493.79**	**.00111**	**.01012**	**-.00123**	**9.9987**	**.01648**	**-.00339**	**-.05348**
Stddev	.01194	.00093	.00560	.00014	.00149	2.54	.00005	.00245	.00023	.0184	.00054	.00571	.00340
%RSD	4.2076	19.933	6.7693	8.0106	89.553	.51381	4.5848	24.219	18.397	.18396	3.2713	168.57	6.3569
#1	.27538	.00399	.07872	.00182	.00061	492.00	.00114	.01185	-.00107	10.012	.01686	-.00742	-.05108
#2	.29226	.00530	.08663	.00163	.00271	495.59	.00107	.00839	-.00139	9.9857	.01610	.00065	-.05588
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.11445**	**.00051**	**.00067**	**9.8228**	**.03189**	**.00019**	**20.329**	**.02781**	**.00142**	**.20455**
Stddev	.00728	.00039	.00009	.0139	.00024	.00081	.103	.00049	.00028	.00198
%RSD	6.3569	77.186	13.199	.14190	.74345	422.10	.50647	1.7493	19.447	.96991
#1	-.10930	.00023	.00074	9.8130	.03172	-.00038	20.257	.02816	.00122	.20315
#2	-.11959	.00078	.00061	9.8327	.03206	.00077	20.402	.02747	.00161	.20595
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3703.1**	**49004.**	**3977.0**
Stddev	2.3	87.	50.3
%RSD	.06194	.17661	1.2647
#1	3701.4	49066.	4012.6
#2	3704.7	48943.	3941.4

Sample Name: ICVH-4241309 Acquired: 11/13/2016 12:41:20 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00130**	**39.761**	**-.00026**	**.00020**	**.00056**	**-.00000**	**.52587**	**.00431**	**.00058**	**.00068**	**.00093**	**-.00027**
Stddev	.00006	.001	.00045	.00116	.00003	.00000	.00230	.00366	.00001	.00026	.00016	.00017
%RSD	4.4280	.00151	173.42	567.72	5.2978	107.81	.43675	85.082	1.0830	38.619	16.959	60.945
#1	.00126	39.761	-.00058	.00102	.00054	-.00001	.52425	.00690	.00058	.00087	.00104	-.00039
#2	.00134	39.762	.00006	-.00061	.00059	-.00000	.52749	.00172	.00059	.00050	.00082	-.00016
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**77.885**	**.11942**	**.00155**	**.02293**	**.00036**	**-.00062**	**40.476**	**-.00017**	**.00357**	**.00036**	**3.9648**	**.00357**
Stddev	.252	.03678	.00090	.00064	.00008	.00019	.106	.00006	.00037	.00006	.0154	.00043
%RSD	.32363	30.798	58.440	2.8020	21.573	29.819	.26071	32.886	10.461	16.199	.38803	11.960
#1	78.063	.09341	.00219	.02247	.00041	-.00075	40.401	-.00013	.00331	.00040	3.9757	.00327
#2	77.706	.14542	.00091	.02338	.00030	-.00049	40.550	-.00021	.00383	.00032	3.9539	.00387
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00282**	**.00157**	**.00335**	**.00051**	**.00025**	**2.9054**	**.00892**	**-.00005**	W **5.3227**	**.00747**	**.00022**	**.05871**
Stddev	.00127	.00814	.01741	.00032	.00005	.0003	.00027	.00158	.0648	.00002	.00042	.00174
%RSD	45.180	519.36	519.36	63.522	21.396	.01098	3.0091	3168.2	1.2165	.31498	188.18	2.9597
#1	-.00372	.00732	.01566	.00028	.00029	2.9052	.00911	.00106	5.2769	.00749	-.00007	.05749
#2	-.00192	-.00419	-.00896	.00073	.00021	2.9056	.00873	-.00116	5.3684	.00745	.00052	.05994
Check ?	None	None	None	None	None	Chk Pass	None	None	Chk Warn	None	None	None
Value									5.0000			
Range									5.4900%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3894.7**	**52471.**	**4103.7**
Stddev	16.2	131.	4.9
%RSD	.41594	.25004	.12013
#1	3906.1	52564.	4100.2
#2	3883.2	52379.	4107.2

Sample Name: ICV-4244299 Acquired: 11/13/2016 12:43:50 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.24608**	**.25593**	**.24933**	**.24308**	**.24812**	**.24444**	**.00175**	**1.9861**	**.24567**	**.24651**	**.24914**	**.24829**
Stddev	.00026	.00063	.00210	.00117	.00024	.00017	.00126	.0217	.00037	.00010	.00113	.00121
%RSD	.10684	.24744	.84142	.48167	.09501	.06986	71.984	1.0944	.14947	.04207	.45292	.48883
#1	.24627	.25548	.24785	.24225	.24829	.24456	.00265	2.0015	.24541	.24659	.24834	.24743
#2	.24589	.25638	.25082	.24391	.24795	.24432	.00086	1.9707	.24593	.24644	.24994	.24915
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25329**	**19.781**	**.25121**	**9.9511**	**.24765**	W **.23399**	**2.0811**	**.24906**	**1.9223**	**.25207**	**-.00141**	**.24130**
Stddev	.00024	.041	.00207	.0190	.00087	.00152	.0198	.00041	.0026	.00042	.00137	.00114
%RSD	.09457	.20603	.82513	.19114	.34964	.64930	.94994	.16582	.13427	.16473	97.288	.47413
#1	.25312	19.810	.25267	9.9377	.24703	.23506	2.0672	.24877	1.9204	.25177	-.00044	.24049
#2	.25346	19.752	.24974	9.9646	.24826	.23291	2.0951	.24935	1.9241	.25236	-.00237	.24211
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value						.25000						
Range						-5.4900%						

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48676**	**1.9801**	**4.2374**	**.48959**	**.24574**	**.00442**	**.24102**	**.50652**	**-.02420**	**.24282**	**.24199**	**.24586**
Stddev	.00126	.0120	.0256	.00053	.00011	.00099	.00080	.00073	.02268	.00021	.00190	.00029
%RSD	.25829	.60496	.60496	.10864	.04612	22.432	.33145	.14422	93.719	.08540	.78640	.11689
#1	.48765	1.9886	4.2555	.48921	.24566	.00372	.24045	.50703	-.04024	.24296	.24065	.24566
#2	.48587	1.9716	4.2193	.48997	.24582	.00512	.24158	.50600	-.00816	.24267	.24334	.24606
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3877.9**	**52341.**	**4090.4**
Stddev	1.6	156.	19.0
%RSD	.04001	.29756	.46507
#1	3879.0	52451.	4077.0
#2	3876.8	52230.	4103.9

Sample Name: ICVL-4245706 Acquired: 11/13/2016 12:46:16 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01053**	**.10150**	**.01849**	**.09693**	**.00989**	**.00093**	**.10696**	**.19785**	**.00515**	**.01039**	**.01005**	**.01506**
Stddev	.00000	.00031	.00355	.00033	.00011	.00004	.00043	.00423	.00006	.00002	.00015	.00034
%RSD	.01895	.30358	19.172	.33683	1.1001	4.0171	.40564	2.1404	1.2412	.16044	1.4589	2.2528
#1	.01054	.10129	.01598	.09716	.00982	.00090	.10665	.20085	.00511	.01038	.01015	.01530
#2	.01053	.10172	.02100	.09670	.00997	.00095	.10726	.19486	.00520	.01040	.00994	.01482
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10426**	**3.0141**	**.01990**	**.20344**	**.01014**	**.01961**	**1.0541**	**.03998**	**2.7498**	**.00986**	**-.00167**	**.01998**
Stddev	.00348	.0328	.00075	.00286	.00008	.00067	.0006	.00023	.0033	.00168	.00266	.00203
%RSD	3.3418	1.0882	3.7642	1.4065	.74000	3.3976	.05225	.57834	.11955	17.007	158.90	10.162
#1	.10672	3.0373	.02043	.20547	.01019	.01914	1.0545	.04014	2.7475	.00868	.00021	.01854
#2	.10179	2.9909	.01938	.20142	.01009	.02008	1.0537	.03981	2.7521	.01105	-.00355	.02141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01755**	**.46757**	**1.0006**	**.09713**	**.00991**	**.01416**	**.00961**	**.01525**	F **.02094**	**.00908**	**.01928**	**.01561**
Stddev	.00115	.02884	.0617	.00042	.00012	.00051	.00000	.00043	.01256	.00036	.00024	.00090
%RSD	6.5573	6.1690	6.1690	.42976	1.1837	3.6000	.01307	2.8378	59.973	3.9717	1.2253	5.7578
#1	.01674	.44718	.95696	.09684	.01000	.01452	.00961	.01494	.01206	.00883	.01911	.01497
#2	.01837	.48797	1.0443	.09743	.00983	.01380	.00961	.01555	.02981	.00934	.01945	.01624
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3895.5**	**52543.**	**4101.5**
Stddev	5.5	118.	15.5
%RSD	.14137	.22424	.37870
#1	3891.6	52626.	4112.5
#2	3899.4	52460.	4090.5

Sample Name: CCVH-4239353 Acquired: 11/13/2016 12:48:49 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00262**	**49.150**	**.00092**	**.00166**	**.00018**	**.00030**	**.97895**	**-.00389**	**.00034**	**-.00053**	**.00030**	**.00096**	**49.243**
Stddev	.00071	.089	.00120	.00046	.00025	.00005	.00473	.00479	.00004	.00009	.00021	.00020	.015
%RSD	27.093	.18126	130.50	27.512	140.00	18.211	.48321	123.27	11.396	17.112	70.384	21.028	.03079
#1	.00212	49.213	.00176	.00133	.00036	.00034	.97560	-.00727	.00031	-.00059	.00015	.00110	49.254
#2	.00312	49.087	.00007	.00198	.00000	.00026	.98229	-.00050	.00037	-.00046	.00046	.00082	49.232
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05291**	**.00075**	**.04378**	**.00091**	**-.00150**	**244.92**	**.00025**	**.00610**	**.00047**	**4.8296**	**-.00002**	**-.00337**	**-.02149**
Stddev	.06614	.00032	.00225	.00003	.00038	1.24	.00018	.00214	.00168	.0212	.00176	.00111	.02391
%RSD	125.02	42.563	5.1417	3.6038	25.309	.50601	74.723	35.110	358.20	.43961	7394.3	32.898	111.26
#1	.00614	.00053	.04538	.00093	-.00177	245.80	.00012	.00762	-.00072	4.8146	-.00127	-.00258	-.03839
#2	.09968	.00098	.04219	.00089	-.00123	244.05	.00038	.00459	.00165	4.8446	.00122	-.00415	-.00458
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.04598**	**-.00080**	**.00046**	**4.8524**	**.01528**	**.00112**	**10.197**	**.01324**	**.00012**	**.10224**
Stddev	.05116	.00052	.00020	.0184	.00007	.00025	.044	.00049	.00019	.00031
%RSD	111.26	65.248	43.008	.37806	.46308	22.453	.43273	3.6983	156.43	.30484
#1	-.08215	-.00043	.00061	4.8654	.01523	.00095	10.166	.01289	-.00001	.10246
#2	-.00981	-.00117	.00032	4.8395	.01533	.00130	10.228	.01358	.00026	.10202
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3768.2**	**50115.**	**4037.8**
Stddev	5.0	74.	6.1
%RSD	.13176	.14687	.14989
#1	3764.7	50063.	4033.5
#2	3771.7	50167.	4042.1

Sample Name: CCV-4239351 Acquired: 11/13/2016 12:51:19 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49039**	**.50001**	**.97055**	**.48915**	**.49294**	**.48766**	**.00081**	**4.9429**	**.49047**	**.49597**	**.49472**	**.48961**	**2.4670**	**49.288**
Stddev	.00116	.00044	.00418	.00231	.00310	.00037	.00011	.0045	.00020	.00015	.00036	.00172	.0127	.049
%RSD	.23682	.08707	.43120	.47161	.62809	.07600	13.061	.09126	.03995	.02969	.07243	.35089	.51593	.09954
#1	.49121	.49970	.96759	.48752	.49075	.48793	.00073	4.9397	.49061	.49587	.49447	.48840	2.4760	49.254
#2	.48956	.50031	.97350	.49078	.49513	.48740	.00088	4.9461	.49033	.49608	.49498	.49083	2.4580	49.323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.99258**	**19.508**	**.48788**	**.48890**	**5.0369**	**.49595**	**.96864**	**.99565**	**.00063**	**.97878**	**.96795**	**4.8865**	**10.457**	**.98490**
Stddev	.00498	.009	.00010	.00041	.0049	.00014	.00148	.00011	.00081	.00396	.00005	.0202	.043	.00011
%RSD	.50167	.04393	.02002	.08474	.09666	.02909	.15263	.01126	127.80	.40442	.00475	.41308	.41308	.01156
#1	.98906	19.502	.48795	.48919	5.0334	.49605	.96759	.99573	.00120	.97598	.96792	4.8722	10.427	.98498
#2	.99610	19.514	.48781	.48861	5.0403	.49585	.96969	.99557	.00006	.98158	.96798	4.9008	10.488	.98482
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49116**	**.00677**	**.48553**	**1.0029**	**.00433**	**.48457**	**.48519**	**.49062**
Stddev	.00099	.00070	.00001	.0074	.00381	.00005	.00157	.00217
%RSD	.20233	10.310	.00146	.73723	88.104	.01105	.32332	.44232
#1	.49045	.00628	.48554	1.0081	.00163	.48461	.48408	.48908
#2	.49186	.00727	.48553	.99762	.00702	.48453	.48630	.49215
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3847.5**	**51578.**	**4060.5**
Stddev	.8	131.	.3
%RSD	.02208	.25347	.00706
#1	3848.1	51485.	4060.3
#2	3846.9	51670.	4060.7

Sample Name: ICB Acquired: 11/13/2016 12:53:40 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00053**	**.00049**	**.00401**	**.00100**	**.00003**	**-.00006**	**.00185**	**-.00318**	**.00009**	**.00049**	**.00031**	**-.00036**	**-.00103**
Stddev	.00037	.00033	.00222	.00014	.00011	.00024	.00020	.00099	.00005	.00010	.00016	.00014	.00153
%RSD	70.109	67.594	55.343	13.652	318.44	386.10	10.787	31.047	54.000	19.776	50.937	39.975	147.81
#1	.00027	.00025	.00557	.00110	-.00004	-.00023	.00200	-.00248	.00013	.00056	.00043	-.00026	.00005
#2	.00079	.00072	.00244	.00091	.00011	.00011	.00171	-.00388	.00006	.00042	.00020	-.00046	-.00212
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05076**	**-.00142**	**.00162**	**.00011**	**.00225**	**.08066**	**.00005**	**.00037**	**.00001**	**.00088**	**.00154**	**.00368**	**.01008**
Stddev	.04435	.00025	.00133	.00009	.00080	.00116	.00046	.00070	.00077	.00096	.00119	.00324	.00746
%RSD	87.383	17.284	81.736	81.590	35.497	1.4328	913.59	188.82	8163.0	109.24	77.317	88.024	73.988
#1	.08212	-.00125	.00068	.00017	.00169	.07984	.00037	.00086	-.00053	.00020	.00070	.00597	.01535
#2	.01939	-.00159	.00256	.00005	.00282	.08148	-.00027	-.00012	.00055	.00156	.00238	.00139	.00481
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02157**	**.00001**	**.00007**	**.00146**	**-.00018**	**-.00091**	**-.03021**	**-.00045**	**.00031**	**.00006**
Stddev	.01596	.00022	.00009	.00130	.00020	.00008	.01716	.00048	.00019	.00101
%RSD	73.988	3323.5	143.38	88.652	112.41	8.7344	56.787	107.25	60.842	1688.6
#1	.03285	.00016	-.00000	.00055	-.00004	-.00085	-.01808	-.00079	.00018	-.00065
#2	.01028	-.00015	.00013	.00238	-.00032	-.00096	-.04234	-.00011	.00045	.00077
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3863.6**	**52173.**	**4026.4**
Stddev	8.0	98.	26.4
%RSD	.20699	.18791	.65486
#1	3857.9	52242.	4045.1
#2	3869.2	52104.	4007.8

Sample Name: CRI-4245702 Acquired: 11/13/2016 12:56:15 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00975**	**.10504**	**.01067**	**.09930**	**.00536**	**.00099**	**.11134**	**.21118**	**.00505**	**.00542**	**.01037**	**.01000**
Stddev	.00004	.00048	.00406	.00046	.00013	.00014	.00034	.00481	.00012	.00018	.00008	.00042
%RSD	.42286	.45728	38.051	.46634	2.4348	14.541	.30214	2.2763	2.3595	3.2392	.81052	4.2214
#1	.00972	.10470	.00780	.09897	.00545	.00089	.11157	.20778	.00496	.00554	.01031	.00970
#2	.00978	.10538	.01354	.09963	.00527	.00109	.11110	.21458	.00513	.00530	.01043	.01029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.06098**	**1.0443**	**.01126**	**.21246**	**.00321**	**.00964**	**1.1666**	**.01077**	**.96271**	W **.00368**	**.09506**	**.01131**
Stddev	.03773	.0274	.00127	.00168	.00001	.00001	.1198	.00006	.00110	.00094	.00278	.00080
%RSD	61.876	2.6247	11.299	.79025	.33600	.13355	10.272	.56433	.11381	25.598	2.9250	7.0322
#1	.03430	1.0249	.01036	.21364	.00321	.00963	1.0819	.01073	.96194	.00302	.09703	.01188
#2	.08766	1.0637	.01216	.21127	.00320	.00965	1.2514	.01081	.96349	.00435	.09310	.01075
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
Value	.03000									.00300		
Range	50.000%									20.490%		

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01051**	**.49136**	**1.0515**	**.01998**	**.00540**	**.01096**	**.00964**	**.01153**	W **.03208**	**.00938**	**.00977**	**.01145**
Stddev	.00313	.03609	.0772	.00006	.00028	.00236	.00018	.00066	.01886	.00076	.00016	.00281
%RSD	29.761	7.3443	7.3443	.31567	5.2616	21.530	1.8836	5.6862	58.783	8.0652	1.5884	24.575
#1	.00830	.51688	1.1061	.02002	.00520	.00929	.00977	.01106	.04541	.00991	.00988	.00946
#2	.01272	.46584	.99690	.01993	.00560	.01262	.00951	.01199	.01874	.00884	.00966	.01344
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-20.490%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3919.5**	**53246.**	**4085.0**
Stddev	1.1	167.	10.9
%RSD	.02750	.31405	.26741
#1	3920.3	53365.	4077.2
#2	3918.7	53128.	4092.7

Sample Name: CRI- Acquired: 11/13/2016 13:02:00 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Pb-0.009/Fe 0.10 mg/L

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.00048**	F **.00085**	F **.00054**	F **-.00005**	F **.00053**	F **-.00006**	F **-.00112**	F **.00861**	F **.00013**	F **.00054**	F **-.00005**	F **.00018**
Stddev	.00082	.00071	.00178	.00022	.00020	.00001	.00074	.00206	.00011	.00028	.00015	.00030
%RSD	171.70	83.570	326.79	444.77	38.639	17.081	66.286	23.910	89.604	50.774	322.14	172.07
#1	.00106	.00035	-.00071	-.00021	.00067	-.00006	-.00164	.00716	.00005	.00074	.00006	.00039
#2	-.00010	.00135	.00180	.00011	.00038	-.00005	-.00059	.01007	.00021	.00035	-.00015	-.00004
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.01000	.10000	.01000	.10000	.00500	.00100	.10000	.20000	.00500	.00500	.01000	.01000
Range	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.09855**	F **-.00098**	F **.00095**	F **.00288**	F **.00005**	F **-.00087**	F **.02468**	F **.00014**	F **.00030**	F **.00803**	F **.00144**	F **-.00082**
Stddev	.00167	.00377	.00326	.00500	.00008	.00023	.00937	.00042	.00010	.00057	.00351	.00067
%RSD	1.6993	384.45	344.07	173.47	156.94	26.774	37.971	307.49	35.180	7.1541	243.76	82.653
#1	.09736	-.00364	.00325	-.00065	-.00001	-.00070	.01805	.00044	.00022	.00763	.00392	-.00129
#2	.09973	.00168	-.00136	.00642	.00011	-.00103	.03130	-.00016	.00037	.00844	-.00104	-.00034
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.03000	1.0000	.01000	.20000	.00300	.01000	1.0000	.01000	1.0000	.00300	.10000	.01000
Range	50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	50.000%	-50.000%	-50.000%

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00009**	F **-.00678**	F **-.01452**	F **-.00112**	F **.00003**	F **-.00046**	F **-.00029**	F **-.00026**	F **-.01617**	F **-.00052**	F **-.00004**	F **-.00091**
Stddev	.00397	.01232	.02636	.00060	.00002	.00069	.00009	.00001	.00652	.00053	.00056	.00297
%RSD	4489.2	181.56	181.56	53.585	67.194	149.80	30.400	1.9263	40.306	102.02	1452.7	324.44
#1	.00272	-.01549	-.03316	-.00070	.00005	-.00095	-.00023	-.00027	-.02078	-.00014	.00036	-.00301
#2	-.00289	.00193	.00412	-.00154	.00002	.00003	-.00035	-.00026	-.01156	-.00089	-.00043	.00118
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value	.01000	.50000	1.0700	.02000	.00500	.01000	.01000	.01000	.06000	.01000	.01000	.01000
Range	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%	-50.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3855.0**	**52180.**	**4026.5**
Stddev	5.4	213.	27.5
%RSD	.13937	.40830	.68174
#1	3858.8	52330.	4007.1
#2	3851.2	52029.	4045.9

Sample Name: ICSA-4220220 Acquired: 11/13/2016 13:06:55 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**503.83**	**-.00370**	**-.00212**	**-.00014**	**-.00002**	**.00864**	**459.13**	**.00074**	**-.00015**	**.00130**	**.00130**
Stddev	.00022	1.78	.00369	.00096	.00022	.00020	.00074	1.78	.00025	.00003	.00051	.00042
%RSD	463.76	.35295	99.805	45.407	159.46	896.58	8.5640	.38810	34.513	22.046	39.395	32.562
#1	.00011	505.09	-.00630	-.00280	-.00029	.00012	.00812	460.39	.00056	-.00017	.00167	.00100
#2	-.00020	502.57	-.00109	-.00144	.00002	-.00016	.00916	457.87	.00092	-.00013	.00094	.00160
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**185.58**	**.02952**	**.00160**	**493.07**	W **.00106**	**-.00354**	**.14951**	**.00023**	**-.00186**	**-.00381**	**-.08700**	**-.00022**
Stddev	.32	.01114	.00159	.46	.00002	.00036	.01814	.00031	.00071	.00082	.00589	.00132
%RSD	.17225	37.731	99.800	.09389	1.9134	10.157	12.130	132.63	38.027	21.617	6.7708	603.56
#1	185.80	.03740	.00047	492.74	.00107	-.00379	.13669	.00001	-.00136	-.00323	-.09116	-.00115
#2	185.35	.02165	.00272	493.40	.00104	-.00328	.16234	.00045	-.00235	-.00440	-.08283	.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					.00050							
Low Limit					-.00050							

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00100**	**.01236**	**.02645**	**-.00083**	W **.00434**	**.00142**	**.00072**	**-.00003**	**.61813**	**-.00094**	**.00154**	**-.00240**
Stddev	.00107	.01416	.03029	.00028	.00022	.00340	.00038	.00133	.00722	.00079	.00014	.00061
%RSD	106.32	114.55	114.55	33.845	4.9848	238.84	53.293	4711.1	1.1687	84.374	8.8027	25.410
#1	-.00176	.00235	.00503	-.00063	.00419	-.00098	.00045	-.00097	.61302	-.00038	.00164	-.00197
#2	-.00025	.02237	.04787	-.00102	.00450	.00383	.00099	.00091	.62324	-.00150	.00145	-.00283
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					.00050							
Low Limit					-.00050							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3398.8**	**44357.**	**3876.6**
Stddev	2.7	15.	21.5
%RSD	.08001	.03270	.55455
#1	3400.7	44347.	3861.4
#2	3396.8	44367.	3891.8

Sample Name: ICSAB-4232640 Acquired: 11/13/2016 13:09:37 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0853**	**506.16**	**2.0409**	**1.9381**	**.50122**	**.48731**	**1.0327**	**461.22**	**1.0406**	**.46486**	**.48525**	**.51757**	**185.87**	**52.900**
Stddev	.0016	.46	.0069	.0023	.00039	.00125	.0008	3.17	.0002	.00038	.00035	.00112	.80	.055
%RSD	.14707	.09005	.33788	.11869	.07875	.25620	.08278	.68791	.01798	.08275	.07292	.21623	.43013	.10344
#1	1.0841	506.48	2.0458	1.9365	.50094	.48819	1.0321	463.46	1.0405	.46513	.48550	.51677	185.31	52.939
#2	1.0864	505.84	2.0361	1.9397	.50150	.48643	1.0333	458.97	1.0408	.46459	.48500	.51836	186.44	52.861
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0244**	**486.32**	**.49045**	**.90614**	**51.307**	**.92934**	**1.9827**	**.94531**	**.90467**	**.99637**	**4.9815**	**10.087**	**21.586**	**9.0551**
Stddev	.0013	5.48	.00005	.00186	.190	.00251	.0057	.00190	.00038	.00057	.0045	.067	.144	.0097
%RSD	.12249	1.1274	.00992	.20500	.36975	.26972	.28790	.20101	.04151	.05690	.09107	.66545	.66545	.10668
#1	1.0253	490.20	.49042	.90745	51.442	.92756	1.9787	.94397	.90493	.99677	4.9847	10.039	21.484	9.0483
#2	1.0235	482.45	.49049	.90483	51.173	.93111	1.9868	.94666	.90440	.99597	4.9783	10.134	21.688	9.0619
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.97974**	**2.0870**	**.98743**	**8.5852**	**.60490**	**.49304**	**.96579**	**.99561**
Stddev	.00091	.0045	.00001	.0071	.01152	.00266	.00632	.00152
%RSD	.09256	.21742	.00085	.08317	1.9048	.53904	.65457	.15256
#1	.98038	2.0838	.98744	8.5801	.61305	.49116	.97026	.99668
#2	.97910	2.0902	.98743	8.5902	.59675	.49492	.96132	.99453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3441.2**	**44685.**	**3897.5**
Stddev	7.1	125.	31.2
%RSD	.20651	.27981	.79928
#1	3446.2	44596.	3919.6
#2	3436.1	44773.	3875.5

Sample Name: LRA-4238200 Acquired: 11/13/2016 13:12:03 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00045**	**.39827**	**9.5731**	**9.4754**	**12.007**	**.00160**	**-.02621**	**.06424**	**1.9645**	**4.8091**	**9.8218**	**10.370**	**499.12**
Stddev	.00001	.04455	.0089	.0088	.067	.00012	.00229	.00372	.0010	.0038	.0109	.009	1.20
%RSD	2.2857	11.186	.09262	.09301	.55640	7.2489	8.7405	5.7984	.05147	.07832	.11081	.08744	.24054
#1	-.00046	.42977	9.5668	9.4692	11.960	.00151	-.02459	.06687	1.9652	4.8064	9.8141	10.376	499.97
#2	-.00044	.36677	9.5794	9.4816	12.055	.00168	-.02783	.06160	1.9638	4.8117	9.8295	10.363	498.27
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.14217**	**.00132**	**.00385**	**9.5844**	**4.8461**	**.03424**	**9.8073**	**.00329**	**9.8243**	**-.01428**	**.03402**	**4.8044**	**48.386**
Stddev	.04319	.00153	.00821	.0915	.0061	.00550	.0039	.00225	.0089	.00308	.00017	.0095	.275
%RSD	30.378	116.28	212.97	.95465	.12654	16.055	.03968	68.615	.09040	21.550	.50553	.19872	.56884
#1	-.17270	.00240	.00966	9.5197	4.8417	.03812	9.8045	.00169	9.8181	-.01210	.03389	4.8112	48.192
#2	-.11163	.00023	-.00195	9.6491	4.8504	.03035	9.8100	.00488	9.8306	-.01645	.03414	4.7977	48.581
Check ?	None	None	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**103.55**	**.00212**	**10.036**	**-.02958**	**9.7484**	**4.8530**	**1.6748**	**9.7400**	**9.5578**	**.00272**
Stddev	.59	.00049	.257	.00129	.0036	.0002	.0080	.0020	.0211	.00208
%RSD	.56884	23.305	2.5621	4.3501	.03638	.00435	.47660	.02075	.22071	76.373
#1	103.13	.00247	10.218	-.03049	9.7459	4.8528	1.6691	9.7386	9.5429	.00125
#2	103.96	.00177	9.8539	-.02867	9.7509	4.8531	1.6804	9.7414	9.5727	.00420
Check ?	None	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3767.0**	**50530.**	**4009.7**
Stddev	.3	115.	11.3
%RSD	.00834	.22752	.28084
#1	3766.7	50611.	4001.7
#2	3767.2	50448.	4017.6

Sample Name: CCVH-4239353 Acquired: 11/13/2016 13:14:41 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00242**	**49.383**	**.00719**	**.01758**	**.00148**	**.00006**	**1.0049**	**.00265**	**.00051**	**-.00043**	**.00075**	**.00224**	**49.313**
Stddev	.00000	.046	.00729	.00326	.00041	.00005	.0040	.00238	.00011	.00006	.00031	.00049	.305
%RSD	.07054	.09378	101.35	18.527	27.621	79.557	.40113	89.657	20.735	13.350	41.600	21.811	.61925
#1	.00242	49.350	.00204	.01988	.00119	.00010	1.0020	.00433	.00059	-.00039	.00097	.00259	49.529
#2	.00242	49.416	.01235	.01527	.00177	.00003	1.0077	.00097	.00044	-.00047	.00053	.00189	49.097
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03494**	**.00006**	**.04501**	**.00132**	**.01229**	**246.39**	**.00121**	**.00409**	**.00118**	**4.8778**	**.00162**	**.00291**	**.05262**
Stddev	.00535	.00321	.00373	.00001	.00327	.16	.00040	.00012	.00070	.0087	.00144	.00236	.03264
%RSD	15.323	5346.7	8.2823	.43377	26.615	.06448	32.784	2.9140	59.339	.17896	88.735	81.203	62.038
#1	.03873	.00233	.04764	.00132	.00998	246.50	.00149	.00400	.00168	4.8840	.00060	.00124	.07570
#2	.03116	-.00221	.04237	.00131	.01460	246.28	.00093	.00417	.00069	4.8716	.00264	.00458	.02953
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.11260**	**.00073**	**.00134**	**4.9225**	**.01570**	**.01112**	**10.257**	**.01467**	**.00005**	**.10081**
Stddev	.06985	.00082	.00014	.0253	.00018	.00454	.055	.00033	.00057	.00013
%RSD	62.038	112.01	10.277	.51333	1.1461	40.831	.53321	2.2208	1142.5	.12447
#1	.16199	.00132	.00124	4.9403	.01582	.00791	10.219	.01444	-.00036	.10073
#2	.06320	.00015	.00144	4.9046	.01557	.01433	10.296	.01490	.00046	.10090
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3810.5**	**49643.**	**3994.8**
Stddev	4.8	675.	40.0
%RSD	.12605	1.3590	1.0015
#1	3807.2	49166.	3966.5
#2	3813.9	50120.	4023.1

Sample Name: CCV-4239351 Acquired: 11/13/2016 13:17:11 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49421**	**.50432**	**.98422**	**.50394**	**.49284**	**.49314**	**.00058**	**4.9250**	**.49516**	**.49771**	**.49650**	**.49900**	**2.4895**
Stddev	.00072	.00250	.00166	.00056	.00140	.00007	.00224	.0042	.00010	.00009	.00061	.00041	.0136
%RSD	.14469	.49581	.16849	.11024	.28459	.01489	383.91	.08456	.02039	.01828	.12309	.08227	.54755
#1	.49371	.50255	.98305	.50355	.49383	.49320	-.00100	4.9279	.49523	.49765	.49607	.49871	2.4992
#2	.49472	.50609	.98540	.50433	.49185	.49309	.00217	4.9220	.49509	.49778	.49693	.49929	2.4799
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.383**	**.99377**	**19.535**	**.49087**	**.49407**	**4.9582**	**.49702**	**.97982**	**.99555**	**.00157**	**.98705**	**.98312**	**4.9127**
Stddev	.099	.00462	.049	.00073	.00117	.0182	.00014	.00075	.00247	.00038	.00181	.00006	.0110
%RSD	.20046	.46487	.24885	.14831	.23582	.36636	.02788	.07615	.24792	24.397	.18364	.00651	.22425
#1	49.453	.99704	19.569	.49139	.49489	4.9711	.49711	.97929	.99381	.00130	.98577	.98317	4.9205
#2	49.313	.99051	19.500	.49036	.49324	4.9454	.49692	.98035	.99730	.00184	.98833	.98308	4.9049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.513**	**.99211**	**.49516**	**.00821**	**.48914**	**1.0060**	**-.01465**	**.48590**	**.48362**	**.49192**
Stddev	.024	.00131	.00155	.00001	.00111	.0019	.02133	.00053	.00086	.00042
%RSD	.22425	.13213	.31276	.17573	.22615	.18494	145.66	.10847	.17793	.08475
#1	10.530	.99119	.49626	.00820	.48992	1.0047	-.02973	.48627	.48301	.49222
#2	10.497	.99304	.49407	.00822	.48835	1.0073	.00044	.48553	.48423	.49163
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3884.0**	**52191.**	**4141.5**
Stddev	14.1	332.	13.3
%RSD	.36328	.63678	.32064
#1	3874.0	51956.	4132.1
#2	3893.9	52426.	4150.9

Sample Name: CCB Acquired: 11/13/2016 13:19:32 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00054**	F **.10695**	**.00599**	**.00855**	**.00022**	**.00013**	**.00066**	**-.00034**	**.00078**	**.00129**	**.00155**	**.00057**
Stddev	.00001	.14953	.00351	.00122	.00001	.00003	.00093	.00003	.00057	.00185	.00201	.00029
%RSD	2.4066	139.82	58.612	14.221	6.1845	24.053	140.15	9.9370	73.793	143.07	129.22	51.786
#1	.00053	.00121	.00351	.00769	.00021	.00011	.00001	-.00032	.00037	-.00002	.00013	.00077
#2	.00055	.21269	.00847	.00941	.00022	.00015	.00132	-.00036	.00118	.00260	.00297	.00036
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.07000										
Low Limit		-.07000										

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00387**	**.01669**	**.00143**	**.02684**	**.00055**	**.00433**	**.00836**	**.00160**	**.00246**	**.00168**	**.00505**	**.00236**
Stddev	.00209	.07347	.00109	.03634	.00059	.00283	.01236	.00211	.00236	.00260	.00468	.00225
%RSD	54.057	440.12	76.304	135.43	106.76	65.317	147.89	132.40	96.017	154.62	92.548	95.466
#1	.00534	.06865	.00066	.05253	.00096	.00233	-.00038	.00010	.00079	-.00016	.00175	.00077
#2	.00239	-.03526	.00220	.00114	.00013	.00632	.01710	.00309	.00413	.00352	.00836	.00396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00305**	**.00816**	**.01746**	**.00201**	**.00021**	**.00009**	**.00041**	**.00197**	**-.01734**	**.00049**	**.00021**	**.00005**
Stddev	.00204	.03772	.08073	.00207	.00013	.00187	.00044	.00293	.01442	.00035	.00047	.00055
%RSD	66.885	462.25	462.25	102.90	61.740	2165.3	109.32	148.68	83.188	71.901	219.38	1035.1
#1	.00161	-.01851	-.03962	.00055	.00012	.00141	.00072	-.00010	-.02753	.00074	.00055	.00044
#2	.00449	.03483	.07455	.00348	.00030	-.00124	.00009	.00404	-.00714	.00024	-.00012	-.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3946.3**	**52929.**	**4114.7**
Stddev	.2	52.	2.2
%RSD	.00579	.09811	.05391
#1	3946.1	52965.	4113.1
#2	3946.5	52892.	4116.2

Sample Name: CCVL-4245706 Acquired: 11/13/2016 13:22:07 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01007**	**.10353**	**.01894**	**.10090**	**.00987**	**.00107**	**.10487**	**.19963**	**.00503**	**.01051**	**.00983**	**.01503**
Stddev	.00071	.00010	.00456	.00051	.00043	.00004	.00042	.00267	.00023	.00024	.00020	.00006
%RSD	7.0431	.09881	24.077	.50300	4.3911	3.6111	.40401	1.3364	4.4737	2.2989	2.0653	.37060
#1	.01058	.10346	.01571	.10126	.01018	.00104	.10517	.19774	.00519	.01068	.00998	.01499
#2	.00957	.10360	.02216	.10054	.00957	.00109	.10457	.20152	.00488	.01034	.00969	.01507
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09936**	**2.9910**	**.02304**	**.20213**	**.01003**	**.01942**	**.99024**	**.04040**	**2.7685**	**.01093**	**-.00382**	**.01925**
Stddev	.00527	.0083	.00074	.00221	.00007	.00064	.00392	.00031	.0060	.00109	.00196	.00007
%RSD	5.3075	.27763	3.2009	1.0930	.70682	3.2726	.39575	.75775	.21826	9.9546	51.206	.37956
#1	.09563	2.9851	.02252	.20369	.01008	.01898	.99301	.04018	2.7642	.01016	-.00244	.01920
#2	.10309	2.9969	.02356	.20057	.00998	.01987	.98747	.04062	2.7728	.01170	-.00521	.01930
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01392**	**.48327**	**1.0342**	**.09638**	**.01007**	**.01600**	**.00963**	**.01492**	F **.00767**	**.00931**	**.01930**	**.01467**
Stddev	.00209	.03314	.0709	.00029	.00006	.00032	.00008	.00191	.03026	.00048	.00008	.00211
%RSD	15.008	6.8574	6.8574	.30200	.62825	2.0206	.83937	12.774	394.66	5.1411	.39949	14.419
#1	.01245	.45984	.98405	.09618	.01002	.01623	.00957	.01357	-.01373	.00965	.01935	.01317
#2	.01540	.50670	1.0843	.09659	.01011	.01577	.00968	.01627	.02906	.00898	.01924	.01616
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3913.7**	**53574.**	**4132.9**
Stddev	19.1	404.	5.4
%RSD	.48931	.75328	.12969
#1	3900.2	53288.	4136.7
#2	3927.2	53859.	4129.1

Sample Name: MB 280-350718/1-A Acquired: 11/13/2016 13:24:41 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00036**	**.00355**	**.00227**	**.00417**	**-.00007**	**-.00005**	**-.00017**	**.01359**	**.00019**
Stddev	.00009	.00018	.00071	.00017	.00041	.00009	.00144	.00403	.00005
%RSD	24.890	4.9674	31.152	4.1144	572.01	170.90	857.19	29.670	24.710
#1	.00043	.00343	.00177	.00405	-.00036	-.00012	-.00118	.01644	.00023
#2	.00030	.00368	.00277	.00429	.00022	.00001	.00085	.01074	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00020**	**.00017**	**-.00027**	**.00864**	**.01905**	**.00023**	**.00428**	**.00039**	**.00014**
Stddev	.00018	.00004	.00044	.00046	.01192	.00079	.00151	.00005	.00015
%RSD	86.891	25.196	166.16	5.3373	62.538	352.42	35.313	14.025	108.21
#1	.00033	.00020	-.00058	.00897	.02748	.00079	.00535	.00035	.00003
#2	.00008	.00014	.00005	.00832	.01063	-.00034	.00321	.00042	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00964**	**-.00003**	**.00120**	**.00189**	**.00006**	**.00011**	**.00223**	**-.01138**	**-.02436**
Stddev	.01337	.00022	.00246	.00001	.00190	.00242	.00058	.00940	.02012
%RSD	138.74	731.98	205.58	.67118	3315.3	2259.4	25.977	82.601	82.601
#1	.00018	.00012	.00293	.00190	-.00129	-.00160	.00182	-.01803	-.03859
#2	.01909	-.00018	-.00054	.00188	.00140	.00182	.00263	-.00474	-.01013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00041**	**.00005**	**.00162**	**-.00022**	**.00001**	**-.01678**	**-.00005**	**.00127**	**.00068**
Stddev	.00059	.00001	.00018	.00005	.00026	.01690	.00026	.00013	.00034
%RSD	144.84	27.323	10.949	21.071	1814.7	100.70	509.49	10.306	50.432
#1	-.00083	.00004	.00149	-.00025	-.00017	-.02873	-.00023	.00118	.00092
#2	.00001	.00006	.00174	-.00018	.00020	-.00483	.00013	.00137	.00044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4057.1**	**55195.**	**4272.9**
Stddev	2.6	27.	11.9
%RSD	.06427	.04981	.27964
#1	4055.3	55214.	4264.4
#2	4059.0	55176.	4281.3

Sample Name: LCS 280-350718/2-A Acquired: 11/13/2016 13:27:16 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05329**	**1.9199**	**1.0196**	**1.0118**	**2.0064**	**.04961**	**2.0700**	**49.465**	**.10424**
Stddev	.00114	.0009	.0030	.0032	.0030	.00006	.0130	.143	.00045
%RSD	2.1393	.04605	.29275	.31836	.14857	.11486	.62731	.28817	.42878
#1	.05248	1.9205	1.0217	1.0140	2.0043	.04957	2.0792	49.364	.10456
#2	.05409	1.9192	1.0175	1.0095	2.0085	.04965	2.0609	49.566	.10393
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49344**	**.20059**	**.25034**	**1.0080**	**50.255**	**1.0030**	**49.176**	**.48474**	**.97632**
Stddev	.00051	.00077	.00064	.0080	.115	.0014	.056	.00053	.00327
%RSD	.10345	.38627	.25439	.79514	.22927	.13591	.11408	.11011	.33497
#1	.49380	.20114	.24989	1.0023	50.174	1.0020	49.137	.48436	.97864
#2	.49308	.20004	.25080	1.0137	50.337	1.0040	49.216	.48512	.97401
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.833**	**.49362**	**10.037**	**.49623**	**1.9644**	**.50583**	**1.9957**	**9.7343**	**20.831**
Stddev	.172	.00099	.004	.00002	.0017	.00204	.0082	.0209	.045
%RSD	.33935	.20023	.03657	.00492	.08464	.40319	.41256	.21495	.21495
#1	50.955	.49432	10.040	.49622	1.9656	.50727	2.0015	9.7195	20.800
#2	50.711	.49292	10.035	.49625	1.9632	.50439	1.9898	9.7491	20.863
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9961**	**.99274**	**1.0099**	**.99120**	**1.9808**	**2.1158**	**.49277**	**.48351**	**.52228**
Stddev	.0018	.00253	.0039	.00009	.0112	.0025	.00106	.00112	.00389
%RSD	.08879	.25522	.38503	.00858	.56293	.11858	.21483	.23196	.74386
#1	1.9973	.99094	1.0071	.99126	1.9887	2.1140	.49203	.48271	.52503
#2	1.9948	.99453	1.0126	.99114	1.9729	2.1175	.49352	.48430	.51953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3738.5**	**51191.**	**4237.8**
Stddev	5.6	350.	33.1
%RSD	.15108	.68338	.78065
#1	3742.5	51439.	4261.2
#2	3734.5	50944.	4214.4

Sample Name: 280-90625-C-1-A Acquired: 11/13/2016 13:29:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00018**	**.35591**	**.06174**	**.04464**	**.21903**	**-.00007**	**.00152**	**72.507**	**.00088**
Stddev	.00011	.00142	.00018	.00048	.00019	.00006	.00124	.112	.00000
%RSD	63.863	.40019	.29662	1.0698	.08525	88.529	81.552	.15395	.47350
#1	.00026	.35490	.06187	.04498	.21916	-.00002	.00064	72.586	.00088
#2	.00010	.35691	.06161	.04430	.21889	-.00011	.00240	72.428	.00089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00056**	**.00583**	**.00190**	**67.488**	**5.8611**	**.00078**	**8.2616**	**.32922**	**.00505**
Stddev	.00024	.00011	.00006	.074	.0588	.00228	.0298	.00034	.00123
%RSD	43.826	1.9633	3.3674	.10997	1.0031	292.36	.36085	.10344	24.323
#1	.00073	.00574	.00186	67.435	5.9027	.00239	8.2827	.32946	.00418
#2	.00038	.00591	.00195	67.540	5.8195	-.00083	8.2406	.32898	.00592
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.931**	**.00140**	**.64376**	**.00197**	**6.5684**	**-.00133**	**.00290**	**7.0633**	**15.116**
Stddev	.141	.00007	.00350	.00093	.0016	.00162	.00435	.0063	.013
%RSD	1.1854	5.2667	.54373	47.473	.02392	122.27	149.72	.08921	.08921
#1	11.831	.00146	.64128	.00131	6.5673	-.00018	-.00017	7.0589	15.106
#2	12.031	.00135	.64623	.00262	6.5695	-.00247	.00598	7.0678	15.125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00006**	**.24469**	**-.00387**	**.00537**	**.00422**	**.20448**	**.01183**	**.01363**	**.00706**
Stddev	.00118	.00068	.00058	.00053	.00155	.02070	.00015	.00027	.00165
%RSD	2152.0	.27738	14.928	9.7888	36.768	10.124	1.2358	2.0046	23.390
#1	.00089	.24421	-.00346	.00500	.00313	.21912	.01172	.01343	.00822
#2	-.00078	.24517	-.00427	.00574	.00532	.18984	.01193	.01382	.00589
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3962.7**	**54024.**	**4321.6**
Stddev	.8	62.	7.1
%RSD	.01932	.11398	.16360
#1	3963.2	53980.	4326.6
#2	3962.1	54067.	4316.6

Sample Name: 280-90625-C-2-A Acquired: 11/13/2016 13:32:04 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**3.3217**	**.00266**	**.12448**	**.01731**	**.00088**	**.00021**	**109.84**	**.01312**
Stddev	.00022	.0327	.00323	.00024	.00009	.00011	.00078	.13	.00014
%RSD	60.511	.98431	121.32	.19122	.53539	12.571	372.91	.11738	1.0324
#1	-.00021	3.2986	.00495	.12464	.01737	.00080	.00077	109.75	.01321
#2	-.00052	3.3448	.00038	.12431	.01724	.00096	-.00034	109.93	.01302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01324**	**.00189**	**.00555**	**19.369**	**3.5139**	**.00337**	**14.311**	**.23214**	**-.00016**
Stddev	.00030	.00009	.00004	.035	.0039	.00191	.045	.00135	.00029
%RSD	2.2296	4.6626	.79702	.18204	.11164	56.880	.31405	.58228	181.79
#1	.01303	.00183	.00551	19.345	3.5112	.00201	14.279	.23119	-.00036
#2	.01345	.00195	.00558	19.394	3.5167	.00472	14.343	.23310	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	589.592 { 57}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.441**	**11.655**	**.02534**	**.06153**	**.00118**	**125.56**	**-.00142**	**.00002**	**3.2455**
Stddev	.005	.139	.00022	.00058	.00011	.29	.00177	.00129	.0267
%RSD	.05148	1.1934	.88473	.94451	9.1430	.22871	124.56	6778.3	.82107
#1	10.437	11.754	.02518	.06194	.00126	125.76	-.00268	.00093	3.2267
#2	10.444	11.557	.02549	.06112	.00110	125.35	-.00017	-.00090	3.2643
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.9454**	**.00039**	**.49212**	**-.00124**	**-.00002**	**-.00005**	**.04018**	**-.00031**	**.11237**
Stddev	.0570	.00033	.00030	.00022	.00020	.00031	.00723	.00033	.00052
%RSD	.82107	84.150	.06056	17.927	1014.3	673.55	17.999	107.49	.46695
#1	6.9051	.00062	.49191	-.00108	.00012	.00017	.04529	-.00054	.11274
#2	6.9857	.00016	.49233	-.00139	-.00016	-.00026	.03506	-.00007	.11200
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00017**
Stddev	.00169
%RSD	1007.5
#1	-.00103
#2	.00137
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90625-C-2-A Acquired: 11/13/2016 13:32:04 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4066.5**	**54581.**	**4412.0**
Stddev	79.4	447.	54.4
%RSD	1.9531	.81835	1.2338
#1	4010.3	54897.	4450.5
#2	4122.6	54266.	4373.5

Sample Name: 280-90625-A-3-G Acquired: 11/13/2016 13:34:35 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00002**	**2.0732**	**.00415**	**.43867**	**.04254**	**.00103**	**-.00075**	**19.160**	**.00125**
Stddev	.00060	.0055	.00066	.00028	.00003	.00001	.00146	.028	.00002
%RSD	3016.7	.26368	15.819	.06328	.05881	.90420	193.37	.14865	1.4086
#1	-.00040	2.0771	.00369	.43887	.04256	.00102	.00028	19.140	.00123
#2	.00044	2.0694	.00462	.43847	.04252	.00103	-.00178	19.180	.00126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00177**	**.00066**	**.00563**	**.01327**	**1.7843**	**.00360**	**8.4086**	**.01229**	**-.00006**
Stddev	.00024	.00015	.00051	.00287	.0081	.00001	.0167	.00003	.00022
%RSD	13.772	23.320	9.1321	21.644	.45649	.31989	.19867	.27381	370.04
#1	.00160	.00055	.00600	.01530	1.7901	.00359	8.3968	.01231	-.00021
#2	.00194	.00076	.00527	.01124	1.7785	.00360	8.4204	.01226	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.547**	**.00327**	**.03399**	**.00243**	**20.602**	**-.00157**	**.00256**	**2.6407**	**5.6510**
Stddev	.028	.00041	.00019	.00033	.018	.00035	.00080	.0058	.0125
%RSD	.18257	12.546	.57269	13.453	.08635	22.591	31.270	.22123	.22123
#1	15.527	.00298	.03413	.00220	20.614	-.00182	.00199	2.6365	5.6422
#2	15.568	.00356	.03385	.00266	20.589	-.00132	.00313	2.6448	5.6599
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**.05405**	**-.00084**	**-.00023**	**.00138**	**-.03675**	**-.00043**	**.04553**	**-.00032**
Stddev	.00080	.00008	.00173	.00002	.00064	.01688	.00005	.00049	.00326
%RSD	240.90	.15446	205.65	10.293	46.098	45.923	10.559	1.0761	1009.9
#1	.00090	.05411	-.00206	-.00021	.00183	-.02481	-.00040	.04519	.00198
#2	-.00023	.05399	.00038	-.00024	.00093	-.04868	-.00046	.04588	-.00263
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4214.6**	**58119.**	**4567.6**
Stddev	10.5	44.	.0
%RSD	.24823	.07627	.00002
#1	4207.2	58150.	4567.6
#2	4222.0	58087.	4567.6

Sample Name: 280-90625-C-4-G Acquired: 11/13/2016 13:37:05 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00039**	**.00325**	**.00116**	**.00236**	**.00024**	**-.00001**	**.00136**	**.00982**	**.00026**
Stddev	.00023	.00010	.00239	.00026	.00013	.00008	.00003	.00001	.00010
%RSD	58.135	3.0143	204.91	11.139	54.337	867.43	1.9931	.08663	39.460
#1	.00056	.00332	.00285	.00255	.00015	.00005	.00138	.00983	.00018
#2	.00023	.00318	-.00052	.00218	.00033	-.00007	.00134	.00982	.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00037**	**.00032**	**-.00059**	**.00649**	**.00065**	**-.00093**	**.00474**	**.00016**	**.00011**
Stddev	.00001	.00019	.00017	.00037	.00325	.00120	.00151	.00002	.00046
%RSD	2.5093	57.962	29.628	5.6500	500.64	127.99	31.898	9.9143	423.90
#1	.00036	.00019	-.00071	.00675	.00295	-.00178	.00581	.00015	-.00022
#2	.00038	.00045	-.00047	.00623	-.00165	-.00009	.00367	.00018	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00921**	**-.00032**	**.00145**	**.00065**	**.00985**	**.00064**	**-.00172**	**-.01365**	**-.02922**
Stddev	.00719	.00058	.00162	.00072	.00285	.00097	.00176	.01752	.03750
%RSD	78.114	183.72	111.80	110.57	28.959	152.32	102.37	128.33	128.33
#1	.01430	-.00073	.00260	.00117	.00784	-.00005	-.00297	-.00126	-.00270
#2	.00412	.00009	.00030	.00014	.01187	.00132	-.00048	-.02604	-.05573
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.00013**	**.00257**	**.00010**	**.00054**	**-.03753**	**-.00011**	**.00057**	**-.00008**
Stddev	.00022	.00017	.00040	.00022	.00113	.01620	.00011	.00016	.00221
%RSD	77.528	124.14	15.646	214.94	211.37	43.156	100.80	27.438	2722.2
#1	-.00013	.00002	.00228	.00026	.00134	-.02608	-.00003	.00046	.00148
#2	-.00044	.00025	.00285	-.00005	-.00026	-.04898	-.00018	.00068	-.00164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4068.6**	**56313.**	**4376.3**
Stddev	2.0	242.	15.3
%RSD	.04947	.42968	.34987
#1	4070.0	56142.	4387.1
#2	4067.1	56484.	4365.5

Sample Name: CCVH-4239353 Acquired: 11/13/2016 13:39:41 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00274**	**48.226**	**.00012**	**.00222**	**.00003**	**.00020**	**.98138**	**-.00019**	**.00076**	**-.00045**	**.00018**	**.00046**
Stddev	.00021	.356	.00108	.00051	.00016	.00000	.00029	.00134	.00022	.00002	.00004	.00011
%RSD	7.7339	.73836	910.17	22.788	593.40	2.4028	.02909	694.42	28.994	3.7239	20.201	23.801
#1	.00259	47.974	-.00064	.00258	-.00008	.00021	.98159	.00075	.00061	-.00046	.00016	.00054
#2	.00289	48.478	.00088	.00186	.00014	.00020	.98118	-.00114	.00092	-.00043	.00021	.00039
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.430**	**.00172**	**.00357**	**.03724**	**.00079**	**-.00110**	**240.11**	**.00034**	**.00528**	**.00120**	**4.8431**	**.00201**
Stddev	.463	.03566	.00129	.00377	.00003	.00004	1.50	.00052	.00076	.00057	.0066	.00174
%RSD	.95577	2072.0	36.096	10.133	4.1060	3.5337	.62286	155.23	14.334	47.891	.13653	86.875
#1	48.103	.02693	.00266	.03991	.00077	-.00113	239.06	.00071	.00582	.00079	4.8385	.00077
#2	48.758	-.02349	.00448	.03457	.00082	-.00107	241.17	-.00003	.00475	.00160	4.8478	.00324
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00848**	**-.02277**	**-.04873**	**.00036**	**.00038**	W **4.7390**	**.01508**	**.00087**	**10.032**	**.01344**	**-.00036**	**.10226**
Stddev	.00037	.00450	.00962	.00050	.00003	.0117	.00007	.00053	.022	.00040	.00006	.00152
%RSD	4.3657	19.753	19.753	136.27	6.7079	.24737	.45237	61.712	.22305	3.0032	16.892	1.4849
#1	-.00822	-.02595	-.05553	.00072	.00040	4.7307	.01512	.00049	10.017	.01316	-.00040	.10119
#2	-.00874	-.01959	-.04192	.00001	.00037	4.7473	.01503	.00124	10.048	.01373	-.00031	.10334
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3876.1**	**52405.**	**4274.9**
Stddev	3.8	161.	35.2
%RSD	.09858	.30793	.82456
#1	3873.4	52519.	4299.9
#2	3878.8	52291.	4250.0

Sample Name: CCV-4239351 Acquired: 11/13/2016 13:42:11 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48604**	**.49294**	**.95510**	**.49079**	**.48754**	**.48243**	**.00104**	**4.8875**	**.49137**	**.49183**	**.49137**	**.49023**	**2.4397**
Stddev	.00160	.00160	.00294	.00087	.00137	.00087	.00355	.0227	.00038	.00024	.00088	.00014	.0077
%RSD	.32962	.32521	.30827	.17803	.28054	.18132	339.86	.46504	.07709	.04781	.17884	.02853	.31574
#1	.48717	.49407	.95718	.49140	.48658	.48182	.00356	4.8714	.49110	.49166	.49199	.49033	2.4342
#2	.48490	.49181	.95302	.49017	.48851	.48305	-.00147	4.9035	.49164	.49200	.49075	.49013	2.4451
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.849**	**.99708**	**18.920**	**.47609**	**.48728**	**4.8861**	**.49106**	**.96177**	**.98659**	**.00467**	**.97585**	**.95571**	**4.8487**
Stddev	.190	.00484	.035	.00046	.00131	.0211	.00017	.00039	.00037	.00192	.00076	.00390	.0004
%RSD	.38996	.48529	.18308	.09742	.26911	.43146	.03391	.04061	.03737	41.136	.07821	.40802	.00855
#1	48.714	.99366	18.945	.47642	.48821	4.8712	.49094	.96205	.98633	.00331	.97639	.95847	4.8484
#2	48.983	1.0005	18.896	.47576	.48635	4.9010	.49118	.96150	.98685	.00603	.97531	.95295	4.8490
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.376**	**.97999**	**.48372**	**.00852**	**.47576**	**1.0017**	**-.02150**	**.47425**	**.46570**	**.49452**
Stddev	.001	.00096	.00028	.00002	.00009	.0034	.00486	.00186	.00044	.00589
%RSD	.00855	.09757	.05755	.29186	.01894	.34395	22.584	.39164	.09497	1.1914
#1	10.376	.98067	.48353	.00853	.47569	.99923	-.01807	.47556	.46601	.49035
#2	10.377	.97931	.48392	.00850	.47582	1.0041	-.02493	.47293	.46538	.49868
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3917.5**	**53578.**	**4218.5**
Stddev	2.3	263.	16.9
%RSD	.05862	.49045	.39954
#1	3919.2	53393.	4230.4
#2	3915.9	53764.	4206.6

Sample Name: CCB Acquired: 11/13/2016 13:44:32 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00074**	**.00004**	**.00191**	**.00092**	**-.00015**	**.00001**	**.00171**	**-.00037**	**.00026**	**.00013**	**.00001**	**-.00065**	**-.00019**
Stddev	.00010	.00029	.00128	.00015	.00021	.00020	.00139	.00057	.00015	.00007	.00022	.00018	.00071
%RSD	14.103	717.60	66.767	16.505	136.03	1771.8	81.334	153.81	56.566	52.708	4215.2	27.121	370.53
#1	.00081	.00024	.00281	.00081	-.00001	-.00013	.00073	.00003	.00036	.00018	.00016	-.00053	-.00070
#2	.00066	-.00016	.00101	.00103	-.00030	.00015	.00270	-.00077	.00016	.00008	-.00015	-.00078	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00776**	**.00146**	**-.00079**	**.00008**	**.00196**	**.02282**	**.00023**	**-.00025**	**.00174**	**.00665**	**.00165**	**.00289**	**-.01050**
Stddev	.00909	.00399	.00037	.00003	.00130	.01346	.00002	.00031	.00150	.00062	.00268	.00334	.00263
%RSD	117.16	273.62	46.716	34.329	66.238	58.998	8.7668	125.24	86.043	9.3602	162.10	115.78	25.025
#1	-.01418	-.00136	-.00105	.00010	.00104	.01330	.00024	-.00047	.00280	.00709	-.00024	.00525	-.00864
#2	-.00133	.00428	-.00053	.00006	.00288	.03234	.00022	-.00003	.00068	.00621	.00355	.00052	-.01236
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02247**	**.00080**	**.00011**	**.00115**	**.00006**	**.00063**	**-.02923**	**-.00037**	**-.00012**	**-.00055**
Stddev	.00562	.00095	.00009	.00036	.00004	.00126	.01047	.00004	.00037	.00128
%RSD	25.025	118.79	80.384	31.502	57.032	201.67	35.829	9.4796	294.87	231.05
#1	-.01849	.00146	.00017	.00089	.00004	.00152	-.02183	-.00040	-.00038	.00035
#2	-.02644	.00013	.00005	.00140	.00009	-.00027	-.03664	-.00035	.00013	-.00145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3944.7**	**54403.**	**4183.6**
Stddev	2.4	184.	22.4
%RSD	.06200	.33854	.53593
#1	3946.4	54533.	4167.7
#2	3943.0	54272.	4199.5

Sample Name: CCVL-4245706 Acquired: 11/13/2016 13:47:07 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01021**	**.10068**	**.01708**	**.09664**	**.01000**	**.00087**	**.10341**	**.19287**	**.00518**	**.01042**	**.01008**	**.01394**
Stddev	.00008	.00082	.00115	.00046	.00020	.00007	.00005	.00213	.00010	.00005	.00016	.00004
%RSD	.73726	.80982	6.7473	.47520	2.0002	7.9051	.04769	1.1057	1.8761	.43490	1.5382	.26954
#1	.01015	.10010	.01627	.09697	.01014	.00092	.10338	.19136	.00525	.01039	.00997	.01397
#2	.01026	.10125	.01790	.09632	.00986	.00082	.10345	.19437	.00511	.01045	.01019	.01391
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09807**	**2.9672**	**.02216**	**.19847**	**.00976**	**.01826**	**.98289**	**.03993**	**2.7459**	**.01023**	**.00207**	**.01763**
Stddev	.00042	.0018	.00074	.00344	.00004	.00013	.00755	.00010	.0020	.00144	.00341	.00035
%RSD	.42824	.06155	3.3473	1.7346	.41433	.71972	.76843	.26048	.07152	14.105	165.24	1.9696
#1	.09837	2.9684	.02163	.20091	.00979	.01835	.97755	.03986	2.7472	.01125	.00448	.01739
#2	.09777	2.9659	.02268	.19604	.00973	.01817	.98823	.04000	2.7445	.00921	-.00035	.01788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01417**	**.45843**	**.98104**	**.09612**	**.00967**	**.01549**	**.00915**	**.01607**	F **.02994**	**.00928**	**.01811**	**.01600**
Stddev	.00121	.00752	.01610	.00031	.00004	.00126	.00023	.00018	.00784	.00045	.00022	.00044
%RSD	8.5291	1.6412	1.6412	.32589	.42761	8.1350	2.4750	1.1310	26.196	4.8275	1.1913	2.7448
#1	.01502	.45311	.96966	.09590	.00970	.01638	.00899	.01620	.02439	.00960	.01795	.01569
#2	.01331	.46375	.99243	.09634	.00964	.01460	.00931	.01594	.03549	.00896	.01826	.01631
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3975.8**	**54783.**	**4210.6**
Stddev	3.4	14.	1.1
%RSD	.08556	.02632	.02498
#1	3973.4	54773.	4211.3
#2	3978.3	54793.	4209.9

Sample Name: MB 280-350718/1-A Acquired: 11/13/2016 13:49:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00080**	**.00413**	**.00197**	**.00074**	**-.00029**	**-.00002**	**.00060**	**.00635**	**.00021**
Stddev	.00011	.00022	.00251	.00051	.00005	.00006	.00307	.00025	.00003
%RSD	14.149	5.2592	127.47	68.840	18.239	238.72	514.71	3.9188	12.102
#1	.00088	.00398	.00019	.00110	-.00025	-.00007	-.00158	.00653	.00023
#2	.00072	.00429	.00374	.00038	-.00032	.00002	.00277	.00617	.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00048**	**.00005**	**-.00062**	**.00801**	**.00959**	**.00087**	**.00544**	**.00031**	**-.00014**
Stddev	.00001	.00012	.00046	.00098	.00785	.00001	.00089	.00008	.00014
%RSD	2.4322	230.60	73.673	12.227	81.860	1.6408	16.331	24.518	105.23
#1	.00048	-.00003	-.00095	.00732	.00404	.00088	.00607	.00026	-.00024
#2	.00049	.00014	-.00030	.00870	.01513	.00086	.00482	.00037	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01981**	**-.00001**	**.00097**	**.00091**	**.00274**	**.00237**	**-.00027**	**.00917**	**.01963**
Stddev	.00355	.00002	.00018	.00077	.00158	.00036	.00099	.00996	.02132
%RSD	17.920	156.22	18.796	85.122	57.754	15.118	369.24	108.62	108.62
#1	.01730	-.00002	.00110	.00036	.00386	.00262	-.00097	.00213	.00455
#2	.02232	.00000	.00084	.00146	.00162	.00212	.00043	.01622	.03471
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00042**	**.00016**	**.00134**	**-.00012**	**-.00077**	W **-.05629**	**-.00031**	**.00095**	**.00181**
Stddev	.00000	.00008	.00011	.00021	.00031	.00440	.00060	.00010	.00012
%RSD	1.0942	50.530	8.3163	174.59	39.794	7.8088	192.94	10.247	6.3939
#1	.00041	.00022	.00126	-.00026	-.00098	-.05940	-.00074	.00088	.00189
#2	.00042	.00011	.00142	.00003	-.00055	-.05318	.00011	.00102	.00173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
High Limit						.05000			
Low Limit						-.05000			

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4026.7**	**55897.**	**4227.3**
Stddev	11.7	148.	18.4
%RSD	.28969	.26503	.43568
#1	4035.0	56002.	4240.4
#2	4018.5	55792.	4214.3

Sample Name: LCS 280-350718/2-A Acquired: 11/13/2016 13:52:15 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05219**	**1.8921**	**.99035**	**1.0078**	**1.9988**	**.04898**	**2.0482**	**49.512**	**.10411**
Stddev	.00047	.0106	.00336	.0027	.0013	.00014	.0043	.114	.00037
%RSD	.89340	.56027	.33966	.27163	.06663	.29041	.20901	.22973	.35475
#1	.05252	1.8846	.98798	1.0059	1.9998	.04888	2.0452	49.431	.10385
#2	.05186	1.8996	.99273	1.0098	1.9979	.04908	2.0512	49.592	.10437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49061**	**.20084**	**.24309**	**.99464**	**50.173**	**1.0108**	**47.825**	**.47056**	**.97562**
Stddev	.00252	.00124	.00050	.00568	.076	.0025	.141	.00109	.00509
%RSD	.51291	.61512	.20583	.57135	.15057	.24721	.29470	.23088	.52128
#1	.48883	.19996	.24345	.99063	50.120	1.0125	47.924	.47133	.97203
#2	.49239	.20171	.24274	.99866	50.227	1.0090	47.725	.46979	.97922
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.187**	**.49109**	**9.9286**	**.49601**	**1.9673**	**.50090**	**1.9518**	**9.6669**	**20.687**
Stddev	.511	.00245	.0293	.00417	.0030	.00003	.0051	.0280	.060
%RSD	1.0175	.49894	.29542	.84036	.15264	.00548	.25912	.28958	.28958
#1	49.826	.48936	9.9079	.49306	1.9652	.50088	1.9482	9.6472	20.645
#2	50.548	.49282	9.9494	.49895	1.9695	.50092	1.9554	9.6867	20.730
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9976**	**.97159**	**.97600**	**.96223**	**1.9893**	**2.1138**	**.48109**	**.46683**	**.52218**
Stddev	.0072	.00042	.00231	.00267	.0073	.0228	.00028	.00122	.00281
%RSD	.36152	.04291	.23686	.27781	.36698	1.0796	.05851	.26168	.53887
#1	1.9925	.97129	.97436	.96412	1.9841	2.1300	.48129	.46770	.52417
#2	2.0027	.97188	.97763	.96034	1.9944	2.0977	.48089	.46597	.52019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3768.9**	**52537.**	**4203.2**
Stddev	44.3	252.	29.1
%RSD	1.1754	.47971	.69137
#1	3800.2	52358.	4223.8
#2	3737.6	52715.	4182.7

Sample Name: 280-90625-C-1-A Acquired: 11/13/2016 13:54:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00002**	**.51431**	**.06240**	**.04324**	**.22135**	**.00007**	**.00175**	**73.818**	**.00094**
Stddev	.00036	.02222	.00049	.00084	.00106	.00005	.00223	.211	.00019
%RSD	2192.8	4.3196	.78532	1.9386	.48085	75.231	127.57	.28532	20.024
#1	.00027	.53002	.06205	.04384	.22211	.00010	.00333	73.967	.00107
#2	-.00024	.49860	.06275	.04265	.22060	.00003	.00017	73.670	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00072**	**.00622**	**.00148**	**68.648**	**5.9582**	**.00200**	**8.2503**	**.32742**	**.00523**
Stddev	.00059	.00036	.00014	.354	.0486	.00012	.0202	.00111	.00063
%RSD	81.915	5.7613	9.7030	.51507	.81592	6.1156	.24446	.33941	12.049
#1	.00113	.00647	.00138	68.898	5.9926	.00208	8.2646	.32820	.00478
#2	.00030	.00597	.00158	68.398	5.9238	.00191	8.2360	.32663	.00568
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.294**	**.00118**	**.64694**	**.00100**	**6.6056**	**-.00018**	**.00349**	**7.5247**	**16.103**
Stddev	.105	.00067	.00526	.00092	.0096	.00393	.00254	.0172	.037
%RSD	.85788	56.321	.81320	92.442	.14555	2131.2	72.808	.22826	.22826
#1	12.369	.00166	.65066	.00035	6.5988	.00260	.00169	7.5369	16.129
#2	12.220	.00071	.64322	.00165	6.6124	-.00297	.00529	7.5126	16.077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00165**	**.24280**	**-.00233**	**.01025**	**.00572**	**.20099**	**.01173**	**.01365**	**.00717**
Stddev	.00092	.00111	.00211	.00074	.00103	.04922	.00035	.00055	.00020
%RSD	55.787	.45809	90.282	7.2460	17.992	24.490	3.0108	4.0555	2.7818
#1	.00230	.24359	-.00382	.01078	.00499	.23579	.01148	.01404	.00703
#2	.00100	.24201	-.00084	.00973	.00645	.16618	.01198	.01326	.00731
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3924.4**	**53332.**	**4142.3**
Stddev	1.4	399.	12.9
%RSD	.03654	.74856	.31166
#1	3925.4	53050.	4133.2
#2	3923.4	53614.	4151.5

Sample Name: 280-90625-C-2-A Acquired: 11/13/2016 13:57:02 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00043**	**3.3804**	**.00272**	**.12394**	**.01748**	**.00079**	**.00169**	**111.38**	**.01338**
Stddev	.00013	.0024	.00249	.00027	.00021	.00005	.00192	.34	.00008
%RSD	30.546	.07193	91.676	.21393	1.1784	6.2226	113.66	.30669	.62826
#1	.00033	3.3787	.00096	.12413	.01734	.00075	.00033	111.13	.01344
#2	.00052	3.3822	.00448	.12376	.01763	.00082	.00305	111.62	.01332
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01316**	**.00212**	**.00499**	**19.439**	**3.5281**	**.00279**	**14.167**	**.22840**	**-.00032**
Stddev	.00020	.00033	.00014	.064	.0167	.00131	.023	.00012	.00065
%RSD	1.5359	15.362	2.7261	.32714	.47261	46.998	.15897	.05163	203.44
#1	.01330	.00189	.00509	19.394	3.5399	.00186	14.183	.22848	-.00078
#2	.01302	.00235	.00489	19.483	3.5163	.00371	14.152	.22831	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	589.592 { 57}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.456**	**11.392**	**.02540**	**.06087**	**.00175**	**126.51**	**.00022**	**-.00387**	**3.2742**
Stddev	.042	.112	.00023	.00180	.00005	.16	.00198	.00438	.0147
%RSD	.39843	.97947	.91622	2.9569	2.8356	.12980	901.82	113.32	.44841
#1	10.427	11.314	.02523	.06214	.00178	126.63	.00162	-.00696	3.2638
#2	10.485	11.471	.02556	.05959	.00171	126.39	-.00118	-.00077	3.2846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.0068**	**-.00022**	**.48804**	**-.00175**	**-.00016**	**-.00101**	**.07917**	**-.00057**	**.11104**
Stddev	.0314	.00006	.00295	.00094	.00003	.00219	.00599	.00024	.00062
%RSD	.44841	28.595	.60451	53.826	17.229	217.10	7.5715	42.057	.56115
#1	6.9846	-.00017	.48596	-.00108	-.00018	-.00256	.07493	-.00074	.11148
#2	7.0290	-.00026	.49013	-.00242	-.00014	.00054	.08341	-.00040	.11060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00099**
Stddev	.00108
%RSD	109.29
#1	.00022
#2	.00175
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90625-C-2-A Acquired: 11/13/2016 13:57:02 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4105.5**	**55055.**	**4295.9**
Stddev	8.8	17.	48.3
%RSD	.21399	.03093	1.1242
#1	4111.8	55043.	4330.1
#2	4099.3	55067.	4261.8

Sample Name: 280-90625-A-3-G Acquired: 11/13/2016 13:59:32 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**2.0839**	**.00619**	**.43855**	**.04273**	**.00113**	**.00141**	**19.325**	**.00103**
Stddev	.00019	.0085	.00122	.00055	.00015	.00001	.00109	.137	.00015
%RSD	58.865	.40960	19.640	.12455	.35736	.87926	77.258	.71002	15.002
#1	.00019	2.0779	.00533	.43816	.04262	.00113	.00064	19.422	.00092
#2	.00047	2.0900	.00705	.43893	.04284	.00112	.00218	19.228	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00201**	**.00066**	**.00504**	**.01752**	**1.7882**	**.00264**	**8.4052**	**.01210**	**.00006**
Stddev	.00006	.00004	.00014	.00368	.0232	.00228	.0125	.00008	.00029
%RSD	2.9340	6.2973	2.8599	21.025	1.2960	86.419	.14829	.68828	455.13
#1	.00205	.00069	.00514	.01491	1.7718	.00103	8.3964	.01204	.00027
#2	.00197	.00063	.00493	.02012	1.8046	.00426	8.4140	.01216	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.559**	**.00315**	**.03279**	**.00149**	**20.846**	**-.00314**	**.00136**	**2.6345**	**5.6377**
Stddev	.024	.00010	.00160	.00086	.004	.00145	.00017	.0022	.0047
%RSD	.15534	3.1023	4.8811	58.077	.01746	46.097	12.636	.08316	.08316
#1	15.576	.00309	.03392	.00210	20.849	-.00211	.00148	2.6360	5.6411
#2	15.542	.00322	.03166	.00088	20.844	-.00416	.00124	2.6329	5.6344
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00081**	**.05377**	**.00179**	**-.00014**	**-.00063**	**-.02311**	**.00002**	**.04530**	**.00012**
Stddev	.00018	.00003	.00033	.00001	.00092	.00736	.00078	.00049	.00018
%RSD	22.872	.05820	18.649	7.7488	144.72	31.870	4942.0	1.0796	156.21
#1	-.00094	.05375	.00202	-.00015	.00001	-.02831	-.00054	.04495	-.00001
#2	-.00068	.05380	.00155	-.00013	-.00128	-.01790	.00057	.04564	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4157.5**	**58132.**	**4550.8**
Stddev	16.7	10.	29.3
%RSD	.40064	.01757	.64475
#1	4169.3	58140.	4530.0
#2	4145.8	58125.	4571.5

Sample Name: 280-90625-C-4-G Acquired: 11/13/2016 14:02:02 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00063**	**.00349**	**-.00104**	**.00185**	**.00038**	**-.00006**	**-.00113**	**.00934**	**.00037**
Stddev	.00013	.00009	.00253	.00051	.00025	.00006	.00268	.00100	.00010
%RSD	20.864	2.6257	244.00	27.498	65.710	90.730	237.13	10.713	27.099
#1	.00054	.00342	.00075	.00221	.00021	-.00011	.00076	.00864	.00045
#2	.00073	.00355	-.00283	.00149	.00056	-.00002	-.00302	.01005	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00048**	**.00022**	**-.00102**	**.00352**	**.00986**	**.00101**	**.00390**	**.00016**	**-.00011**
Stddev	.00005	.00012	.00002	.00224	.05207	.00177	.00240	.00006	.00002
%RSD	11.275	56.181	2.2601	63.572	528.06	175.70	61.486	34.337	21.498
#1	.00044	.00013	-.00100	.00511	-.02696	.00226	.00221	.00020	-.00013
#2	.00051	.00030	-.00104	.00194	.04668	-.00024	.00560	.00012	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00429**	**-.00001**	**.00065**	**.00133**	**.01314**	**-.00030**	**-.00005**	**.00701**	**.01500**
Stddev	.00812	.00022	.00127	.00114	.00032	.00214	.00212	.00752	.01609
%RSD	189.24	1727.6	195.27	85.837	2.4350	707.13	4098.7	107.27	107.27
#1	-.00145	.00014	.00155	.00213	.01292	.00121	.00145	.01233	.02638
#2	.01003	-.00017	-.00025	.00052	.01337	-.00182	-.00155	.00169	.00362
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00111**	**.00003**	**.00138**	**.00004**	**.00086**	**-.04365**	**.00006**	**.00068**	**-.00074**
Stddev	.00015	.00002	.00060	.00003	.00018	.02234	.00025	.00041	.00222
%RSD	13.987	69.233	43.599	84.804	21.462	51.168	431.78	60.202	298.83
#1	-.00122	.00002	.00096	.00006	.00073	-.02786	-.00012	.00098	-.00231
#2	-.00100	.00005	.00181	.00002	.00099	-.05945	.00024	.00039	.00083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4033.1**	**56123.**	**4284.3**
Stddev	8.3	170.	3.3
%RSD	.20654	.30306	.07684
#1	4027.2	56243.	4286.7
#2	4039.0	56003.	4282.0

Sample Name: 280-90625-A-6-G Acquired: 11/13/2016 14:04:37 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**.00887**	**-.00029**	**.01258**	**.04156**	**.00000**	**-.00070**	**7.6602**	**.00144**
Stddev	.00018	.00023	.00434	.00025	.00034	.00005	.00154	.0215	.00002
%RSD	27.049	2.6158	1502.4	1.9901	.81340	1140.9	219.87	.28025	1.2740
#1	.00081	.00870	-.00336	.01276	.04133	.00004	-.00178	7.6753	.00143
#2	.00055	.00903	.00278	.01240	.04180	-.00003	.00039	7.6450	.00145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00038**	**.00034**	**.00338**	**.39283**	**.61139**	**.00278**	**1.8418**	**.01901**	**.00178**
Stddev	.00018	.00021	.00005	.00071	.02945	.00203	.0021	.00001	.00007
%RSD	46.457	63.292	1.4856	.18063	4.8173	73.270	.11617	.04354	3.7509
#1	.00050	.00019	.00341	.39232	.63221	.00421	1.8403	.01901	.00173
#2	.00025	.00049	.00334	.39333	.59056	.00134	1.8433	.01900	.00182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.2657**	**.00220**	**.03669**	**.00112**	**1.4573**	**-.00014**	**-.00151**	**.63361**	**1.3559**
Stddev	.0185	.00035	.00205	.00034	.0084	.00068	.00216	.02626	.0562
%RSD	.81773	16.000	5.5796	30.326	.57447	502.11	143.68	4.1445	4.1445
#1	2.2788	.00196	.03813	.00136	1.4632	-.00061	-.00304	.65218	1.3957
#2	2.2526	.00245	.03524	.00088	1.4514	.00034	.00002	.61504	1.3162
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.03104**	**.00204**	**.00003**	**-.00118**	**-.03111**	**-.00013**	**.01036**	**-.00028**
Stddev	.00134	.00007	.00052	.00035	.00141	.01236	.00027	.00001	.00101
%RSD	4382.6	.23164	25.695	1251.9	119.77	39.714	209.16	.09551	354.53
#1	.00098	.03099	.00241	-.00022	-.00018	-.03985	-.00031	.01037	-.00100
#2	-.00092	.03110	.00167	.00027	-.00217	-.02237	.00006	.01035	.00043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4017.7**	**55749.**	**4240.3**
Stddev	2.8	256.	30.9
%RSD	.06906	.45904	.72875
#1	4019.7	55930.	4218.4
#2	4015.7	55568.	4262.1

Sample Name: 280-90627-A-1-C Acquired: 11/13/2016 14:07:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00043**	W **2.6144**	W **2.8792**	**.04509**	**.07829**	**.07800**	**-.00013**	**.00017**	**20.780**
Stddev	.00023	.0034	.0185	.00116	.00013	.00048	.00001	.00088	.042
%RSD	53.513	.12834	.64334	2.5729	.16383	.62092	4.5934	522.89	.20076
#1	.00027	2.6167	2.8661	.04591	.07820	.07765	-.00013	.00079	20.750
#2	.00059	2.6120	2.8923	.04427	.07838	.07834	-.00014	-.00045	20.809
Check ?	Chk Pass	Chk Warn	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.5000	500.00						
Low Limit		-.20000	3.2000						

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00984**	**.00122**	**.01174**	**.00323**	**32.012**	**12.800**	**.00134**	**3.5493**	**.01602**
Stddev	.00007	.00025	.00012	.00022	.074	.046	.00023	.0071	.00001
%RSD	.71070	20.500	1.0610	6.7662	.23075	.35962	17.302	.19939	.06277
#1	.00989	.00104	.01182	.00339	31.960	12.768	.00117	3.5543	.01602
#2	.00979	.00140	.01165	.00308	32.064	12.833	.00150	3.5443	.01601
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04285**	**33.181**	**.00168**	**.06284**	**.00300**	**.55420**	**-.00093**	**-.00031**	**4.4825**
Stddev	.00016	.036	.00005	.00264	.00036	.00118	.00033	.00144	.0052
%RSD	.38206	.10848	3.0930	4.2062	11.881	.21220	35.775	458.22	.11668
#1	.04297	33.207	.00172	.06097	.00275	.55503	-.00069	-.00133	4.4788
#2	.04274	33.156	.00165	.06471	.00325	.55337	-.00116	.00070	4.4862
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.5926**	**-.00020**	**.29796**	**-.00046**	**.04226**	**.00164**	**.09080**	**.00916**	**.01818**
Stddev	.0112	.00018	.00123	.00007	.00114	.00020	.02205	.00034	.00042
%RSD	.11668	90.135	.41274	15.174	2.7007	12.008	24.280	3.7107	2.2935
#1	9.5847	-.00007	.29709	-.00051	.04146	.00177	.07521	.00892	.01847
#2	9.6005	-.00032	.29883	-.00041	.04307	.00150	.10639	.00940	.01788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.01162**
Stddev	.00266
%RSD	22.882
#1	.01350
#2	.00974
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90627-A-1-C Acquired: 11/13/2016 14:07:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3924.2**	**53709.**	**4163.7**
Stddev	6.4	47.	29.9
%RSD	.16221	.08686	.71844
#1	3919.7	53742.	4184.8
#2	3928.7	53677.	4142.5

Sample Name: 280-90627-C-2-C Acquired: 11/13/2016 14:09:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00076**	**.10711**	**.02542**	**.04480**	**.02743**	**-.00015**	**.00376**	**83.621**	**.00032**
Stddev	.00072	.00054	.00025	.00095	.00003	.00008	.00103	.098	.00001
%RSD	93.687	.50346	.97805	2.1311	.12297	51.418	27.539	.11738	1.9812
#1	.00026	.10673	.02525	.04412	.02745	-.00010	.00302	83.552	.00032
#2	.00127	.10749	.02560	.04547	.02741	-.00021	.00449	83.690	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00081**	**.00237**	**.00059**	**78.671**	**6.2803**	**-.00058**	**9.9864**	**.21113**	**.01374**
Stddev	.00012	.00026	.00028	.101	.0461	.00192	.0013	.00006	.00005
%RSD	15.219	10.938	47.074	.12890	.73484	331.08	.01284	.03078	.37847
#1	.00072	.00218	.00078	78.599	6.2477	.00078	9.9873	.21117	.01370
#2	.00090	.00255	.00039	78.743	6.3129	-.00194	9.9855	.21108	.01377
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**16.888**	**-.00014**	**.18458**	**.00141**	**.56546**	**.00029**	**-.00158**	**1.9135**	**4.0949**
Stddev	.248	.00005	.00182	.00139	.00903	.00088	.00198	.0046	.0099
%RSD	1.4665	36.322	.98829	98.232	1.5963	302.24	125.07	.24275	.24275
#1	17.063	-.00018	.18329	.00239	.57184	.00091	-.00298	1.9102	4.0879
#2	16.713	-.00011	.18587	.00043	.55908	-.00033	-.00018	1.9168	4.1019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00039**	**.55184**	**-.00507**	**.00116**	**-.00071**	**.26622**	**.00320**	**.01318**	**-.00198**
Stddev	.00106	.00066	.00027	.00006	.00268	.00706	.00042	.00025	.00517
%RSD	269.73	.12002	5.2622	5.5871	377.92	2.6501	12.965	1.9041	260.62
#1	.00115	.55231	-.00488	.00120	-.00260	.26123	.00291	.01336	.00167
#2	-.00036	.55137	-.00526	.00111	.00119	.27121	.00350	.01300	-.00564
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3918.5**	**54088.**	**4174.8**
Stddev	3.6	12.	32.3
%RSD	.09227	.02176	.77411
#1	3921.1	54080.	4197.6
#2	3916.0	54096.	4151.9

Sample Name: CCVH-4239353 Acquired: 11/13/2016 14:12:15 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00218**	**48.213**	**.00173**	**.00056**	**.00037**	**.00017**	**.96944**	**-.00432**	**.00037**	**-.00046**	**.00032**	**-.00150**
Stddev	.00009	.099	.00418	.00009	.00006	.00009	.00496	.00180	.00011	.00007	.00007	.00034
%RSD	3.9850	.20537	241.74	15.921	15.672	52.714	.51158	41.755	29.544	15.074	21.708	22.606
#1	.00211	48.143	.00469	.00050	.00041	.00024	.97295	-.00304	.00029	-.00041	.00037	-.00174
#2	.00224	48.283	-.00123	.00062	.00033	.00011	.96593	-.00560	.00045	-.00051	.00027	-.00126
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.012**	**.06630**	**.00129**	**.04714**	**.00069**	**-.00151**	**238.95**	**.00072**	**.00548**	**-.00178**	**4.8646**	**.00288**
Stddev	.049	.00072	.00172	.00141	.00001	.00044	.35	.00032	.00229	.00065	.0144	.00183
%RSD	.10022	1.0872	133.54	3.0008	1.2337	29.449	.14505	44.475	41.850	36.747	.29674	63.643
#1	48.977	.06579	.00251	.04814	.00070	-.00183	239.19	.00095	.00386	-.00224	4.8748	.00158
#2	49.046	.06681	.00007	.04614	.00069	-.00120	238.70	.00049	.00710	-.00132	4.8544	.00417
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00499**	**-.01446**	**-.03093**	**-.00050**	**.00046**	W **4.6254**	**.01645**	**.00217**	**10.039**	**.01304**	**.00033**	**.10108**
Stddev	.00286	.01678	.03590	.00050	.00009	.0059	.00023	.00213	.024	.00001	.00037	.00165
%RSD	57.378	116.07	116.07	100.43	19.113	.12791	1.4048	98.140	.24131	.08770	113.63	1.6286
#1	-.00297	-.02632	-.05632	-.00085	.00052	4.6212	.01661	.00066	10.056	.01303	.00059	.10224
#2	-.00701	-.00259	-.00555	-.00014	.00040	4.6295	.01628	.00367	10.022	.01305	.00006	.09991
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3849.6**	**52518.**	**4165.8**
Stddev	1.1	160.	21.1
%RSD	.02748	.30520	.50531
#1	3848.9	52631.	4150.9
#2	3850.4	52404.	4180.7

Sample Name: CCV-4239351 Acquired: 11/13/2016 14:14:45 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48590**	**.48781**	**.93801**	**.48900**	**.49248**	**.47991**	**-.00042**	**5.0578**	**.49174**	**.49346**	**.49764**	**.47529**	**2.5225**
Stddev	.00037	.00208	.00406	.00024	.00149	.00206	.00039	.1182	.00088	.00018	.00012	.00066	.1046
%RSD	.07626	.42608	.43274	.04947	.30156	.43017	93.226	2.3370	.17848	.03563	.02361	.13827	4.1464
#1	.48616	.48928	.94088	.48882	.49353	.47845	-.00069	5.1414	.49236	.49334	.49756	.47482	2.5965
#2	.48563	.48634	.93513	.48917	.49143	.48137	-.00014	4.9742	.49112	.49358	.49773	.47575	2.4485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.275**	**1.0109**	**19.031**	**.47184**	**.49359**	**5.0411**	**.49338**	**.96091**	**.99722**	**.00570**	**.96799**	**.94280**	**4.8216**
Stddev	.074	.0021	.002	.00026	.00002	.2106	.00004	.00108	.00341	.00317	.00150	.00412	.0167
%RSD	.14993	.20316	.00803	.05419	.00425	4.1771	.00817	.11243	.34230	55.639	.15465	.43746	.34691
#1	49.223	1.0124	19.030	.47166	.49361	5.1900	.49341	.96014	.99481	.00795	.96904	.94571	4.8098
#2	49.327	1.0095	19.032	.47202	.49358	4.8922	.49335	.96167	.99963	.00346	.96693	.93988	4.8334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.318**	**.99452**	**.47745**	**.00892**	**.46771**	**1.0136**	**-.01914**	**.47050**	**.46423**	**.49901**
Stddev	.036	.00361	.00061	.00072	.00012	.0036	.04256	.00133	.00128	.00102
%RSD	.34691	.36327	.12854	8.1240	.02547	.35104	222.31	.28295	.27606	.20389
#1	10.293	.99197	.47788	.00943	.46779	1.0161	-.04924	.46956	.46332	.49973
#2	10.344	.99708	.47701	.00841	.46762	1.0111	.01095	.47144	.46514	.49829
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3899.8**	**53414.**	**4076.9**
Stddev	.7	40.	21.9
%RSD	.01803	.07493	.53838
#1	3900.3	53442.	4061.4
#2	3899.3	53386.	4092.4

Sample Name: CCB Acquired: 11/13/2016 14:17:06 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00120**	**.00030**	**.00237**	**.00088**	**.00053**	**-.00000**	**-.00077**	**.00137**	**.00020**	**.00026**	**.00005**	**-.00090**	**.00649**
Stddev	.00046	.00017	.00152	.00005	.00010	.00010	.00028	.00771	.00014	.00025	.00009	.00019	.00645
%RSD	38.177	57.366	64.309	5.3502	19.348	9503.2	36.186	562.91	69.105	99.453	171.08	21.047	99.418
#1	.00088	.00018	.00344	.00091	.00060	.00007	-.00057	.00682	.00010	.00008	-.00001	-.00103	.01106
#2	.00152	.00042	.00129	.00084	.00046	-.00007	-.00096	-.00408	.00030	.00044	.00012	-.00076	.00193
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.07139**	**.00222**	**.00176**	**.00003**	**.00183**	**.04666**	**-.00024**	**.00073**	**.00036**	**.00386**	**.00226**	**.00304**	**-.01088**
Stddev	.02897	.00156	.00050	.00002	.00054	.02466	.00031	.00064	.00171	.00175	.00017	.00308	.00946
%RSD	40.577	70.361	28.187	47.589	29.340	52.844	131.89	87.968	469.36	45.313	7.3004	101.40	86.900
#1	.09187	.00332	.00211	.00004	.00145	.06410	-.00002	.00027	-.00084	.00262	.00238	.00522	-.00420
#2	.05091	.00111	.00141	.00002	.00221	.02923	-.00046	.00118	.00157	.00509	.00215	.00086	-.01757
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02329**	**.00027**	**.00021**	**.00187**	**.00008**	**.00194**	**.00473**	**.00004**	**-.00033**	**.00152**
Stddev	.02024	.00084	.00019	.00063	.00027	.00142	.00477	.00040	.00017	.00160
%RSD	86.900	311.76	92.373	33.787	331.65	73.124	100.81	993.70	51.352	105.24
#1	-.00898	-.00033	.00034	.00232	.00027	.00294	.00810	-.00024	-.00021	.00265
#2	-.03759	.00087	.00007	.00142	-.00011	.00094	.00136	.00032	-.00046	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3945.7**	**54728.**	**4039.3**
Stddev	2.2	156.	20.0
%RSD	.05586	.28561	.49392
#1	3947.3	54618.	4053.4
#2	3944.2	54839.	4025.2

Sample Name: CCVL-4245706 Acquired: 11/13/2016 14:19:41 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01040**	**.09861**	**.01561**	**.09562**	**.00988**	**.00089**	**.10145**	**.19458**	**.00496**	**.01035**	**.01013**	**.01362**
Stddev	.00065	.00037	.00132	.00024	.00022	.00005	.00103	.00596	.00007	.00016	.00004	.00003
%RSD	6.2627	.37415	8.4438	.25518	2.2763	5.4612	1.0160	3.0646	1.3624	1.5532	.40583	.18717
#1	.00994	.09887	.01655	.09579	.01003	.00093	.10072	.19036	.00501	.01023	.01011	.01363
#2	.01086	.09835	.01468	.09545	.00972	.00086	.10218	.19880	.00492	.01046	.01016	.01360
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09763**	**2.9681**	**.02328**	**.19365**	**.00957**	**.01895**	**.98904**	**.03981**	**2.7354**	**.01020**	**-.00236**	**.01952**
Stddev	.00262	.0292	.00173	.00291	.00001	.00004	.00751	.00047	.0034	.00006	.00018	.00244
%RSD	2.6795	.98316	7.4236	1.5016	.13448	.20395	.75970	1.1906	.12231	.60931	7.4527	12.521
#1	.09948	2.9474	.02206	.19570	.00958	.01898	.99435	.03947	2.7330	.01024	-.00248	.01779
#2	.09578	2.9887	.02450	.19159	.00956	.01893	.98373	.04014	2.7377	.01016	-.00223	.02124
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01102**	**.46013**	**.98468**	**.09779**	**.00944**	**.01549**	**.00907**	**.01433**	F **.03898**	**.00922**	**.01800**	**.01626**
Stddev	.00333	.01790	.03831	.00007	.00007	.00038	.00037	.00026	.02684	.00022	.00056	.00263
%RSD	30.224	3.8907	3.8907	.07372	.71444	2.4586	4.0366	1.8227	68.863	2.3936	3.1299	16.199
#1	.00866	.47279	1.0118	.09784	.00939	.01522	.00933	.01415	.05796	.00906	.01840	.01440
#2	.01338	.44747	.95759	.09774	.00949	.01576	.00881	.01452	.02000	.00938	.01761	.01812
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4008.2**	**55635.**	**4152.2**
Stddev	5.8	151.	1.1
%RSD	.14541	.27162	.02703
#1	4012.3	55528.	4153.0
#2	4004.1	55742.	4151.4

Sample Name: 280-90627-D-6-C Acquired: 11/13/2016 14:22:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00115**	**.00373**	**.00119**	**.00038**	**.00039**	**-.00002**	**.00071**	**.00394**	**.00021**
Stddev	.00074	.00018	.00001	.00045	.00012	.00010	.00125	.00086	.00004
%RSD	64.448	4.9008	1.1275	119.66	29.989	455.81	176.86	21.743	18.435
#1	.00168	.00386	.00120	.00070	.00031	.00005	.00159	.00333	.00018
#2	.00063	.00360	.00119	.00006	.00047	-.00009	-.00018	.00454	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00020**	**.00025**	**-.00078**	**.00200**	**.00261**	**.00190**	**.00179**	**.00014**	**-.00019**
Stddev	.00010	.00024	.00012	.00296	.03455	.00022	.00016	.00001	.00005
%RSD	49.382	96.664	15.261	147.90	1322.7	11.748	9.1112	5.8729	24.149
#1	.00027	.00042	-.00086	-.00009	-.02182	.00175	.00191	.00013	-.00016
#2	.00013	.00008	-.00070	.00409	.02704	.00206	.00168	.00015	-.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01460**	**.00002**	**.00131**	**.00127**	**.00242**	**-.00033**	**.00005**	**-.00634**	**-.01357**
Stddev	.00186	.00021	.00245	.00022	.00140	.00005	.00165	.00898	.01922
%RSD	12.736	1201.7	187.81	17.010	57.789	14.919	3043.7	141.60	141.60
#1	.01591	.00017	-.00043	.00112	.00341	-.00030	-.00111	-.01269	-.02717
#2	.01328	-.00013	.00304	.00142	.00143	-.00037	.00122	.00001	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00045**	**.00017**	**.00266**	**-.00006**	**-.00103**	**-.04494**	**-.00005**	**.00023**	**.00110**
Stddev	.00036	.00006	.00117	.00023	.00001	.01860	.00026	.00005	.00206
%RSD	79.591	38.471	43.892	384.37	1.4189	41.378	571.80	20.636	187.77
#1	.00071	.00012	.00184	-.00023	-.00102	-.05809	-.00023	.00026	-.00036
#2	.00020	.00021	.00349	.00010	-.00104	-.03179	.00014	.00019	.00255
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4003.0**	**55762.**	**4165.9**
Stddev	11.9	344.	.5
%RSD	.29709	.61672	.01283
#1	3994.6	55519.	4165.5
#2	4011.4	56005.	4166.2

Sample Name: 280-90675-G-1-B Acquired: 11/13/2016 14:24:50 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00115**	**.00703**	**.00240**	**.04079**	**.05435**	**.00005**	**.00041**	**28.506**	**.00054**
Stddev	.00005	.00010	.00333	.00049	.00012	.00006	.00095	.021	.00014
%RSD	4.2469	1.3604	138.36	1.1892	.22305	122.47	231.18	.07291	25.529
#1	.00119	.00710	.00005	.04045	.05444	.00009	.00109	28.491	.00044
#2	.00112	.00696	.00476	.04113	.05427	.00001	-.00026	28.520	.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00069**	**.00035**	**.00021**	**.88286**	**2.9938**	**.00620**	**5.0481**	**.14356**	**-.00001**
Stddev	.00019	.00021	.00017	.00160	.0040	.00011	.0121	.00030	.00022
%RSD	28.230	60.105	78.590	.18156	.13343	1.7865	.24062	.20611	1977.6
#1	.00055	.00020	.00009	.88400	2.9966	.00628	5.0396	.14335	-.00016
#2	.00082	.00049	.00033	.88173	2.9909	.00613	5.0567	.14377	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**28.007**	**.00089**	**.04241**	**.00045**	**6.7835**	**-.00307**	**-.00156**	**4.1655**	**8.9141**
Stddev	.173	.00037	.00016	.00066	.0103	.00205	.00066	.0032	.0068
%RSD	.61683	42.312	.37666	146.04	.15122	66.788	42.616	.07649	.07649
#1	27.885	.00062	.04253	-.00001	6.7908	-.00162	-.00109	4.1677	8.9190
#2	28.129	.00115	.04230	.00092	6.7763	-.00452	-.00203	4.1632	8.9093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00038**	**.12120**	**.00066**	**.00013**	**.00086**	**-.01649**	**-.00029**	**.01191**	**.00088**
Stddev	.00091	.00019	.00106	.00026	.00019	.03509	.00053	.00006	.00073
%RSD	237.06	.16009	162.13	202.08	21.595	212.75	184.79	.50260	83.334
#1	-.00103	.12134	.00141	-.00005	.00073	-.04131	-.00066	.01187	.00140
#2	.00026	.12106	-.00010	.00031	.00100	.00832	.00009	.01196	.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3921.8**	**54472.**	**4148.7**
Stddev	9.9	53.	11.1
%RSD	.25304	.09780	.26662
#1	3914.8	54510.	4140.9
#2	3928.8	54434.	4156.6

Sample Name: 280-90675-G-1-B SD@5 Acquired: 11/13/2016 14:27:22 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**.00317**	**.00121**	**.00861**	**.01110**	**-.00002**	**.00210**	**5.8665**	**.00019**
Stddev	.00033	.00012	.00069	.00061	.00020	.00008	.00263	.0383	.00008
%RSD	47.924	3.6762	57.166	7.0964	1.8094	374.18	125.60	.65310	42.944
#1	.00045	.00309	.00170	.00904	.01124	.00003	.00396	5.8394	.00013
#2	.00092	.00325	.00072	.00818	.01095	-.00008	.00023	5.8936	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00045**	**.00012**	**-.00042**	**.18157**	**.62823**	**.00214**	**1.0637**	**.02997**	**-.00031**
Stddev	.00005	.00017	.00046	.00211	.02912	.00060	.0036	.00001	.00042
%RSD	11.733	142.46	110.67	1.1606	4.6353	28.271	.33553	.03989	138.52
#1	.00042	.00024	-.00009	.18306	.60764	.00171	1.0663	.02997	-.00061
#2	.00049	-.00000	-.00074	.18008	.64882	.00257	1.0612	.02998	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.5368**	**-.00009**	**.00892**	**-.00037**	**1.3573**	**-.00049**	**-.00142**	**.83490**	**1.7867**
Stddev	.0267	.00035	.00229	.00060	.0016	.00237	.00091	.00979	.0210
%RSD	.48204	397.62	25.673	160.45	.12116	479.07	63.935	1.1728	1.1728
#1	5.5180	.00016	.00730	-.00079	1.3562	-.00217	-.00206	.84182	1.8015
#2	5.5557	-.00033	.01054	.00005	1.3585	.00118	-.00078	.82797	1.7719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00024**	**.02487**	**.00281**	**-.00001**	**.00041**	**-.02856**	**-.00040**	**.00203**	**-.00019**
Stddev	.00041	.00021	.00075	.00009	.00008	.01459	.00009	.00038	.00015
%RSD	172.50	.83107	26.833	966.18	19.143	51.101	23.413	18.785	82.316
#1	.00005	.02472	.00227	.00006	.00047	-.03888	-.00033	.00176	-.00008
#2	-.00052	.02501	.00334	-.00008	.00035	-.01824	-.00046	.00230	-.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3976.7**	**55102.**	**4119.9**
Stddev	8.8	229.	25.5
%RSD	.22229	.41486	.61932
#1	3970.4	55263.	4138.0
#2	3982.9	54940.	4101.9

Sample Name: 280-90675-G-1-C MS Acquired: 11/13/2016 14:29:55 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05246**	**1.8566**	**.98814**	**1.0439**	**2.0923**	**.04923**	W **2.0321**	**79.370**	**.10428**
Stddev	.00038	.0061	.00443	.0011	.0008	.00020	.0022	.151	.00003
%RSD	.72361	.33030	.44813	.10190	.03682	.39773	.10924	.19024	.03152
#1	.05273	1.8522	.98501	1.0431	2.0928	.04937	2.0337	79.477	.10425
#2	.05219	1.8609	.99127	1.0446	2.0918	.04910	2.0306	79.263	.10430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49145**	**.20312**	**.23973**	**1.8584**	**54.595**	**1.0392**	**53.334**	**.61440**	**.99173**
Stddev	.00036	.00047	.00028	.0163	.044	.0050	.008	.00164	.00334
%RSD	.07385	.23003	.11643	.87897	.08133	.47918	.01544	.26729	.33700
#1	.49170	.20345	.23953	1.8699	54.627	1.0428	53.328	.61324	.99409
#2	.49119	.20279	.23993	1.8468	54.564	1.0357	53.339	.61556	.98937
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**78.534**	**.49110**	**10.088**	**.49621**	**9.1229**	**.50368**	**1.9339**	**14.234**	**30.462**
Stddev	.162	.00084	.006	.00147	.0060	.00033	.0053	.054	.116
%RSD	.20635	.17162	.05997	.29716	.06622	.06535	.27456	.38115	.38115
#1	78.648	.49170	10.083	.49517	9.1271	.50344	1.9377	14.273	30.544
#2	78.419	.49051	10.092	.49725	9.1186	.50391	1.9302	14.196	30.380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0361**	**1.0909**	**.97430**	**.96332**	**2.0020**	**2.1005**	**.48689**	**.47787**	**.53878**
Stddev	.0042	.0027	.00518	.00051	.0030	.0027	.00078	.00044	.00101
%RSD	.20765	.24847	.53118	.05312	.14852	.13043	.16096	.09108	.18799
#1	2.0391	1.0928	.97064	.96296	2.0041	2.0986	.48633	.47756	.53950
#2	2.0331	1.0889	.97796	.96368	1.9999	2.1024	.48744	.47818	.53807
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3804.4**	**52332.**	**4087.2**
Stddev	8.4	173.	.5
%RSD	.22003	.32986	.01255
#1	3810.3	52454.	4086.9
#2	3798.4	52210.	4087.6

Sample Name: 280-90675-G-1-D MSD Acquired: 11/13/2016 14:32:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05183**	**1.8412**	**.98059**	**1.0474**	**2.0739**	**.04913**	W **2.0044**	**78.389**	**.10329**
Stddev	.00048	.0083	.00136	.0009	.0068	.00011	.0099	.165	.00018
%RSD	.92563	.44931	.13836	.08809	.32716	.21939	.49424	.21068	.17317
#1	.05217	1.8353	.98155	1.0480	2.0691	.04920	1.9974	78.273	.10342
#2	.05149	1.8470	.97963	1.0467	2.0787	.04905	2.0114	78.506	.10317
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48788**	**.20076**	**.23646**	**1.8358**	**53.951**	**1.0401**	**52.540**	**.60508**	**.99236**
Stddev	.00032	.00140	.00060	.0042	.123	.0040	.061	.00033	.00241
%RSD	.06522	.69799	.25454	.22770	.22793	.38432	.11546	.05517	.24295
#1	.48765	.20175	.23603	1.8387	53.864	1.0373	52.498	.60484	.99407
#2	.48810	.19976	.23688	1.8328	54.038	1.0430	52.583	.60531	.99066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**77.639**	**.48755**	**9.9776**	**.49022**	**8.9439**	**.50050**	**1.9176**	**14.008**	**29.977**
Stddev	.342	.00056	.0067	.00286	.0061	.00045	.0024	.020	.042
%RSD	.44105	.11565	.06670	.58337	.06819	.09052	.12309	.14016	.14016
#1	77.396	.48716	9.9823	.49224	8.9482	.50082	1.9159	14.022	30.006
#2	77.881	.48795	9.9729	.48820	8.9396	.50018	1.9193	13.994	29.947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0160**	**1.0824**	**.96578**	**.95317**	**1.9913**	**2.0990**	**.48031**	**.47365**	**.53685**
Stddev	.0046	.0013	.00046	.00090	.0053	.0188	.00040	.00148	.00369
%RSD	.23020	.12141	.04742	.09449	.26570	.89383	.08346	.31231	.68805
#1	2.0127	1.0815	.96611	.95253	1.9950	2.0858	.48059	.47261	.53424
#2	2.0192	1.0833	.96546	.95381	1.9875	2.1123	.48002	.47470	.53946
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3768.5**	**52124.**	**4050.9**
Stddev	.6	136.	11.8
%RSD	.01709	.26063	.29242
#1	3768.1	52028.	4059.3
#2	3769.0	52220.	4042.5

Sample Name: 280-90675-G-1-B PDS Acquired: 11/13/2016 14:34:29 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00557**	**1.0062**	**.20385**	**.13929**	**.16063**	**.05182**	**-.00085**	**49.037**	**.05371**
Stddev	.00001	.0028	.00011	.00210	.00039	.00004	.00272	.051	.00003
%RSD	.20569	.28165	.05317	1.5103	.24502	.07393	319.12	.10428	.05792
#1	.00558	1.0082	.20378	.14078	.16035	.05180	.00107	49.000	.05368
#2	.00556	1.0042	.20393	.13781	.16091	.05185	-.00278	49.073	.05373
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05211**	**.05347**	**.05056**	**1.9216**	**24.542**	**.11551**	**24.785**	**.18919**	**.05159**
Stddev	.00028	.00013	.00044	.0056	.089	.00177	.066	.00060	.00043
%RSD	.52808	.23690	.87774	.29063	.36275	1.5345	.26683	.31494	.82624
#1	.05192	.05338	.05025	1.9176	24.479	.11425	24.738	.18877	.05129
#2	.05230	.05356	.05088	1.9255	24.605	.11676	24.832	.18961	.05189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.647**	**.05279**	**2.1365**	**.10551**	**6.7403**	**.09230**	**.20377**	**8.9847**	**19.227**
Stddev	.383	.00016	.0055	.00135	.0188	.00029	.00057	.0632	.135
%RSD	.78765	.30824	.25590	1.2760	.27842	.31107	.28149	.70364	.70364
#1	48.376	.05291	2.1404	.10456	6.7270	.09250	.20417	8.9400	19.132
#2	48.918	.05268	2.1327	.10646	6.7536	.09210	.20336	9.0294	19.323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09810**	**.16994**	**.20316**	**.04720**	**.22370**	**.58120**	**.05126**	**.20790**	**.05437**
Stddev	.00027	.00030	.00082	.00054	.00104	.03412	.00032	.00177	.00032
%RSD	.27901	.17827	.40298	1.1351	.46379	5.8702	.63261	.85037	.59628
#1	.09790	.17015	.20258	.04682	.22296	.55708	.05103	.20665	.05414
#2	.09829	.16972	.20374	.04758	.22443	.60533	.05149	.20915	.05460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3872.4**	**52763.**	**4005.5**
Stddev	34.5	43.	.9
%RSD	.88991	.08190	.02164
#1	3848.0	52794.	4004.8
#2	3896.7	52733.	4006.1

Sample Name: 280-90675-G-2-B Acquired: 11/13/2016 14:36:55 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00130**	**.00516**	**.00312**	**.03791**	**.05478**	**.00001**	**.00088**	**28.267**	**.00050**
Stddev	.00014	.00054	.00258	.00005	.00023	.00004	.00166	.203	.00015
%RSD	10.412	10.421	82.785	.12179	.41850	310.01	189.69	.71663	30.619
#1	.00139	.00554	.00129	.03794	.05495	.00005	.00205	28.411	.00061
#2	.00120	.00478	.00495	.03788	.05462	-.00002	-.00030	28.124	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00040**	**.00048**	**-.00036**	**.48387**	**2.9298**	**.00404**	**4.8286**	**.15650**	**.00107**
Stddev	.00044	.00016	.00002	.01049	.0063	.00085	.0112	.00002	.00050
%RSD	110.60	32.793	5.6191	2.1682	.21465	20.996	.23105	.01508	46.861
#1	.00071	.00059	-.00035	.49128	2.9342	.00344	4.8365	.15652	.00072
#2	.00009	.00037	-.00038	.47645	2.9254	.00464	4.8207	.15649	.00143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.759**	**.00081**	**.02973**	**.00172**	**6.5923**	**-.00073**	**-.00067**	**4.0887**	**8.7498**
Stddev	.131	.00003	.00152	.00174	.0051	.00022	.00105	.0001	.0002
%RSD	.37764	3.7622	5.1089	101.32	.07721	29.755	157.65	.00230	.00230
#1	34.852	.00083	.02865	.00296	6.5887	-.00057	.00008	4.0888	8.7499
#2	34.666	.00079	.03080	.00049	6.5959	-.00088	-.00141	4.0886	8.7497
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00205**	**.12904**	**.00354**	**-.00002**	**.00216**	**-.03708**	**-.00039**	**.00963**	**-.00119**
Stddev	.00002	.00026	.00035	.00039	.00248	.04028	.00047	.00057	.00367
%RSD	1.2095	.19864	10.023	1675.5	114.72	108.63	121.85	5.9116	308.97
#1	-.00203	.12922	.00379	-.00030	.00041	-.06556	-.00072	.01003	-.00379
#2	-.00207	.12885	.00329	.00025	.00391	-.00860	-.00005	.00923	.00141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3991.6**	**54987.**	**4209.7**
Stddev	8.0	122.	12.2
%RSD	.20003	.22231	.28907
#1	3985.9	54901.	4201.1
#2	3997.2	55074.	4218.3

Sample Name: 280-90675-E-3-B Acquired: 11/13/2016 14:39:27 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00133**	**.00628**	**.00212**	**.06760**	**.07959**	**-.00009**	**-.00184**	**57.569**	**.00035**
Stddev	.00004	.00022	.00309	.00037	.00046	.00004	.00037	.273	.00003
%RSD	2.8205	3.5538	145.93	.54056	.57858	51.306	19.943	.47375	7.9690
#1	.00130	.00612	.00431	.06734	.07926	-.00012	-.00158	57.376	.00033
#2	.00136	.00643	-.00007	.06786	.07991	-.00005	-.00210	57.761	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.00046**	**-.00066**	**1.4993**	**2.4715**	**.00806**	**4.6260**	**.13131**	**.00011**
Stddev	.00009	.00006	.00027	.0107	.0599	.00084	.0097	.00021	.00058
%RSD	34.389	13.579	40.810	.71573	2.4233	10.362	.20925	.15841	539.48
#1	.00019	.00051	-.00085	1.4917	2.5138	.00747	4.6192	.13116	-.00030
#2	.00031	.00042	-.00047	1.5069	2.4291	.00866	4.6328	.13145	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.691**	**.00085**	**.07513**	**.00029**	**11.784**	**-.00038**	**-.00231**	**6.0245**	**12.892**
Stddev	.074	.00018	.00024	.00016	.004	.00154	.00087	.0243	.052
%RSD	.37733	21.394	.32344	55.490	.03616	403.53	37.489	.40303	.40303
#1	19.744	.00097	.07530	.00040	11.781	.00071	-.00292	6.0073	12.856
#2	19.639	.00072	.07496	.00017	11.787	-.00147	-.00170	6.0416	12.929
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00151**	**.17150**	**.00198**	**.00014**	**-.00083**	**.00983**	**.00010**	**.01036**	**-.00375**
Stddev	.00119	.00074	.00052	.00008	.00075	.00007	.00026	.00001	.00127
%RSD	78.797	.43088	26.042	56.541	90.131	.69023	261.07	.14294	33.839
#1	.00235	.17097	.00162	.00008	-.00136	.00988	-.00009	.01038	-.00285
#2	.00067	.17202	.00235	.00020	-.00030	.00978	.00029	.01035	-.00464
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3989.6**	**55642.**	**4257.2**
Stddev	2.0	123.	35.2
%RSD	.04962	.22027	.82713
#1	3988.2	55729.	4282.1
#2	3991.0	55555.	4232.3

Sample Name: CCVH-4239353 Acquired: 11/13/2016 14:41:59 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00155**	**47.908**	**.00178**	**.00134**	**.00042**	**.00023**	W **.94121**	**.00400**	**.00081**	**-.00079**	**.00031**	**-.00285**
Stddev	.00036	.143	.00425	.00001	.00007	.00017	.00597	.01202	.00016	.00010	.00017	.00006
%RSD	23.134	.29759	238.84	.71022	17.081	72.195	.63469	300.49	20.124	12.378	55.914	2.2435
#1	.00130	47.808	.00478	.00135	.00047	.00035	.94543	.01250	.00093	-.00072	.00043	-.00281
#2	.00180	48.009	-.00122	.00133	.00037	.00011	.93699	-.00450	.00070	-.00086	.00019	-.00290
Check ?	None	Chk Pass	None	None	None	None	Chk Warn	None	None	None	None	None
Value							1.0000					
Range							-5.0000%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.425**	**.07341**	**.00275**	**.04648**	**.00064**	**-.00149**	**239.13**	**.00078**	**.00351**	**.00021**	**4.8423**	**.00414**
Stddev	.011	.00287	.00078	.00054	.00013	.00071	.34	.00016	.00158	.00009	.0246	.00049
%RSD	.02247	3.9033	28.441	1.1665	20.826	47.847	.14420	20.244	45.022	41.629	.50878	11.790
#1	49.433	.07139	.00220	.04610	.00073	-.00199	239.38	.00067	.00462	.00015	4.8597	.00448
#2	49.418	.07544	.00330	.04686	.00054	-.00099	238.89	.00089	.00239	.00027	4.8249	.00379
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00416**	**-.01213**	**-.02595**	**.00035**	**.00041**	W **4.5410**	**.01754**	**.00099**	**10.083**	**.01307**	**.00032**	**.09844**
Stddev	.00026	.04012	.08586	.00051	.00001	.0145	.00001	.00030	.011	.00033	.00009	.00321
%RSD	6.3001	330.81	330.81	146.37	1.8661	.32012	.06471	30.519	.10501	2.4979	28.441	3.2646
#1	-.00435	-.04050	-.08666	-.00001	.00041	4.5513	.01754	.00120	10.076	.01284	.00025	.09617
#2	-.00398	.01624	.03476	.00070	.00040	4.5307	.01755	.00078	10.091	.01331	.00038	.10072
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3763.1**	**53466.**	**4139.4**
Stddev	37.9	18.	2.6
%RSD	1.0065	.03278	.06229
#1	3789.9	53478.	4137.6
#2	3736.3	53453.	4141.2

Sample Name: CCV-4239351 Acquired: 11/13/2016 14:44:29 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48136**	**.48344**	**.91509**	**.47963**	**.49809**	**.47421**	**.00016**	**5.0499**	**.48586**	**.49185**	**.49866**	**.45773**	**2.4334**	**49.589**
Stddev	.00011	.00150	.00306	.00193	.00026	.00016	.00001	.0064	.00031	.00014	.00111	.00208	.0123	.020
%RSD	.02365	.30957	.33441	.40144	.05281	.03269	5.7794	.12603	.06399	.02947	.22162	.45415	.50434	.03968
#1	.48128	.48449	.91726	.48099	.49791	.47410	.00017	5.0454	.48608	.49195	.49945	.45626	2.4248	49.603
#2	.48144	.48238	.91293	.47827	.49828	.47432	.00016	5.0544	.48564	.49175	.49788	.45920	2.4421	49.576
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0253**	**19.019**	**.46674**	**.49447**	**4.9320**	**.49017**	**.94736**	**.99063**	**.00672**	**.94362**	**.91227**	**4.8492**	**10.377**	**.99898**
Stddev	.0026	.136	.00311	.00028	.0018	.00012	.00214	.00138	.00022	.00260	.00220	.0105	.022	.00420
%RSD	.25643	.71290	.66698	.05562	.03708	.02402	.22559	.13903	3.2166	.27585	.24065	.21609	.21609	.42045
#1	1.0271	18.924	.46454	.49428	4.9307	.49025	.94585	.99161	.00687	.94546	.91382	4.8418	10.361	1.0019
#2	1.0234	19.115	.46894	.49467	4.9333	.49009	.94888	.98966	.00657	.94178	.91072	4.8566	10.393	.99601
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.46737**	**.00963**	**.45848**	**1.0160**	**.02951**	**.46802**	**.46419**	**.50513**
Stddev	.00060	.00120	.00221	.0001	.00179	.00179	.00580	.00027
%RSD	.12761	12.483	.48266	.00669	6.0746	.38325	1.2496	.05421
#1	.46779	.00878	.45691	1.0160	.03078	.46675	.46009	.50494
#2	.46695	.01048	.46004	1.0159	.02824	.46929	.46829	.50533
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3830.2**	**52728.**	**3936.0**
Stddev	3.9	857.	14.1
%RSD	.10056	1.6248	.35860
#1	3827.4	53334.	3945.9
#2	3832.9	52122.	3926.0

Sample Name: CCB Acquired: 11/13/2016 14:46:50 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00158**	**.00039**	**.00403**	**.00044**	**.00033**	**-.00003**	**.00100**	**-.00656**	**.00030**	**.00035**	**.00034**	**-.00139**	**.00211**
Stddev	.00006	.00033	.00122	.00008	.00024	.00010	.00105	.00034	.00011	.00000	.00033	.00010	.00200
%RSD	4.0656	84.571	30.304	18.518	73.232	311.93	105.22	5.2406	38.334	1.0135	97.153	7.2417	95.006
#1	.00163	.00015	.00317	.00050	.00016	.00004	.00026	-.00680	.00038	.00034	.00057	-.00147	.00069
#2	.00154	.00062	.00489	.00038	.00050	-.00011	.00174	-.00632	.00022	.00035	.00011	-.00132	.00352
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.08947**	**.00302**	**.00256**	**.00005**	**.00195**	**.05087**	**.00006**	**.00041**	**-.00099**	**.00200**	**.00247**	**.00721**	**-.00842**
Stddev	.00238	.00053	.00053	.00002	.00059	.00639	.00007	.00195	.00043	.00373	.00017	.00013	.01791
%RSD	2.6559	17.456	20.553	34.685	30.314	12.563	106.72	478.85	43.861	186.04	6.9536	1.7594	212.54
#1	.09115	.00340	.00218	.00004	.00153	.04636	.00002	.00178	-.00068	.00464	.00260	.00712	.00424
#2	.08779	.00265	.00293	.00006	.00236	.05539	.00011	-.00097	-.00129	-.00063	.00235	.00730	-.02109
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01803**	**-.00040**	**.00004**	**.00198**	**.00031**	**.00303**	**-.00394**	**-.00025**	**-.00044**	**-.00065**
Stddev	.03832	.00083	.00000	.00010	.00010	.00135	.00773	.00003	.00007	.00277
%RSD	212.54	205.52	2.1352	5.2413	31.515	44.703	196.03	10.573	15.988	429.53
#1	.00907	-.00099	.00004	.00190	.00024	.00399	.00152	-.00024	-.00049	.00131
#2	-.04512	.00018	.00004	.00205	.00038	.00207	-.00941	-.00027	-.00039	-.00261
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3838.7**	**53532.**	**3839.4**
Stddev	3.3	242.	19.0
%RSD	.08528	.45293	.49570
#1	3836.3	53360.	3852.9
#2	3841.0	53703.	3826.0

Sample Name: CCVL-4245706 Acquired: 11/13/2016 14:49:25 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01090**	**.09700**	**.01736**	**.09469**	**.01065**	**.00093**	**.09968**	**.19879**	**.00504**	**.00998**	**.00995**	**.01251**	**.09900**
Stddev	.00016	.00036	.00558	.00002	.00009	.00007	.00246	.00250	.00000	.00018	.00007	.00006	.00117
%RSD	1.4712	.37621	32.125	.01993	.89156	7.1969	2.4660	1.2587	.05005	1.7863	.72136	.44512	1.1774
#1	.01102	.09674	.02130	.09468	.01072	.00088	.09794	.19702	.00504	.00986	.01000	.01247	.09817
#2	.01079	.09726	.01341	.09471	.01059	.00098	.10141	.20056	.00504	.01011	.00990	.01255	.09982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.0231**	**.02066**	**.20104**	**.00952**	**.01871**	**1.0095**	**.03958**	**2.7066**	**.01012**	**-.00005**	**.01959**	**.01316**	**.46710**
Stddev	.0450	.00185	.00542	.00003	.00036	.0014	.00045	.0040	.00092	.00112	.00045	.00321	.00077
%RSD	1.4881	8.9330	2.6969	.35845	1.9365	.14310	1.1326	.14839	9.0572	2358.7	2.2777	24.415	.16483
#1	2.9913	.02197	.20488	.00950	.01845	1.0106	.03990	2.7094	.00947	.00075	.01990	.01544	.46764
#2	3.0550	.01936	.19721	.00955	.01897	1.0085	.03926	2.7037	.01077	-.00084	.01927	.01089	.46655
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.99959**	**.09847**	**.00946**	**.01507**	**.00901**	**.01709**	**.06311**	**.00920**	**.01802**	**.01462**
Stddev	.00165	.00128	.00000	.00082	.00005	.00163	.00126	.00056	.00068	.00082
%RSD	.16483	1.3008	.02588	5.4517	.52845	9.5300	2.0003	6.0598	3.7935	5.6366
#1	1.0008	.09937	.00946	.01565	.00898	.01825	.06400	.00959	.01753	.01520
#2	.99843	.09756	.00946	.01448	.00904	.01594	.06221	.00880	.01850	.01404
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3886.8**	**54022.**	**3895.6**
Stddev	7.1	11.	12.6
%RSD	.18279	.02088	.32317
#1	3881.7	54030.	3886.7
#2	3891.8	54014.	3904.5

Sample Name: 280-90675-E-4-B Acquired: 11/13/2016 14:51:58 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00148**	**.00788**	**.00080**	**.04658**	**.06504**	**-.00002**	**-.00229**	**52.842**	**.00032**
Stddev	.00007	.00032	.00262	.00095	.00010	.00009	.00056	.038	.00021
%RSD	4.7756	4.0917	327.84	2.0365	.14788	549.72	24.494	.07105	67.434
#1	.00143	.00811	.00266	.04725	.06511	-.00008	-.00268	52.815	.00017
#2	.00153	.00766	-.00105	.04591	.06497	.00005	-.00189	52.869	.00047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00026**	**.00096**	**.00203**	**2.2597**	**2.7717**	**.00794**	**5.9661**	**.11167**	**.00002**
Stddev	.00005	.00010	.00005	.0056	.0044	.00318	.0093	.00040	.00025
%RSD	20.452	10.790	2.3064	.24704	.15802	40.063	.15529	.36014	1497.4
#1	.00029	.00103	.00200	2.2636	2.7686	.00569	5.9596	.11196	-.00016
#2	.00022	.00088	.00207	2.2557	2.7748	.01019	5.9727	.11139	.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.238**	**.00154**	**.04492**	**-.00053**	**10.993**	**-.00304**	**-.00042**	**6.6768**	**14.288**
Stddev	.464	.00043	.00094	.00027	.004	.00014	.00001	.0597	.128
%RSD	3.2561	28.062	2.0922	50.868	.03789	4.5415	1.7795	.89348	.89348
#1	13.910	.00124	.04426	-.00072	10.996	-.00314	-.00043	6.7190	14.379
#2	14.566	.00185	.04559	-.00034	10.990	-.00295	-.00042	6.6346	14.198
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00050**	**.17009**	**.00321**	**.00003**	**.00022**	**-.04319**	**-.00023**	**.01089**	**.00205**
Stddev	.00016	.00016	.00001	.00013	.00205	.00593	.00043	.00036	.00052
%RSD	32.143	.09648	.36800	465.38	935.52	13.737	187.72	3.2877	25.469
#1	-.00062	.17020	.00320	-.00006	-.00123	-.03900	.00008	.01114	.00168
#2	-.00039	.16997	.00322	.00012	.00167	-.04739	-.00054	.01064	.00242
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3837.2**	**52981.**	**3895.7**
Stddev	5.5	314.	11.8
%RSD	.14390	.59339	.30244
#1	3833.3	52759.	3887.4
#2	3841.1	53204.	3904.0

Sample Name: 280-90675-E-5-B Acquired: 11/13/2016 14:54:30 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00146**	**.00937**	**.00323**	**.06963**	**.06073**	**-.00008**	**.00108**	**40.766**	**.00031**
Stddev	.00011	.00007	.00145	.00053	.00047	.00002	.00202	.161	.00000
%RSD	7.7664	.73575	44.859	.76128	.76604	25.753	187.41	.39470	.93466
#1	.00155	.00942	.00425	.07001	.06040	-.00007	.00251	40.652	.00031
#2	.00138	.00932	.00220	.06926	.06105	-.00010	-.00035	40.879	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00057**	**.00032**	**-.00053**	**2.2974**	**3.3906**	**.00378**	**9.3062**	**.05906**	**-.00005**
Stddev	.00001	.00002	.00021	.0208	.0049	.00241	.0110	.00014	.00002
%RSD	1.1215	5.4012	39.490	.90621	.14350	63.762	.11847	.23343	39.812
#1	.00057	.00034	-.00068	2.2827	3.3872	.00548	9.3140	.05897	-.00003
#2	.00058	.00031	-.00038	2.3122	3.3940	.00207	9.2984	.05916	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.439**	**.00551**	**.03319**	**.00027**	**10.484**	**-.00088**	**.00190**	**4.8650**	**10.411**
Stddev	.039	.00021	.00130	.00044	.006	.00079	.00050	.0543	.116
%RSD	.19273	3.8861	3.9100	162.52	.05988	89.500	26.261	1.1158	1.1158
#1	20.467	.00536	.03228	.00058	10.488	-.00143	.00154	4.8266	10.329
#2	20.411	.00567	.03411	-.00004	10.480	-.00032	.00225	4.9033	10.493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00058**	**.15002**	**.00245**	**-.00010**	**.00241**	**-.02053**	**.00017**	**.01442**	**.00045**
Stddev	.00030	.00046	.00010	.00007	.00310	.00260	.00003	.00029	.00080
%RSD	50.996	.30417	4.2549	77.029	128.70	12.649	16.510	2.0130	177.64
#1	-.00037	.14970	.00238	-.00004	.00022	-.01869	.00018	.01463	.00102
#2	-.00079	.15034	.00252	-.00015	.00461	-.02237	.00015	.01421	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3837.7**	**53066.**	**3906.0**
Stddev	4.2	151.	23.4
%RSD	.11057	.28373	.60005
#1	3834.7	53172.	3922.5
#2	3840.7	52959.	3889.4

Sample Name: 280-90675-D-6-B Acquired: 11/13/2016 14:57:01 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00143**	**.02425**	**.00243**	**.06262**	**.02722**	**-.00002**	**.00061**	**17.735**	**.00022**
Stddev	.00040	.00033	.00062	.00050	.00005	.00005	.00033	.021	.00006
%RSD	27.931	1.3664	25.470	.79368	.19011	316.84	54.091	.11744	25.018
#1	.00115	.02401	.00199	.06227	.02726	.00002	.00085	17.749	.00018
#2	.00171	.02448	.00287	.06297	.02718	-.00005	.00038	17.720	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00068**	**.00034**	**.00058**	**.70020**	**2.5914**	**.00207**	**3.7163**	**.06139**	**.00014**
Stddev	.00005	.00032	.00018	.00354	.0436	.00026	.0044	.00029	.00058
%RSD	7.2965	91.959	31.145	.50542	1.6823	12.447	.11799	.46889	410.68
#1	.00072	.00012	.00045	.69770	2.5606	.00225	3.7132	.06119	-.00027
#2	.00065	.00057	.00071	.70271	2.6223	.00189	3.7194	.06160	.00055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.391**	**.00109**	**.02898**	**.00074**	**4.2974**	**-.00067**	**.00239**	**1.6894**	**3.6154**
Stddev	.020	.00012	.00011	.00027	.0013	.00156	.00505	.0235	.0503
%RSD	.15986	10.867	.38904	36.363	.03101	233.46	211.52	1.3906	1.3906
#1	12.405	.00118	.02906	.00055	4.2983	.00044	.00595	1.7060	3.6509
#2	12.377	.00101	.02890	.00092	4.2964	-.00177	-.00118	1.6728	3.5798
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00046**	**.10254**	**.00247**	**.00047**	**-.00220**	**-.02129**	**.00007**	**.01594**	**-.00055**
Stddev	.00019	.00013	.00043	.00040	.00055	.01921	.00036	.00002	.00080
%RSD	42.479	.13039	17.327	86.352	24.859	90.206	546.36	.13928	144.46
#1	-.00032	.10244	.00216	.00075	-.00258	-.00771	-.00019	.01593	.00001
#2	-.00059	.10263	.00277	.00018	-.00181	-.03488	.00032	.01596	-.00112
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3882.7**	**54247.**	**3954.4**
Stddev	2.5	75.	1.9
%RSD	.06465	.13804	.04921
#1	3881.0	54300.	3955.7
#2	3884.5	54194.	3953.0

Sample Name: 280-90675-E-7-A Acquired: 11/13/2016 14:59:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00149**	**.01469**	**.00208**	**.08264**	**.01632**	**.00013**	**.00074**	**9.8680**	**.00019**
Stddev	.00002	.00012	.00271	.00010	.00151	.00033	.00073	.0976	.00029
%RSD	1.5607	.83043	130.02	.11861	9.2820	247.31	98.699	.98939	153.86
#1	.00150	.01461	.00017	.08257	.01525	-.00010	.00125	9.7990	-.00002
#2	.00147	.01478	.00400	.08271	.01739	.00037	.00022	9.9370	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00046**	**.00028**	**.00165**	**.52080**	**1.7715**	**.00300**	**1.9348**	**.01168**	**.00044**
Stddev	.00005	.00012	.00022	.07705	.0263	.00023	.0010	.00004	.00054
%RSD	11.227	44.575	13.537	14.794	1.4832	7.7021	.05270	.38102	124.83
#1	.00042	.00037	.00180	.46632	1.7530	.00284	1.9340	.01165	.00082
#2	.00049	.00019	.00149	.57528	1.7901	.00317	1.9355	.01172	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.054**	**.00093**	**.03195**	**.00090**	**2.1213**	**.00070**	**-.00225**	**.82541**	**1.7664**
Stddev	.071	.00004	.00264	.00044	.0018	.00092	.00026	.02847	.0609
%RSD	.59175	4.7472	8.2691	49.117	.08403	132.51	11.534	3.4486	3.4486
#1	12.003	.00096	.03008	.00059	2.1225	.00004	-.00207	.80529	1.7233
#2	12.104	.00090	.03382	.00121	2.1200	.00135	-.00243	.84554	1.8095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**.07510**	**.00255**	**.00024**	**.00053**	**-.01894**	**.00003**	**.02510**	**.00153**
Stddev	.00032	.00054	.00051	.00058	.00156	.01806	.00049	.00038	.00219
%RSD	669.58	.71311	20.164	239.18	293.82	95.362	1943.1	1.5042	143.61
#1	-.00028	.07473	.00218	.00066	.00164	-.03171	-.00032	.02537	-.00002
#2	.00018	.07548	.00291	-.00017	-.00057	-.00617	.00037	.02483	.00307
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3912.9**	**54601.**	**3994.6**
Stddev	2.2	248.	8.2
%RSD	.05670	.45418	.20507
#1	3914.4	54425.	3988.8
#2	3911.3	54776.	4000.4

Sample Name: 280-90675-E-8-A Acquired: 11/13/2016 15:02:06 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00145**	**.18436**	**.00035**	**.01353**	**.00564**	**.00001**	**-.00006**	**6.7557**	**.00027**
Stddev	.00078	.00024	.00148	.00014	.00012	.00003	.00065	.0025	.00004
%RSD	53.954	.13217	416.70	1.0310	2.1371	216.19	1180.4	.03682	16.082
#1	.00201	.18419	.00140	.01343	.00555	-.00001	.00041	6.7539	.00024
#2	.00090	.18453	-.00069	.01363	.00572	.00003	-.00052	6.7574	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00029**	**.00088**	**.00327**	**.26079**	**1.0976**	**.00290**	**.95338**	**.00237**	**-.00035**
Stddev	.00002	.00003	.00082	.00083	.0183	.00261	.00522	.00002	.00044
%RSD	7.4084	3.1834	25.039	.31647	1.6686	89.950	.54701	.69624	127.14
#1	.00028	.00086	.00269	.26138	1.1105	.00475	.94969	.00238	-.00066
#2	.00031	.00090	.00385	.26021	1.0846	.00106	.95707	.00236	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.8782**	**.00057**	**.04672**	**.00097**	**.95742**	**-.00119**	**.00217**	**.97198**	**2.0800**
Stddev	.0014	.00025	.00067	.00073	.00957	.00110	.00358	.01632	.0349
%RSD	.07483	43.733	1.4311	74.920	.99965	92.766	165.04	1.6794	1.6794
#1	1.8792	.00074	.04625	.00046	.95065	-.00041	-.00036	.98352	2.1047
#2	1.8773	.00039	.04720	.00148	.96418	-.00197	.00469	.96044	2.0553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00015**	**.03174**	**.00196**	**.00339**	**.00117**	**-.00243**	**.00072**	**.01327**	**.00175**
Stddev	.00029	.00010	.00096	.00018	.00025	.01199	.00010	.00023	.00210
%RSD	199.29	.31956	48.953	5.4145	21.433	492.43	13.905	1.7378	120.37
#1	.00035	.03167	.00128	.00326	.00135	.00604	.00080	.01343	.00323
#2	-.00006	.03181	.00264	.00352	.00100	-.01091	.00065	.01311	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3909.5**	**54411.**	**3967.5**
Stddev	14.0	57.	2.4
%RSD	.35897	.10533	.06170
#1	3899.6	54452.	3965.7
#2	3919.4	54371.	3969.2

Sample Name: 280-90675-G-9-B Acquired: 11/13/2016 15:04:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00150**	**.00947**	**.00347**	**.03484**	**.05562**	**-.00011**	**-.00052**	**28.470**	**.00022**
Stddev	.00050	.00008	.00079	.00019	.00026	.00011	.00159	.039	.00004
%RSD	33.418	.79562	22.798	.53734	.45872	102.07	306.82	.13608	17.887
#1	.00114	.00953	.00403	.03497	.05544	-.00003	-.00164	28.497	.00019
#2	.00185	.00942	.00291	.03471	.05580	-.00019	.00061	28.442	.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00061**	**.00064**	**-.00002**	**.45423**	**2.8186**	**.00308**	**4.8384**	**.15434**	**-.00020**
Stddev	.00003	.00002	.00003	.00251	.0274	.00181	.0051	.00036	.00032
%RSD	4.8804	2.4983	119.25	.55262	.97105	58.578	.10580	.23092	154.68
#1	.00063	.00063	-.00004	.45600	2.7992	.00181	4.8421	.15409	-.00043
#2	.00059	.00065	-.00000	.45245	2.8379	.00436	4.8348	.15459	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.344**	**.00068**	**.02683**	**.00042**	**6.4644**	**-.00097**	**.00111**	**4.0513**	**8.6698**
Stddev	.253	.00037	.00024	.00140	.0441	.00152	.00214	.0313	.0669
%RSD	.73663	54.701	.89557	329.50	.68226	156.47	191.66	.77144	.77144
#1	34.165	.00095	.02700	.00141	6.4956	.00010	.00263	4.0734	8.7171
#2	34.523	.00042	.02666	-.00056	6.4332	-.00205	-.00040	4.0292	8.6225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00071**	**.12604**	**.00264**	**-.00003**	**.00008**	**-.02842**	**.00000**	**.01055**	**-.00046**
Stddev	.00005	.00012	.00034	.00001	.00092	.00691	.00032	.00012	.00061
%RSD	7.4159	.09202	12.731	40.702	1096.6	24.316	11435.	1.1357	132.35
#1	.00074	.12596	.00288	-.00004	-.00056	-.03330	-.00022	.01046	-.00003
#2	.00067	.12612	.00240	-.00002	.00073	-.02353	.00023	.01063	-.00089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3845.4**	**53259.**	**3942.4**
Stddev	27.5	38.	17.7
%RSD	.71558	.07045	.44830
#1	3864.8	53286.	3929.9
#2	3825.9	53233.	3954.9

Sample Name: 280-90693-B-1-A Acquired: 11/13/2016 15:07:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00152**	**.04356**	**.00438**	**.03434**	**.01927**	**-.00001**	**.00005**	**19.662**	**.00210**
Stddev	.00044	.00032	.00147	.00008	.00048	.00005	.00053	.083	.00004
%RSD	28.826	.72556	33.589	.23381	2.4902	355.49	1038.3	.42226	1.9738
#1	.00183	.04334	.00542	.03428	.01893	-.00005	.00042	19.603	.00213
#2	.00121	.04378	.00334	.03440	.01961	.00002	-.00032	19.720	.00207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00272**	**.00038**	**.00002**	**10.475**	**3.3108**	**.00139**	**4.2012**	**.92369**	**.00017**
Stddev	.00010	.00029	.00007	.040	.0273	.00017	.0068	.00026	.00026
%RSD	3.6930	76.341	286.84	.37833	.82477	12.104	.16154	.02830	155.59
#1	.00279	.00018	.00007	10.447	3.3301	.00151	4.2060	.92351	.00035
#2	.00265	.00059	-.00003	10.503	3.2915	.00127	4.1964	.92388	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.0444**	**.00309**	**.07588**	**-.00030**	**3.2875**	**-.00105**	**-.00056**	**2.5969**	**5.5575**
Stddev	.0034	.00005	.00193	.00064	.0076	.00480	.00113	.0247	.0528
%RSD	.04758	1.7738	2.5426	217.13	.23182	457.40	201.83	.95028	.95028
#1	7.0468	.00313	.07724	.00016	3.2821	-.00445	-.00136	2.5795	5.5201
#2	7.0421	.00305	.07451	-.00075	3.2929	.00235	.00024	2.6144	5.5948
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00016**	**.10516**	**.00232**	**.00066**	**-.00025**	**.01259**	**.00084**	**.04869**	**-.00178**
Stddev	.00061	.00013	.00038	.00020	.00275	.01985	.00015	.00029	.00248
%RSD	382.87	.12155	16.419	30.019	1090.4	157.74	18.319	.58871	139.18
#1	-.00027	.10525	.00205	.00052	-.00220	-.00145	.00073	.04849	-.00003
#2	.00060	.10506	.00259	.00080	.00169	.02663	.00095	.04889	-.00353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3904.9**	**54289.**	**3925.1**
Stddev	8.7	85.	11.5
%RSD	.22172	.15581	.29379
#1	3898.7	54229.	3933.3
#2	3911.0	54349.	3917.0

Sample Name: 280-90693-C-5-A Acquired: 11/13/2016 15:09:44 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350718 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00139**	**.14244**	**.06336**	**.01502**	**.04407**	**-.00001**	**-.00258**	**4.6575**	**.00079**
Stddev	.00051	.00036	.00253	.00023	.00027	.00003	.00008	.0152	.00016
%RSD	37.046	.24949	3.9908	1.5063	.61267	412.66	3.0386	.32555	20.499
#1	.00102	.14219	.06514	.01519	.04426	.00001	-.00263	4.6682	.00068
#2	.00175	.14270	.06157	.01486	.04388	-.00002	-.00252	4.6468	.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01098**	**.00036**	**-.00058**	**159.23**	**.47080**	**.00177**	**18.494**	**.43570**	**.00592**
Stddev	.00030	.00001	.00015	.13	.03184	.00246	.001	.00007	.00002
%RSD	2.7073	2.9212	25.409	.07907	6.7625	139.02	.00806	.01535	.33477
#1	.01077	.00037	-.00047	159.14	.49331	.00350	18.493	.43565	.00590
#2	.01119	.00035	-.00068	159.32	.44829	.00003	18.495	.43575	.00593
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.3755**	**.00934**	**.01391**	**.00098**	**.99877**	**.00099**	**-.00079**	**2.0222**	**4.3274**
Stddev	.0052	.00017	.00042	.00142	.00057	.00052	.00053	.0207	.0443
%RSD	.08111	1.8099	3.0542	145.15	.05705	52.383	67.106	1.0238	1.0238
#1	6.3719	.00946	.01361	.00198	.99917	.00136	-.00042	2.0075	4.2961
#2	6.3792	.00922	.01421	-.00003	.99836	.00063	-.00117	2.0368	4.3587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00088**	**.09836**	**-.01374**	**.00037**	**.00103**	**.54569**	**.00092**	**.01576**	**.00166**
Stddev	.00066	.00037	.00045	.00026	.00229	.03156	.00022	.00012	.00123
%RSD	75.500	.37428	3.2494	70.456	223.04	5.7827	24.312	.76168	74.058
#1	.00135	.09810	-.01342	.00019	.00264	.52338	.00108	.01567	.00079
#2	.00041	.09862	-.01405	.00055	-.00059	.56801	.00076	.01584	.00253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3878.1**	**53834.**	**3962.9**
Stddev	2.7	156.	13.9
%RSD	.06871	.29035	.35158
#1	3880.0	53724.	3953.1
#2	3876.2	53945.	3972.8

Sample Name: CCVH-4239353 Acquired: 11/13/2016 15:12:16 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00087**	**47.700**	**-.00006**	**.00081**	**.00060**	**.00009**	W **.93694**	**.00121**	**.00095**	**-.00070**	**.00023**	**-.00391**
Stddev	.00042	.040	.00093	.00055	.00018	.00008	.00265	.00046	.00007	.00008	.00025	.00005
%RSD	48.254	.08385	1640.3	67.293	29.663	88.470	.28295	37.459	6.9444	11.422	110.84	1.1724
#1	.00057	47.672	-.00071	.00043	.00073	.00015	.93507	.00154	.00100	-.00075	.00005	-.00388
#2	.00117	47.728	.00060	.00120	.00048	.00003	.93882	.00089	.00090	-.00064	.00041	-.00395
Check ?	None	Chk Pass	None	None	None	None	Chk Warn	None	None	None	None	None
Value							1.0000					
Range							-5.0000%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.018**	**.05238**	**.00089**	**.05046**	**.00056**	**-.00213**	**240.38**	**.00070**	**.00478**	**-.00078**	**4.8983**	**.00049**
Stddev	.086	.00269	.00248	.00040	.00007	.00016	.02	.00025	.00191	.00103	.0091	.00055
%RSD	.17146	5.1385	277.64	.79739	12.763	7.6019	.00679	36.123	39.954	133.05	.18520	111.03
#1	49.957	.05048	.00264	.05017	.00061	-.00201	240.37	.00088	.00614	-.00151	4.9047	.00011
#2	50.078	.05429	-.00086	.05074	.00051	-.00224	240.39	.00052	.00343	-.00005	4.8919	.00088
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00469**	**-.02937**	**-.06285**	**.00085**	**.00038**	W **4.5873**	**.01867**	**.00051**	**10.354**	**.01282**	**-.00015**	**.09391**
Stddev	.00060	.01062	.02272	.00049	.00006	.0373	.00030	.00126	.012	.00028	.00017	.00160
%RSD	12.696	36.158	36.158	57.878	14.513	.81322	1.6101	245.99	.11476	2.1986	109.05	1.7061
#1	-.00427	-.02186	-.04678	.00050	.00034	4.5609	.01846	.00140	10.362	.01262	-.00003	.09504
#2	-.00511	-.03688	-.07892	.00119	.00042	4.6136	.01888	-.00038	10.346	.01302	-.00027	.09278
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3763.3**	**50830.**	**3866.1**
Stddev	9.3	601.	7.1
%RSD	.24619	1.1815	.18438
#1	3769.8	51255.	3861.1
#2	3756.7	50406.	3871.1

Sample Name: CCV-4239351 Acquired: 11/13/2016 15:14:46 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48019**	**.48651**	**.90886**	**.48173**	**.50443**	**.47427**	**-.00114**	**5.1248**	**.48712**	**.49374**	**.50395**	F **.44688**
Stddev	.00193	.00125	.00115	.00007	.00065	.00224	.00358	.0309	.00024	.00054	.00028	.00051
%RSD	.40114	.25647	.12666	.01357	.12821	.47315	315.45	.60393	.04835	.11037	.05466	.11326
#1	.47883	.48563	.90967	.48169	.50489	.47586	.00140	5.1467	.48696	.49412	.50376	.44724
#2	.48155	.48739	.90804	.48178	.50397	.47268	-.00367	5.1029	.48729	.49335	.50415	.44652
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value												.50000
Range												-10.490%

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4473**	**49.710**	**1.0349**	**19.067**	**.46494**	**.49884**	**4.9711**	**.49375**	**.95606**	**.99634**	**.00268**	**.94538**
Stddev	.0095	.185	.0063	.024	.00107	.00128	.0269	.00055	.00404	.00111	.00207	.00122
%RSD	.38906	.37164	.61228	.12565	.22935	.25683	.54032	.11093	.42243	.11136	77.091	.12951
#1	2.4540	49.840	1.0393	19.084	.46569	.49975	4.9901	.49336	.95321	.99713	.00122	.94451
#2	2.4406	49.579	1.0304	19.050	.46419	.49794	4.9521	.49414	.95892	.99556	.00415	.94624
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.91072**	**4.9114**	**10.510**	**1.0107**	**.46729**	**.01138**	**.45626**	**1.0269**	**-.00743**	**.47103**	**.46343**	**.50676**
Stddev	.00309	.0092	.020	.0018	.00149	.00030	.00042	.0023	.02968	.00017	.00281	.00294
%RSD	.33902	.18773	.18773	.18168	.31939	2.6170	.09258	.22187	399.41	.03530	.60709	.58033
#1	.91290	4.9179	10.524	1.0094	.46835	.01159	.45656	1.0252	.01355	.47091	.46542	.50884
#2	.90854	4.9048	10.496	1.0120	.46624	.01117	.45596	1.0285	-.02841	.47115	.46144	.50468
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3833.3**	**53005.**	**3894.1**
Stddev	8.6	200.	9.7
%RSD	.22493	.37784	.24909
#1	3839.4	52863.	3887.3
#2	3827.2	53146.	3901.0

Sample Name: CCB Acquired: 11/13/2016 15:17:07 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00133**	**.00032**	**.00151**	**.00039**	**.00051**	**-.00011**	**-.00198**	**-.00408**	**.00007**	**.00047**	**.00012**	**-.00135**	**-.00048**
Stddev	.00051	.00023	.00135	.00001	.00012	.00007	.00286	.00156	.00017	.00011	.00024	.00024	.00468
%RSD	38.284	70.162	89.222	3.6841	24.276	61.225	144.63	38.290	252.40	23.819	203.56	17.892	982.74
#1	.00097	.00016	.00056	.00040	.00059	-.00016	-.00400	-.00519	-.00005	.00039	.00029	-.00152	-.00379
#2	.00169	.00048	.00246	.00038	.00042	-.00006	.00004	-.00298	.00019	.00055	-.00005	-.00118	.00283
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01840**	**.00236**	**.00266**	**.00009**	**.00187**	**.03701**	**.00039**	**.00081**	**-.00039**	**.00535**	**.00272**	**.00464**	**-.00092**
Stddev	.00936	.00313	.00222	.00001	.00037	.00108	.00008	.00081	.00052	.00161	.00095	.00327	.03476
%RSD	50.842	132.28	83.322	6.3408	19.745	2.9110	21.384	99.591	133.87	30.098	34.750	70.348	3771.6
#1	.02502	.00457	.00423	.00008	.00161	.03778	.00045	.00024	-.00076	.00421	.00205	.00233	.02365
#2	.01179	.00015	.00109	.00009	.00213	.03625	.00033	.00138	-.00002	.00649	.00339	.00695	-.02550
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00197**	**-.00010**	**.00018**	**.00306**	**.00019**	**.00077**	**-.01609**	**-.00030**	**-.00023**	**-.00038**
Stddev	.07438	.00166	.00005	.00150	.00028	.00088	.02315	.00054	.00044	.00208
%RSD	3771.6	1624.7	28.621	48.952	150.87	113.74	143.92	177.51	193.62	551.91
#1	.05062	.00107	.00022	.00200	-.00001	.00015	-.03246	-.00069	.00008	.00109
#2	-.05456	-.00128	.00014	.00412	.00039	.00139	.00028	.00008	-.00054	-.00185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3860.7**	**53678.**	**3871.7**
Stddev	12.8	100.	1.6
%RSD	.33169	.18698	.04075
#1	3851.6	53607.	3870.6
#2	3869.7	53749.	3872.8

Sample Name: CCVL-4245706 Acquired: 11/13/2016 15:19:42 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01141**	**.09798**	**.01573**	**.09428**	**.01054**	**.00084**	**.10097**	**.20907**	**.00509**	**.01012**	**.01004**	**.01195**
Stddev	.00021	.00057	.00262	.00008	.00002	.00008	.00200	.00648	.00025	.00011	.00015	.00020
%RSD	1.8827	.57771	16.638	.07990	.20948	9.6183	1.9809	3.0999	4.9888	1.0387	1.4462	1.6894
#1	.01156	.09838	.01388	.09434	.01052	.00078	.10239	.21365	.00527	.01005	.01014	.01209
#2	.01126	.09758	.01758	.09423	.01055	.00090	.09956	.20449	.00491	.01019	.00994	.01181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10447**	**3.0389**	**.02148**	**.20084**	**.00954**	**.01892**	**1.0314**	**.04022**	**2.7278**	**.00963**	**.00024**	**.02029**
Stddev	.00102	.0394	.00071	.00156	.00007	.00007	.0139	.00055	.0005	.00078	.00100	.00049
%RSD	.97465	1.2975	3.2938	.77728	.72339	.37432	1.3462	1.3671	.01937	8.1210	407.59	2.3922
#1	.10519	3.0668	.02098	.20195	.00958	.01897	1.0215	.03983	2.7275	.00907	-.00046	.01995
#2	.10375	3.0110	.02198	.19974	.00949	.01887	1.0412	.04061	2.7282	.01018	.00095	.02064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.00925**	**.49166**	**1.0522**	**.10015**	**.00930**	**.01492**	**.00915**	**.01686**	**.06535**	**.00937**	**.01869**	**.01648**
Stddev	.00134	.00522	.0112	.00005	.00006	.00063	.00015	.00062	.00923	.00035	.00048	.00014
%RSD	14.455	1.0626	1.0626	.04747	.64891	4.2101	1.6762	3.6801	14.123	3.7672	2.5515	.86413
#1	.01020	.49535	1.0601	.10018	.00935	.01448	.00926	.01642	.05882	.00961	.01902	.01638
#2	.00831	.48797	1.0442	.10011	.00926	.01537	.00904	.01730	.07187	.00912	.01835	.01658
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.01500											
Range	-30.000%											

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3913.3**	**54305.**	**3885.3**
Stddev	20.3	225.	11.8
%RSD	.51910	.41429	.30480
#1	3898.9	54145.	3876.9
#2	3927.6	54464.	3893.7

Sample Name: MB 280-350904/1-A Acquired: 11/13/2016 15:22:15 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00121**	**.00401**	**.00041**	**-.00017**	**.00073**	**.00001**	**-.00065**	**.00785**	**.00029**
Stddev	.00001	.00036	.00085	.00003	.00033	.00006	.00227	.00091	.00012
%RSD	1.0772	9.0635	206.09	17.317	45.802	666.66	347.92	11.601	42.911
#1	.00122	.00427	.00101	-.00015	.00096	-.00003	-.00226	.00850	.00038
#2	.00121	.00376	-.00019	-.00019	.00049	.00005	.00095	.00721	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00018**	**.00020**	**-.00133**	**.00854**	**.03351**	**.00381**	**.00484**	**.00027**	**.00008**
Stddev	.00010	.00016	.00022	.00051	.01142	.00204	.00002	.00000	.00003
%RSD	53.069	82.036	16.247	5.9203	34.074	53.544	.42656	.36729	38.603
#1	.00011	.00032	-.00118	.00818	.02543	.00525	.00483	.00027	.00010
#2	.00025	.00008	-.00148	.00890	.04158	.00237	.00486	.00027	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04872**	**.00028**	**.00069**	**.00042**	**.01081**	**-.00049**	**-.00070**	**-.01218**	**-.02607**
Stddev	.01191	.00019	.00105	.00033	.00240	.00433	.00320	.02981	.06379
%RSD	24.448	69.264	151.45	78.572	22.240	884.13	456.37	244.70	244.70
#1	.05714	.00014	.00143	.00019	.01251	.00257	-.00297	.00890	.01904
#2	.04029	.00041	-.00005	.00065	.00911	-.00355	.00156	-.03326	-.07118
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00013**	**.00010**	**.00201**	**.00020**	**-.00076**	**-.02121**	**-.00023**	**.00072**	**-.00082**
Stddev	.00068	.00000	.00052	.00013	.00012	.02181	.00002	.00007	.00060
%RSD	524.70	2.2140	25.803	63.648	15.661	102.83	8.2903	9.1798	72.609
#1	-.00061	.00010	.00238	.00011	-.00085	-.03663	-.00022	.00076	-.00124
#2	.00035	.00011	.00164	.00029	-.00068	-.00579	-.00024	.00067	-.00040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3933.0**	**55194.**	**3933.9**
Stddev	12.5	23.	6.3
%RSD	.31667	.04186	.16007
#1	3941.8	55178.	3929.5
#2	3924.2	55211.	3938.4

Sample Name: LCS 280-350904/2-A Acquired: 11/13/2016 15:24:50 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05172**	**1.8568**	**.95400**	**.99304**	**2.0596**	**.04835**	**1.9681**	**51.911**	**.10250**
Stddev	.00017	.0053	.00361	.00175	.0043	.00013	.0038	.131	.00018
%RSD	.33790	.28721	.37824	.17597	.21085	.26787	.19269	.25313	.17256
#1	.05185	1.8606	.95655	.99181	2.0566	.04826	1.9655	51.818	.10237
#2	.05160	1.8530	.95145	.99428	2.0627	.04844	1.9708	52.004	.10262
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49209**	**.20439**	**.22800**	**.99716**	**51.267**	**1.0498**	**48.607**	**.46767**	**.99365**
Stddev	.00126	.00073	.00012	.00458	.011	.0009	.032	.00051	.00279
%RSD	.25551	.35523	.05277	.45937	.02166	.08989	.06514	.11008	.28035
#1	.49298	.20491	.22808	1.0004	51.259	1.0505	48.630	.46731	.99562
#2	.49120	.20388	.22791	.99392	51.274	1.0491	48.585	.46804	.99168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.452**	**.49225**	**9.9026**	**.50285**	**2.0580**	**.48865**	**1.8859**	**9.8107**	**20.995**
Stddev	.094	.00070	.0112	.00168	.0085	.00066	.0114	.0179	.038
%RSD	.18555	.14154	.11334	.33443	.41512	.13548	.60422	.18200	.18200
#1	50.518	.49274	9.8947	.50166	2.0520	.48819	1.8779	9.7981	20.968
#2	50.386	.49176	9.9105	.50404	2.0641	.48912	1.8940	9.8233	21.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0378**	**.94726**	**.95134**	**.93903**	**2.0448**	**2.1385**	**.48434**	**.46898**	**.53764**
Stddev	.0051	.00125	.00292	.00073	.0043	.0352	.00067	.00097	.00122
%RSD	.25102	.13166	.30694	.07790	.21099	1.6440	.13848	.20775	.22645
#1	2.0414	.94638	.95340	.93851	2.0479	2.1136	.48386	.46967	.53678
#2	2.0342	.94814	.94927	.93954	2.0418	2.1633	.48481	.46829	.53850
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3771.4**	**51798.**	**3900.8**
Stddev	18.6	193.	24.0
%RSD	.49321	.37323	.61448
#1	3758.2	51661.	3917.7
#2	3784.6	51934.	3883.8

Sample Name: 280-90337-C-1-C Acquired: 11/13/2016 15:27:08 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00168**	**.06444**	**.00290**	**.03469**	**.01215**	**-.00007**	**-.00048**	**200.68**	**.00044**
Stddev	.00048	.00038	.00094	.00096	.00047	.00011	.00476	.05	.00007
%RSD	28.394	.58810	32.320	2.7789	3.8488	154.93	999.00	.02503	16.501
#1	.00202	.06471	.00224	.03537	.01182	-.00014	-.00384	200.72	.00039
#2	.00134	.06417	.00357	.03401	.01248	.00001	.00289	200.65	.00049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**.00023**	**-.00069**	**.07695**	**5.4389**	**.03071**	**18.878**	**.64313**	**.00270**
Stddev	.00018	.00024	.00019	.00432	.0075	.00112	.022	.00057	.00112
%RSD	195.22	101.82	27.687	5.6175	.13769	3.6554	.11900	.08915	41.388
#1	.00022	.00040	-.00056	.08000	5.4336	.03151	18.894	.64353	.00191
#2	-.00003	.00007	-.00083	.07389	5.4441	.02992	18.862	.64272	.00348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.8177**	**.01073**	**.00363**	**.00107**	**147.74**	**-.00189**	**-.00080**	**10.204**	**21.837**
Stddev	.0058	.00014	.00189	.00034	.31	.00228	.00116	.018	.039
%RSD	.31682	1.3380	51.995	31.851	.21049	120.96	145.03	.17675	.17675
#1	1.8218	.01063	.00496	.00131	147.96	-.00027	.00002	10.192	21.810
#2	1.8136	.01083	.00229	.00083	147.52	-.00350	-.00162	10.217	21.865
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00059**	**.16409**	**.00313**	**-.00013**	**.00545**	**-.00704**	**-.00034**	**.00332**	**-.00162**
Stddev	.00001	.00017	.00087	.00010	.00002	.01544	.00033	.00000	.00285
%RSD	1.2386	.10429	27.884	79.355	.31916	219.26	98.668	.00942	175.38
#1	-.00059	.16396	.00375	-.00006	.00544	-.01796	-.00057	.00332	.00039
#2	-.00058	.16421	.00251	-.00021	.00547	.00388	-.00010	.00332	-.00363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3901.7**	**52931.**	**3977.5**
Stddev	18.8	261.	24.7
%RSD	.48238	.49231	.62086
#1	3888.4	52747.	3995.0
#2	3915.0	53116.	3960.1

Sample Name: 280-90337-C-2-C Acquired: 11/13/2016 15:29:39 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00144**	**1.0498**	**-.00036**	**.02203**	**.03597**	**.00002**	**-.00014**	**232.79**	**.00078**
Stddev	.00030	.0062	.00067	.00016	.00001	.00002	.00133	.91	.00007
%RSD	20.812	.59226	188.42	.71010	.03898	128.05	944.02	.38894	8.6796
#1	.00122	1.0542	.00012	.02214	.03596	.00003	.00080	232.15	.00074
#2	.00165	1.0454	-.00083	.02192	.03598	.00000	-.00108	233.43	.00083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00323**	**.00189**	**.00067**	**2.2618**	**2.1013**	**.03112**	**53.158**	**.50493**	**.00059**
Stddev	.00012	.00051	.00015	.0117	.0348	.00384	.394	.00340	.00002
%RSD	3.6290	27.164	22.456	.51603	1.6578	12.342	.74043	.67264	3.1721
#1	.00314	.00153	.00056	2.2535	2.0767	.02841	53.437	.50733	.00060
#2	.00331	.00225	.00077	2.2700	2.1260	.03384	52.880	.50252	.00058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.847**	**.01107**	**.02656**	**.00131**	**175.48**	**-.00003**	**-.00046**	**6.1190**	**13.095**
Stddev	.222	.00003	.00016	.00048	.70	.00274	.00290	.0623	.133
%RSD	1.3993	.23845	.58925	36.357	.39781	8138.7	631.17	1.0180	1.0180
#1	15.690	.01109	.02645	.00098	174.98	-.00197	.00159	6.0749	13.000
#2	16.003	.01105	.02667	.00165	175.97	.00190	-.00251	6.1630	13.189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00154**	**.35972**	**.00517**	**.01365**	**.00007**	**-.00562**	**.00080**	**.00859**	**.00036**
Stddev	.00036	.00063	.00127	.00072	.00137	.00251	.00045	.00021	.00137
%RSD	23.693	.17441	24.539	5.2699	2018.6	44.569	55.638	2.4801	377.18
#1	-.00180	.35928	.00607	.01416	.00104	-.00740	.00049	.00844	.00133
#2	-.00128	.36017	.00428	.01315	-.00090	-.00385	.00112	.00874	-.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4009.4**	**54592.**	**4246.8**
Stddev	39.0	660.	39.0
%RSD	.97234	1.2095	.91803
#1	3981.8	54125.	4274.3
#2	4037.0	55059.	4219.2

Sample Name: 280-90337-C-3-C Acquired: 11/13/2016 15:32:10 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00115**	**.09613**	**.00644**	**.01378**	**.05733**	**-.00005**	**.00021**	**58.864**	**.00037**
Stddev	.00031	.00011	.00218	.00025	.00018	.00008	.00183	.012	.00019
%RSD	26.827	.11555	33.934	1.8267	.31566	149.76	885.08	.02007	51.503
#1	.00137	.09605	.00489	.01360	.05720	.00000	-.00109	58.872	.00023
#2	.00093	.09620	.00798	.01396	.05746	-.00010	.00150	58.855	.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00044**	**.00029**	**-.00144**	**.96897**	**.96555**	**.00549**	**9.2350**	**.17450**	**.00030**
Stddev	.00005	.00023	.00006	.00495	.00682	.00247	.0206	.00064	.00030
%RSD	12.253	80.138	4.1216	.51131	.70659	44.867	.22272	.36556	97.353
#1	.00047	.00045	-.00140	.97248	.97037	.00724	9.2204	.17405	.00009
#2	.00040	.00012	-.00149	.96547	.96072	.00375	9.2495	.17495	.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.2899**	**.00029**	**.00568**	**-.00003**	**15.474**	**.00088**	**-.00315**	**6.0573**	**12.963**
Stddev	.0124	.00016	.00071	.00007	.011	.00086	.00273	.0021	.004
%RSD	.23495	56.931	12.477	253.85	.07284	98.485	86.680	.03393	.03393
#1	5.2987	.00017	.00518	.00002	15.466	.00027	-.00509	6.0587	12.966
#2	5.2811	.00040	.00618	-.00007	15.482	.00149	-.00122	6.0558	12.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00200**	**.08928**	**.00268**	**.00198**	**-.00031**	**-.02513**	**.00010**	**.00271**	**-.00032**
Stddev	.00019	.00039	.00119	.00015	.00337	.03760	.00005	.00014	.00022
%RSD	9.4317	.43715	44.307	7.7283	1093.6	149.62	49.390	5.1089	69.284
#1	-.00213	.08901	.00184	.00209	-.00269	.00146	.00007	.00261	-.00048
#2	-.00187	.08956	.00352	.00188	.00208	-.05171	.00014	.00281	-.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4161.2**	**59246.**	**4526.5**
Stddev	11.9	217.	15.3
%RSD	.28572	.36560	.33818
#1	4169.6	59399.	4537.3
#2	4152.8	59092.	4515.7

Sample Name: 280-90337-C-5-C Acquired: 11/13/2016 15:34:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00124**	**1.5624**	**.00104**	**.05388**	**.01864**	**.00018**	**-.00362**	**27.582**	**.00170**
Stddev	.00001	.0087	.00049	.00037	.00005	.00003	.00140	.101	.00011
%RSD	1.0355	.55601	46.545	.68388	.24339	14.323	38.817	.36653	6.2336
#1	.00123	1.5563	.00139	.05414	.01868	.00016	-.00461	27.654	.00163
#2	.00125	1.5686	.00070	.05362	.01861	.00020	-.00262	27.511	.00178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02298**	**.00053**	**.00460**	**.11690**	**2.8026**	**.01071**	**5.3185**	**.66376**	**-.00026**
Stddev	.00023	.00007	.00007	.00178	.0052	.00109	.0214	.00130	.00018
%RSD	1.0026	12.285	1.5898	1.5240	.18530	10.220	.40151	.19520	68.592
#1	.02282	.00049	.00465	.11816	2.7989	.01148	5.3034	.66285	-.00039
#2	.02314	.00058	.00455	.11564	2.8062	.00994	5.3336	.66468	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.9961**	**.05835**	**.00219**	**.00325**	**36.984**	**.00071**	**-.00031**	**9.6041**	**20.553**
Stddev	.0073	.00028	.00053	.00092	.026	.00275	.00035	.0098	.021
%RSD	.08111	.48050	24.331	28.351	.07122	384.76	112.87	.10198	.10198
#1	8.9910	.05816	.00181	.00260	36.965	.00265	-.00006	9.6110	20.568
#2	9.0013	.05855	.00256	.00390	37.002	-.00123	-.00056	9.5972	20.538
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00021**	**.08014**	**.00373**	**.00030**	**.00044**	**-.02411**	**.00021**	**.05012**	**.00076**
Stddev	.00018	.00010	.00112	.00022	.00143	.02268	.00026	.00006	.00207
%RSD	86.166	.12266	30.041	74.872	325.69	94.101	125.05	.11184	273.02
#1	-.00034	.08021	.00294	.00014	-.00057	-.00807	.00002	.05016	.00222
#2	-.00008	.08008	.00452	.00045	.00145	-.04015	.00039	.05008	-.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4160.8**	**59348.**	**4558.6**
Stddev	20.2	106.	14.9
%RSD	.48460	.17930	.32718
#1	4175.1	59423.	4548.1
#2	4146.6	59272.	4569.2

Sample Name: 280-90337-A-6-C Acquired: 11/13/2016 15:37:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00165**	**.00358**	**.00479**	**.01130**	**.05608**	**-.00003**	**-.00182**	**55.326**	**.00058**
Stddev	.00010	.00018	.00118	.00034	.00019	.00002	.00260	.128	.00014
%RSD	6.2567	5.1117	24.627	3.0008	.33088	68.088	142.98	.23097	23.482
#1	.00172	.00371	.00563	.01106	.05621	-.00005	.00002	55.417	.00049
#2	.00158	.00345	.00396	.01154	.05595	-.00002	-.00366	55.236	.00068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00023**	**.00006**	**-.00130**	**1.0098**	**4.3070**	**.02713**	**27.966**	**.37205**	**-.00027**
Stddev	.00005	.00006	.00010	.0069	.0658	.00155	.090	.00032	.00038
%RSD	22.558	105.13	7.8516	.68074	1.5281	5.7080	.32090	.08502	142.61
#1	.00019	.00002	-.00122	1.0049	4.3535	.02823	27.902	.37183	-.00053
#2	.00026	.00010	-.00137	1.0146	4.2604	.02604	28.029	.37228	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.0818**	**.00136**	**.02037**	**.00184**	**28.739**	**-.00231**	**-.00210**	**6.2787**	**13.436**
Stddev	.0026	.00026	.00174	.00112	.011	.00034	.00025	.0589	.126
%RSD	.05094	18.766	8.5289	60.697	.03893	14.908	11.887	.93752	.93752
#1	5.0799	.00118	.01914	.00263	28.747	-.00206	-.00228	6.2370	13.347
#2	5.0836	.00154	.02160	.00105	28.731	-.00255	-.00192	6.3203	13.525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00064**	**.13441**	**.00384**	**.00002**	**.00046**	**-.05002**	**-.00028**	**.00094**	**.00197**
Stddev	.00059	.00021	.00183	.00023	.00045	.02446	.00028	.00044	.00009
%RSD	91.541	.15442	47.726	1037.8	99.365	48.906	99.874	46.595	4.3856
#1	-.00106	.13455	.00514	.00018	.00014	-.06732	-.00047	.00063	.00191
#2	-.00023	.13426	.00255	-.00014	.00078	-.03272	-.00008	.00125	.00203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4056.4**	**56886.**	**4261.6**
Stddev	.2	86.	26.8
%RSD	.00376	.15050	.62996
#1	4056.5	56946.	4242.7
#2	4056.3	56825.	4280.6

Sample Name: 280-90337-A-7-C Acquired: 11/13/2016 15:39:44 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00185**	**6.0183**	**.01567**	**.01675**	**.32731**	**.00023**	**-.00526**	**102.02**	**.00086**
Stddev	.00008	.0632	.00043	.00101	.00002	.00012	.00184	.07	.00007
%RSD	4.1217	1.0503	2.7492	6.0277	.00571	51.413	34.891	.07101	8.3410
#1	.00180	6.0629	.01598	.01604	.32733	.00031	-.00656	101.96	.00081
#2	.00191	5.9736	.01537	.01746	.32730	.00015	-.00396	102.07	.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00679**	**.01083**	**.01156**	**18.985**	**5.6665**	**.04353**	**47.427**	**.85719**	**-.00004**
Stddev	.00021	.00030	.00001	.047	.0004	.00021	.172	.00203	.00014
%RSD	3.1106	2.7426	.11548	.24802	.00620	.48016	.36351	.23630	343.79
#1	.00664	.01104	.01155	19.018	5.6667	.04368	47.549	.85862	-.00014
#2	.00694	.01062	.01157	18.952	5.6662	.04338	47.305	.85575	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1195**	**.01675**	**.35958**	**.00810**	**29.932**	**.00020**	**-.00014**	**18.423**	**39.425**
Stddev	.0123	.00020	.00293	.00053	.023	.00011	.00319	.001	.003
%RSD	.24005	1.1803	.81528	6.5380	.07688	56.152	2254.7	.00783	.00783
#1	5.1282	.01661	.36166	.00847	29.916	.00012	-.00239	18.422	39.423
#2	5.1108	.01689	.35751	.00773	29.948	.00028	.00211	18.424	39.427
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00040**	**.52702**	**.00483**	**.06154**	**-.00011**	**.06600**	**.00999**	**.03703**	**.00262**
Stddev	.00118	.00009	.00176	.00049	.00293	.01411	.00034	.00024	.00088
%RSD	291.78	.01740	36.343	.79468	2739.4	21.386	3.3864	.63869	33.564
#1	.00043	.52709	.00607	.06119	.00197	.07598	.00975	.03720	.00324
#2	-.00123	.52696	.00359	.06188	-.00218	.05602	.01023	.03687	.00199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4007.7**	**55854.**	**4245.5**
Stddev	4.6	287.	20.9
%RSD	.11370	.51359	.49144
#1	4004.4	55651.	4260.3
#2	4010.9	56057.	4230.8

Sample Name: 280-90350-C-2-C Acquired: 11/13/2016 15:42:13 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00176**	**.02046**	**.00174**	**.01355**	**.06604**	**.00004**	**.00005**	**81.642**	**.00084**
Stddev	.00003	.00025	.00321	.00024	.00042	.00018	.00035	.179	.00009
%RSD	1.6593	1.2394	184.24	1.7734	.64221	460.59	660.28	.21905	10.921
#1	.00174	.02064	-.00053	.01372	.06634	-.00009	.00030	81.516	.00078
#2	.00178	.02028	.00401	.01338	.06574	.00017	-.00019	81.769	.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00047**	**.00035**	**-.00044**	**.30631**	**.95560**	**.00259**	**32.413**	**2.4838**	**-.00007**
Stddev	.00010	.00027	.00007	.00399	.00158	.00230	.049	.0061	.00025
%RSD	21.412	77.170	16.655	1.3016	.16529	88.706	.15222	.24501	374.42
#1	.00040	.00055	-.00049	.30913	.95672	.00422	32.448	2.4881	.00011
#2	.00055	.00016	-.00039	.30349	.95448	.00097	32.378	2.4795	-.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.447**	**.00457**	**.06206**	**.00096**	**12.037**	**-.00084**	**-.00126**	**5.0411**	**10.788**
Stddev	.114	.00021	.00140	.00014	.021	.00005	.00087	.0104	.022
%RSD	.91701	4.5162	2.2580	14.796	.17303	6.3206	69.352	.20661	.20661
#1	12.528	.00472	.06106	.00106	12.052	-.00080	-.00064	5.0485	10.804
#2	12.367	.00443	.06305	.00086	12.023	-.00087	-.00187	5.0338	10.772
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00022**	**.14779**	**.00347**	**.00035**	**.00014**	**-.04113**	**.00009**	**.00850**	**-.00059**
Stddev	.00049	.00023	.00030	.00014	.00068	.00927	.00062	.00042	.00082
%RSD	223.51	.15898	8.7623	38.885	484.32	22.531	657.68	4.9397	137.82
#1	-.00056	.14796	.00369	.00025	.00062	-.03458	.00053	.00820	-.00002
#2	.00013	.14763	.00326	.00044	-.00034	-.04768	-.00035	.00880	-.00117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3994.2**	**55984.**	**4245.6**
Stddev	2.9	271.	6.0
%RSD	.07169	.48351	.14198
#1	3992.2	55792.	4249.8
#2	3996.3	56175.	4241.3

Sample Name: CCVH-4239353 Acquired: 11/13/2016 15:44:46 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00080**	**46.786**	**.00236**	**.00051**	**.00016**	**.00011**	W **.93859**	**-.00454**	**.00061**	**-.00059**	**.00065**	**-.00420**
Stddev	.00029	.188	.00099	.00046	.00033	.00010	.00162	.00374	.00003	.00014	.00004	.00017
%RSD	36.408	.40208	41.713	90.603	202.18	87.775	.17223	82.385	4.8002	24.101	6.4774	4.0893
#1	.00101	46.919	.00306	.00084	.00040	.00018	.93745	-.00189	.00063	-.00069	.00068	-.00408
#2	.00060	46.653	.00167	.00018	-.00007	.00004	.93973	-.00718	.00059	-.00049	.00062	-.00432
Check ?	None	Chk Pass	None	None	None	None	Chk Warn	None	None	None	None	None
Value							1.0000					
Range							-5.0000%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.279**	**.13519**	**.00017**	**.04960**	**.00059**	**-.00146**	**236.57**	**.00072**	**.00474**	**-.00130**	**4.9788**	**.00391**
Stddev	.130	.00090	.00091	.00226	.00006	.00049	1.20	.00032	.00279	.00163	.0011	.00293
%RSD	.26445	.66891	544.42	4.5517	11.035	33.654	.50727	44.311	58.829	125.13	.02137	75.005
#1	49.372	.13455	.00081	.05120	.00063	-.00180	237.42	.00094	.00671	-.00245	4.9781	.00598
#2	49.187	.13583	-.00048	.04801	.00054	-.00111	235.72	.00049	.00277	-.00015	4.9796	.00184
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00072**	**-.02695**	**-.05768**	**.00026**	**.00047**	F **4.4594**	**.01878**	**.00147**	**10.134**	**.01288**	**.00012**	**.09359**
Stddev	.00216	.00158	.00337	.00052	.00005	.0126	.00021	.00099	.117	.00033	.00021	.00005
%RSD	301.81	5.8507	5.8507	202.71	11.306	.28214	1.1218	67.181	1.1498	2.5865	169.62	.05018
#1	.00081	-.02584	-.05529	.00062	.00043	4.4683	.01893	.00217	10.216	.01312	-.00002	.09356
#2	-.00225	-.02807	-.06007	-.00011	.00051	4.4505	.01863	.00077	10.051	.01265	.00027	.09363
Check ?	None	None	None	None	None	Chk Fail	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-10.490%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3968.4**	**54937.**	**4248.2**
Stddev	21.6	143.	17.2
%RSD	.54381	.25943	.40495
#1	3983.7	54837.	4236.1
#2	3953.2	55038.	4260.4

Sample Name: CCV-4239351 Acquired: 11/13/2016 15:47:15 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48229**	**.47041**	**.91445**	**.48893**	**.50497**	**.46896**	**-.00038**	**5.0634**	**.49032**	**.49487**	**.50565**	W **.44785**
Stddev	.00035	.00137	.00555	.00094	.00162	.00075	.00111	.0396	.00006	.00039	.00175	.00096
%RSD	.07245	.29157	.60656	.19159	.32062	.16097	288.51	.78174	.01165	.07929	.34541	.21457
#1	.48253	.47138	.91838	.48827	.50383	.46842	-.00117	5.0354	.49028	.49460	.50442	.44717
#2	.48204	.46944	.91053	.48959	.50612	.46949	.00040	5.0914	.49036	.49515	.50689	.44853
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn
Value												.50000
Range												-10.000%

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4151**	**48.889**	**1.0226**	**18.581**	**.45702**	**.50442**	**4.9073**	**.49302**	**.96356**	**.99909**	**.01038**	**.96511**
Stddev	.0042	.034	.0039	.004	.00004	.00039	.0066	.00001	.00045	.00107	.00271	.00053
%RSD	.17515	.07033	.38453	.01990	.00979	.07747	.13541	.00116	.04678	.10682	26.146	.05489
#1	2.4121	48.865	1.0199	18.584	.45705	.50470	4.9026	.49302	.96388	.99984	.01230	.96473
#2	2.4181	48.914	1.0254	18.579	.45699	.50414	4.9120	.49301	.96324	.99834	.00846	.96548
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.92443**	**4.7701**	**10.208**	**1.0169**	**.46315**	**.01193**	**.45037**	**1.0461**	**-.03299**	**.46561**	F **.44361**	**.50666**
Stddev	.00044	.0385	.082	.0002	.00086	.00092	.00032	.0012	.02084	.00143	.00123	.00304
%RSD	.04810	.80637	.80637	.01978	.18637	7.7516	.07095	.11757	63.162	.30751	.27651	.59925
#1	.92475	4.7429	10.150	1.0171	.46376	.01258	.45014	1.0470	-.01826	.46460	.44274	.50451
#2	.92412	4.7973	10.266	1.0168	.46254	.01127	.45059	1.0453	-.04773	.46663	.44448	.50880
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass
Value											.50000	
Range											-10.490%	

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4156.4**	**58223.**	**4355.5**
Stddev	13.2	123.	24.8
%RSD	.31793	.21068	.56887
#1	4147.0	58137.	4338.0
#2	4165.7	58310.	4373.0

Sample Name: CCB Acquired: 11/13/2016 15:49:36 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00185**	**.00043**	**.00014**	**.00083**	**.00026**	**-.00002**	**.00146**	**-.00291**	**.00028**	**.00051**	**-.00004**	**-.00209**	**-.00118**
Stddev	.00014	.00013	.00073	.00011	.00003	.00007	.00106	.00159	.00004	.00005	.00024	.00015	.00353
%RSD	7.6733	31.363	508.38	13.241	9.8462	345.67	72.551	54.664	15.482	10.070	602.78	7.0702	298.59
#1	.00195	.00052	-.00037	.00075	.00028	.00003	.00071	-.00178	.00025	.00054	.00013	-.00199	-.00368
#2	.00174	.00033	.00066	.00091	.00024	-.00007	.00221	-.00403	.00031	.00047	-.00021	-.00220	.00132
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10405**	**.00282**	**-.00134**	**.00008**	**.00217**	**.07138**	**-.00026**	**.00043**	**.00093**	**.01114**	**.00359**	**.00256**	**.00136**
Stddev	.00633	.00001	.00273	.00000	.00068	.00290	.00008	.00324	.00078	.00373	.00075	.00058	.00924
%RSD	6.0812	.51598	203.85	4.7991	31.208	4.0589	32.322	755.62	84.107	33.468	20.853	22.737	676.74
#1	.10852	.00281	-.00327	.00007	.00169	.06933	-.00032	-.00186	.00038	.00851	.00412	.00214	.00790
#2	.09957	.00283	.00059	.00008	.00265	.07343	-.00020	.00272	.00148	.01378	.00306	.00297	-.00517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00292**	**-.00077**	**.00027**	**.00404**	**.00003**	**.00097**	**-.02170**	**.00015**	**-.00017**	**-.00034**
Stddev	.01976	.00068	.00006	.00059	.00006	.00029	.02575	.00013	.00045	.00222
%RSD	676.74	87.933	22.132	14.672	193.70	29.711	118.67	84.168	262.79	660.92
#1	.01690	-.00029	.00031	.00446	-.00001	.00117	-.03991	.00006	.00015	-.00190
#2	-.01105	-.00126	.00023	.00362	.00007	.00076	-.00349	.00025	-.00049	.00123
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4185.6**	**59484.**	**4411.6**
Stddev	2.9	155.	17.3
%RSD	.06868	.25997	.39154
#1	4183.6	59593.	4399.4
#2	4187.6	59374.	4423.8

Sample Name: CCVL-4245706 Acquired: 11/13/2016 15:52:12 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01130**	**.09525**	**.01637**	**.09613**	**.01051**	**.00085**	**.09977**	**.19978**	**.00505**	**.01004**	**.01014**	**.01172**
Stddev	.00056	.00010	.00119	.00045	.00001	.00004	.00054	.00544	.00006	.00019	.00017	.00051
%RSD	4.9741	.10459	7.2964	.46747	.07926	4.6378	.53899	2.7220	1.2258	1.8685	1.6786	4.3834
#1	.01169	.09532	.01553	.09644	.01051	.00082	.10015	.20362	.00510	.00991	.01026	.01209
#2	.01090	.09517	.01722	.09581	.01050	.00087	.09939	.19593	.00501	.01017	.01002	.01136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09881**	**3.0036**	**.02137**	**.19107**	**.00933**	**.01928**	**1.0010**	**.03988**	**2.7461**	**.01088**	**.00604**	**.01909**
Stddev	.00383	.0261	.00070	.00357	.00004	.00028	.0052	.00025	.0101	.00136	.00059	.00020
%RSD	3.8762	.86718	3.2668	1.8705	.41903	1.4311	.52387	.62874	.36948	12.522	9.8188	1.0377
#1	.09611	2.9852	.02087	.18855	.00930	.01909	.99727	.04005	2.7533	.01185	.00562	.01895
#2	.10152	3.0220	.02186	.19360	.00936	.01948	1.0047	.03970	2.7389	.00992	.00646	.01923
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01391**	**.46057**	**.98563**	**.09965**	**.00938**	**.01735**	**.00868**	**.01593**	F **.04068**	**.00925**	**.01740**	**.01625**
Stddev	.00049	.01069	.02287	.00056	.00000	.00114	.00006	.00009	.00379	.00020	.00016	.00339
%RSD	3.5302	2.3204	2.3204	.56588	.02046	6.5593	.68402	.57246	9.3259	2.1772	.92718	20.839
#1	.01356	.45302	.96946	.10005	.00938	.01815	.00872	.01600	.04336	.00939	.01728	.01386
#2	.01426	.46813	1.0018	.09925	.00938	.01654	.00864	.01587	.03799	.00910	.01751	.01865
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4218.2**	**60257.**	**4476.8**
Stddev	3.6	42.	20.2
%RSD	.08641	.06980	.45109
#1	4215.6	60287.	4462.5
#2	4220.8	60227.	4491.0

Sample Name: 280-90351-E-1-C Acquired: 11/13/2016 15:54:45 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00176**	**.01109**	**.00486**	**.04754**	**.00444**	**-.00009**	**.00038**	**26.629**	**.00049**
Stddev	.00044	.00003	.00263	.00127	.00000	.00001	.00004	.070	.00026
%RSD	25.060	.28123	54.172	2.6668	.00617	6.5409	9.5339	.26265	53.246
#1	.00207	.01111	.00300	.04665	.00444	-.00009	.00035	26.579	.00067
#2	.00145	.01107	.00672	.04844	.00444	-.00009	.00040	26.678	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00072**	**.00041**	**-.00134**	**.03615**	**.76895**	**.01555**	**9.5857**	**.09418**	**-.00043**
Stddev	.00022	.00031	.00035	.00171	.01406	.00063	.0138	.00003	.00006
%RSD	30.071	75.339	25.869	4.7326	1.8290	4.0457	.14352	.02781	13.282
#1	.00057	.00019	-.00109	.03494	.75900	.01599	9.5759	.09416	-.00039
#2	.00087	.00063	-.00159	.03736	.77889	.01510	9.5954	.09420	-.00047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.8534**	**.00405**	**.01088**	**.00146**	**5.4419**	**-.00181**	**-.00007**	**8.4510**	**18.085**
Stddev	.0120	.00038	.00040	.00035	.0168	.00002	.00123	.0113	.024
%RSD	.41983	9.2771	3.6829	24.201	.30845	1.1853	1840.5	.13416	.13416
#1	2.8618	.00379	.01060	.00171	5.4301	-.00183	-.00093	8.4430	18.068
#2	2.8449	.00432	.01117	.00121	5.4538	-.00180	.00080	8.4591	18.102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00040**	**.06589**	**.00264**	**.00026**	**-.00126**	**-.00518**	**.00010**	**.00186**	**.00070**
Stddev	.00007	.00033	.00095	.00024	.00001	.03427	.00002	.00037	.00199
%RSD	17.654	.49414	35.923	92.785	1.0662	661.07	15.893	19.712	285.10
#1	.00035	.06612	.00197	.00044	-.00126	.01905	.00008	.00160	.00210
#2	.00045	.06566	.00331	.00009	-.00125	-.02941	.00011	.00212	-.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4223.3**	**59833.**	**4484.4**
Stddev	17.1	129.	4.5
%RSD	.40472	.21555	.10112
#1	4211.2	59925.	4481.2
#2	4235.3	59742.	4487.7

Sample Name: 280-90351-E-2-C Acquired: 11/13/2016 15:57:16 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00146**	**.14974**	**.00207**	**.04747**	**.02208**	**-.00004**	**-.00221**	**35.000**	**.00039**
Stddev	.00010	.00019	.00377	.00015	.00050	.00006	.00056	.100	.00008
%RSD	6.7439	.12868	181.70	.32630	2.2465	172.38	25.412	.28467	20.630
#1	.00139	.14988	.00474	.04758	.02243	.00001	-.00182	35.071	.00045
#2	.00153	.14961	-.00059	.04737	.02173	-.00008	-.00261	34.930	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.00027**	**-.00134**	**.12532**	**.57185**	**.00490**	**7.8309**	**.00427**	**-.00042**
Stddev	.00011	.00019	.00075	.00158	.03487	.00021	.0017	.00005	.00019
%RSD	45.048	71.400	56.127	1.2641	6.0984	4.2976	.02200	1.1206	46.203
#1	.00033	.00013	-.00187	.12420	.54719	.00505	7.8322	.00430	-.00055
#2	.00017	.00041	-.00081	.12644	.59651	.00475	7.8297	.00423	-.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.5621**	**.00031**	**.01089**	**.00193**	**5.9059**	**.00041**	**.00058**	**5.2366**	**11.206**
Stddev	.0109	.00015	.00155	.00204	.0256	.00130	.00179	.0129	.028
%RSD	.23866	47.288	14.194	105.82	.43360	317.11	309.85	.24684	.24684
#1	4.5698	.00041	.01198	.00049	5.8878	.00133	.00184	5.2274	11.187
#2	4.5544	.00021	.00980	.00338	5.9240	-.00051	-.00069	5.2457	11.226
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00113**	**.07867**	**.00350**	**.00153**	**.00211**	**-.03307**	**.00015**	**.00085**	**.00048**
Stddev	.00019	.00002	.00007	.00001	.00068	.01390	.00053	.00007	.00068
%RSD	17.076	.02910	1.9676	.53372	32.399	42.012	353.00	8.7005	141.88
#1	-.00126	.07869	.00355	.00152	.00259	-.04290	.00052	.00079	.00096
#2	-.00099	.07865	.00345	.00153	.00162	-.02325	-.00022	.00090	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4183.7**	**59279.**	**4514.5**
Stddev	4.3	166.	27.9
%RSD	.10381	.28026	.61859
#1	4180.6	59396.	4494.8
#2	4186.8	59161.	4534.3

Sample Name: 280-90351-E-3-C Acquired: 11/13/2016 15:59:49 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00180**	**.01532**	**.00328**	**.11922**	**.20784**	**-.00010**	**-.00129**	**33.428**	**.00052**
Stddev	.00007	.00056	.00218	.00025	.00012	.00002	.00093	.010	.00000
%RSD	4.0738	3.6699	66.654	.21114	.05870	23.597	72.007	.02988	.09903
#1	.00186	.01492	.00482	.11904	.20776	-.00009	-.00194	33.421	.00052
#2	.00175	.01571	.00173	.11939	.20793	-.00012	-.00063	33.435	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00035**	**.00050**	**-.00166**	**8.7036**	**3.9009**	**.05498**	**15.269**	**1.4671**	**-.00094**
Stddev	.00019	.00004	.00025	.0018	.0109	.00238	.017	.0031	.00038
%RSD	53.239	8.6310	14.935	.02068	.27972	4.3376	.11102	.21365	39.878
#1	.00022	.00047	-.00183	8.7023	3.9086	.05667	15.281	1.4693	-.00121
#2	.00048	.00053	-.00148	8.7049	3.8931	.05330	15.257	1.4649	-.00068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.4131**	**.00089**	**.05772**	**.00042**	**12.953**	**.00114**	**-.00285**	**4.2122**	**9.0141**
Stddev	.0048	.00013	.00037	.00017	.008	.00058	.00128	.0154	.0329
%RSD	.07542	14.906	.64162	40.580	.06263	51.129	44.970	.36462	.36462
#1	6.4166	.00079	.05746	.00054	12.947	.00155	-.00376	4.2231	9.0374
#2	6.4097	.00098	.05798	.00030	12.959	.00073	-.00194	4.2014	8.9909
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00078**	**.13780**	**.00207**	**.00035**	**-.00001**	**-.00662**	**.00017**	**.00071**	**.00057**
Stddev	.00009	.00009	.00301	.00010	.00273	.05263	.00025	.00023	.00249
%RSD	11.755	.06871	145.03	29.215	34954.	795.31	146.10	32.725	432.94
#1	-.00085	.13773	-.00005	.00042	-.00194	.03060	-.00001	.00087	-.00118
#2	-.00072	.13786	.00420	.00027	.00192	-.04383	.00035	.00054	.00233
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4141.6**	**58923.**	**4497.9**
Stddev	14.7	108.	6.6
%RSD	.35440	.18250	.14624
#1	4151.9	58847.	4502.5
#2	4131.2	58999.	4493.2

Sample Name: 280-90351-E-4-C Acquired: 11/13/2016 16:02:21 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00140**	**.47473**	**.00723**	**.02558**	**.02104**	**-.00004**	**-.00111**	**36.574**	**.00054**
Stddev	.00028	.00036	.00115	.00019	.00017	.00006	.00011	.207	.00005
%RSD	19.961	.07500	15.833	.74876	.80631	164.40	9.7583	.56684	9.0157
#1	.00120	.47498	.00804	.02544	.02092	.00001	-.00119	36.427	.00057
#2	.00160	.47448	.00642	.02571	.02116	-.00008	-.00104	36.720	.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00520**	**.00214**	**-.00105**	**5.2115**	**1.0706**	**.02153**	**15.141**	**.61952**	**-.00067**
Stddev	.00022	.00018	.00004	.0170	.0070	.00069	.007	.00013	.00021
%RSD	4.1595	8.2274	3.3528	.32521	.65640	3.1934	.04807	.02176	30.960
#1	.00535	.00226	-.00107	5.1995	1.0657	.02202	15.146	.61942	-.00052
#2	.00505	.00202	-.00103	5.2235	1.0756	.02105	15.136	.61961	-.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.5238**	**.00466**	**.02216**	**.00163**	**18.630**	**-.00064**	**.00181**	**7.8464**	**16.791**
Stddev	.0173	.00016	.00019	.00054	.067	.00161	.00019	.0105	.022
%RSD	.20346	3.3720	.84152	33.371	.36217	251.63	10.263	.13393	.13393
#1	8.5115	.00455	.02202	.00124	18.677	-.00178	.00194	7.8390	16.775
#2	8.5360	.00477	.02229	.00201	18.582	.00050	.00168	7.8539	16.807
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.06061**	**.00424**	**.00581**	**-.00144**	**-.02084**	**.00086**	**.00439**	**.00123**
Stddev	.00069	.00016	.00040	.00023	.00118	.03190	.00020	.00024	.00135
%RSD	271.67	.26883	9.4564	3.9109	82.128	153.06	23.355	5.3817	109.66
#1	-.00023	.06050	.00395	.00565	-.00060	-.04340	.00072	.00456	.00028
#2	.00074	.06073	.00452	.00598	-.00228	.00172	.00100	.00423	.00219
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4154.6**	**59705.**	**4477.0**
Stddev	25.5	248.	5.0
%RSD	.61315	.41462	.11156
#1	4172.6	59530.	4473.4
#2	4136.6	59880.	4480.5

Sample Name: 280-90409-E-1-C Acquired: 11/13/2016 16:04:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00198**	**.00704**	**.01784**	**.05998**	**.00415**	**-.00012**	**-.00098**	**57.897**	**.00050**
Stddev	.00009	.00084	.00006	.00046	.00004	.00002	.00194	.115	.00017
%RSD	4.6656	11.875	.36087	.76544	1.0212	13.958	197.69	.19917	34.054
#1	.00192	.00645	.01788	.06030	.00418	-.00011	.00039	57.979	.00061
#2	.00205	.00763	.01779	.05965	.00412	-.00013	-.00235	57.816	.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00896**	**.00032**	**-.00167**	**5.0075**	**1.1589**	**.01336**	**18.633**	**.52204**	**-.00051**
Stddev	.00021	.00022	.00007	.0000	.0216	.00097	.032	.00043	.00019
%RSD	2.3937	67.523	4.0943	.00062	1.8645	7.2610	.17256	.08278	37.309
#1	.00881	.00017	-.00171	5.0075	1.1742	.01405	18.656	.52234	-.00037
#2	.00911	.00048	-.00162	5.0075	1.1437	.01268	18.611	.52173	-.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.5319**	**.03993**	**.01691**	**.00067**	**13.113**	**-.00132**	**-.00135**	**5.0020**	**10.704**
Stddev	.0265	.00025	.00080	.00008	.022	.00123	.00180	.0031	.007
%RSD	.58390	.63070	4.7112	12.685	.16526	93.346	133.22	.06136	.06136
#1	4.5506	.04011	.01635	.00073	13.097	-.00219	-.00008	5.0042	10.709
#2	4.5132	.03976	.01747	.00061	13.128	-.00045	-.00263	4.9998	10.700
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00078**	**.07780**	**.00407**	**-.00020**	**-.00109**	**.00609**	**-.00029**	**.00054**	**-.00031**
Stddev	.00005	.00023	.00001	.00015	.00043	.02463	.00013	.00029	.00029
%RSD	6.0924	.28988	.25260	77.943	39.252	404.77	44.485	53.954	91.517
#1	-.00082	.07796	.00408	-.00009	-.00079	.02350	-.00038	.00034	-.00052
#2	-.00075	.07764	.00406	-.00030	-.00139	-.01133	-.00020	.00075	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4102.6**	**57998.**	**4412.2**
Stddev	5.4	246.	5.0
%RSD	.13192	.42435	.11224
#1	4106.4	57824.	4408.7
#2	4098.7	58172.	4415.7

Sample Name: 280-90409-E-2-C Acquired: 11/13/2016 16:07:23 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00210**	**.01215**	**.01363**	**.01722**	**.02227**	**-.00004**	**-.00074**	**62.874**	**.00040**
Stddev	.00000	.00049	.00045	.00003	.00034	.00012	.00094	.887	.00034
%RSD	.16874	4.0495	3.2685	.19168	1.5205	301.47	127.48	1.4105	85.601
#1	.00210	.01250	.01332	.01725	.02250	-.00012	-.00141	63.501	.00065
#2	.00210	.01180	.01395	.01720	.02203	.00004	-.00007	62.247	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00137**	**.00013**	**-.00166**	**3.5738**	**1.4282**	**.03100**	**20.227**	**.41348**	**-.00122**
Stddev	.00008	.00013	.00005	.0618	.0446	.00016	.016	.00089	.00021
%RSD	5.7138	95.618	3.1440	1.7293	3.1246	.50599	.07884	.21522	17.289
#1	.00143	.00004	-.00169	3.6175	1.4597	.03089	20.239	.41410	-.00137
#2	.00132	.00023	-.00162	3.5301	1.3966	.03111	20.216	.41285	-.00107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.364**	**.00358**	**.00645**	**-.00016**	**34.346**	**-.00179**	**-.00157**	**5.9336**	**12.698**
Stddev	.118	.00031	.00098	.00198	.065	.00206	.00205	.1017	.218
%RSD	.95721	8.6063	15.160	1269.6	.19035	115.07	131.07	1.7135	1.7135
#1	12.448	.00336	.00714	-.00156	34.300	-.00033	-.00302	6.0055	12.852
#2	12.280	.00380	.00576	.00125	34.392	-.00325	-.00011	5.8618	12.544
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00037**	**.07541**	**.00453**	**.00001**	**.00109**	**-.04034**	**-.00001**	**.00108**	**.00142**
Stddev	.00070	.00102	.00074	.00011	.00168	.00411	.00026	.00016	.00080
%RSD	189.67	1.3535	16.262	1891.2	154.11	10.185	3316.4	14.862	56.304
#1	-.00086	.07613	.00401	-.00007	-.00010	-.03743	.00018	.00120	.00086
#2	.00013	.07468	.00505	.00008	.00228	-.04324	-.00019	.00097	.00199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4081.9**	**58153.**	**4351.0**
Stddev	5.2	51.	54.8
%RSD	.12742	.08753	1.2601
#1	4078.2	58117.	4312.2
#2	4085.6	58189.	4389.7

Sample Name: 280-90409-A-3-C Acquired: 11/13/2016 16:09:55 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00167**	**.01512**	**.01872**	**.01832**	**.02469**	**-.00010**	**-.00203**	**64.998**	**.00042**
Stddev	.00015	.00048	.00040	.00074	.00017	.00008	.00157	.186	.00026
%RSD	9.1921	3.1512	2.1560	4.0230	.68006	83.176	77.358	.28587	60.537
#1	.00177	.01478	.01901	.01884	.02457	-.00004	-.00315	65.130	.00024
#2	.00156	.01546	.01844	.01780	.02480	-.00016	-.00092	64.867	.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00157**	**.00028**	**-.00139**	**4.1342**	**1.4645**	**.03061**	**21.112**	**.43605**	**-.00033**
Stddev	.00010	.00024	.00041	.0033	.0401	.00058	.033	.00001	.00027
%RSD	6.2274	85.797	29.757	.08056	2.7395	1.8835	.15856	.00124	82.689
#1	.00164	.00011	-.00110	4.1318	1.4362	.03020	21.088	.43605	-.00014
#2	.00150	.00045	-.00168	4.1365	1.4929	.03101	21.136	.43606	-.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.100**	**.00380**	**.00985**	**.00068**	**35.774**	**-.00171**	**.00009**	**6.2216**	**13.314**
Stddev	.035	.00008	.00067	.00146	.028	.00124	.00281	.0007	.002
%RSD	.26678	2.2047	6.7864	216.76	.07852	72.485	3142.4	.01162	.01162
#1	13.124	.00374	.01032	.00171	35.754	-.00084	.00208	6.2211	13.313
#2	13.075	.00386	.00938	-.00036	35.794	-.00259	-.00190	6.2221	13.315
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.07795**	**.00514**	**-.00013**	**.00067**	**-.03699**	**-.00032**	**.00277**	**-.00024**
Stddev	.00029	.00029	.00058	.00003	.00186	.03137	.00005	.00016	.00149
%RSD	103.04	.37807	11.350	24.849	276.77	84.820	16.382	5.5944	620.65
#1	-.00008	.07774	.00556	-.00011	-.00064	-.05917	-.00036	.00266	-.00129
#2	-.00048	.07816	.00473	-.00015	.00199	-.01480	-.00028	.00288	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4069.3**	**57939.**	**4358.3**
Stddev	.2	9.	14.0
%RSD	.00440	.01552	.32064
#1	4069.4	57946.	4348.4
#2	4069.1	57933.	4368.2

Sample Name: 280-90409-E-4-A Acquired: 11/13/2016 16:12:26 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00199**	**.41356**	**.00451**	**.02438**	**.01301**	**.00014**	**-.00093**	**9.3692**	**.00038**
Stddev	.00013	.00096	.00267	.00090	.00002	.00009	.00245	.0562	.00007
%RSD	6.6044	.23142	59.285	3.7059	.16543	63.457	264.22	.60013	19.653
#1	.00208	.41288	.00262	.02375	.01299	.00007	.00080	9.3295	.00043
#2	.00190	.41424	.00640	.02502	.01302	.00020	-.00266	9.4090	.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00051**	**.00123**	**-.00098**	**1.1861**	**.95433**	**.03331**	**4.5560**	**.01009**	**-.00036**
Stddev	.00001	.00018	.00023	.0001	.02287	.00107	.0001	.00006	.00005
%RSD	2.3413	14.320	23.655	.01048	2.3960	3.2143	.00322	.60851	14.369
#1	.00052	.00110	-.00082	1.1860	.97050	.03255	4.5559	.01014	-.00032
#2	.00050	.00135	-.00115	1.1862	.93817	.03406	4.5561	.01005	-.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.7883**	**.00782**	**.01330**	**.00258**	**10.095**	**-.00057**	**-.00150**	**8.1563**	**17.455**
Stddev	.0232	.00003	.00089	.00028	.013	.00325	.00166	.0243	.052
%RSD	1.2944	.36911	6.6704	10.773	.12829	570.14	110.61	.29742	.29742
#1	1.7719	.00780	.01267	.00278	10.104	.00173	-.00267	8.1735	17.491
#2	1.8046	.00784	.01392	.00239	10.086	-.00287	-.00033	8.1392	17.418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00108**	**.02496**	**.00554**	**.00615**	**.00122**	**-.05946**	**.00050**	**.00898**	**.00093**
Stddev	.00092	.00003	.00030	.00022	.00223	.02418	.00010	.00030	.00073
%RSD	84.536	.13603	5.3453	3.6465	182.85	40.664	19.097	3.3163	78.463
#1	-.00173	.02494	.00533	.00599	-.00036	-.04236	.00043	.00920	.00145
#2	-.00044	.02499	.00575	.00631	.00280	-.07655	.00057	.00877	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4232.8**	**60060.**	**4414.8**
Stddev	6.1	177.	21.5
%RSD	.14418	.29509	.48781
#1	4228.5	59935.	4399.6
#2	4237.2	60185.	4430.0

Sample Name: 280-90529-G-2-B Acquired: 11/13/2016 16:14:58 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00175**	**.79461**	**.00337**	**.09758**	**.01852**	**-.00005**	**-.00139**	**31.724**	**.00106**
Stddev	.00006	.00355	.00086	.00009	.00000	.00002	.00170	.073	.00005
%RSD	3.2267	.44675	25.549	.09503	.00485	47.109	122.32	.22856	4.7574
#1	.00171	.79210	.00276	.09751	.01852	-.00003	-.00259	31.673	.00103
#2	.00179	.79712	.00397	.09764	.01852	-.00007	-.00019	31.776	.00110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00864**	**.00045**	**-.00056**	**.01014**	**3.8585**	**.00509**	**7.5299**	**.38164**	**-.00068**
Stddev	.00010	.00062	.00008	.00361	.0174	.00206	.0128	.00037	.00019
%RSD	1.2057	136.44	13.562	35.548	.45078	40.487	.16940	.09590	27.580
#1	.00857	.00089	-.00050	.00759	3.8708	.00654	7.5389	.38190	-.00054
#2	.00872	.00002	-.00061	.01269	3.8462	.00363	7.5209	.38138	-.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4903**	**.01814**	**.00132**	**.00154**	**35.416**	**-.00021**	**.00309**	**9.3713**	**20.055**
Stddev	.0009	.00033	.00070	.00135	.096	.00067	.00239	.0015	.003
%RSD	.03626	1.8341	53.116	87.869	.27077	315.51	77.239	.01562	.01562
#1	2.4897	.01837	.00083	.00058	35.348	-.00068	.00140	9.3723	20.057
#2	2.4910	.01790	.00182	.00249	35.483	.00026	.00478	9.3702	20.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00057**	**.21711**	**.00388**	**-.00013**	**.00073**	**-.04325**	**-.00014**	**.05104**	**-.00009**
Stddev	.00055	.00042	.00071	.00009	.00035	.00569	.00011	.00065	.00035
%RSD	96.369	.19295	18.310	71.035	47.228	13.154	77.425	1.2718	380.52
#1	-.00018	.21681	.00337	-.00019	.00098	-.04728	-.00006	.05150	-.00034
#2	-.00096	.21741	.00438	-.00006	.00049	-.03923	-.00021	.05058	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4197.7**	**59656.**	**4560.4**
Stddev	8.6	67.	32.9
%RSD	.20443	.11247	.72202
#1	4203.8	59703.	4537.1
#2	4191.7	59608.	4583.7

Sample Name: CCVH-4239353 Acquired: 11/13/2016 16:17:29 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00035**	**46.627**	**.00182**	**.00067**	**.00022**	**.00020**	W **.93917**	**.00114**	**.00062**	**-.00070**	**.00044**	**-.00489**
Stddev	.00025	.167	.00441	.00018	.00046	.00004	.00016	.00113	.00012	.00003	.00005	.00011
%RSD	70.518	.35787	242.54	26.304	209.60	21.407	.01707	98.790	20.115	4.2823	11.422	2.1973
#1	.00053	46.509	.00494	.00055	-.00010	.00023	.93906	.00034	.00071	-.00072	.00047	-.00481
#2	.00018	46.745	-.00130	.00080	.00054	.00017	.93929	.00194	.00053	-.00068	.00040	-.00497
Check ?	None	Chk Pass	None	None	None	None	Chk Warn	None	None	None	None	None
Value							1.0000					
Range							-5.0000%					

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.246**	**.06235**	**.00233**	**.04976**	**.00052**	**-.00175**	**237.29**	**.00061**	**.00500**	**.00015**	**5.0100**	**.00326**
Stddev	.285	.03938	.00220	.00130	.00005	.00018	.94	.00027	.00031	.00072	.0009	.00089
%RSD	.57823	63.161	94.443	2.6216	9.8009	10.430	.39469	43.890	6.2729	475.26	.01778	27.310
#1	49.045	.09020	.00077	.04884	.00048	-.00162	236.63	.00042	.00478	.00066	5.0094	.00263
#2	49.447	.03451	.00389	.05068	.00055	-.00188	237.96	.00080	.00522	-.00036	5.0107	.00389
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00080**	**-.02362**	**-.05054**	**-.00049**	**.00042**	F **4.4613**	**.01869**	**-.00199**	**10.233**	**.01313**	**.00012**	**.09366**
Stddev	.00248	.02479	.05305	.00003	.00004	.0127	.00018	.00074	.014	.00015	.00072	.00114
%RSD	309.57	104.96	104.96	5.5450	10.741	.28377	.98789	37.248	.13676	1.1422	602.10	1.2177
#1	.00255	-.00609	-.01303	-.00051	.00045	4.4524	.01856	-.00146	10.223	.01302	-.00039	.09285
#2	-.00095	-.04115	-.08805	-.00047	.00038	4.4703	.01882	-.00251	10.243	.01323	.00063	.09446
Check ?	None	None	None	None	None	Chk Fail	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-10.490%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3999.3**	**56541.**	**4384.1**
Stddev	8.5	594.	1.8
%RSD	.21357	1.0505	.04080
#1	4005.3	56961.	4382.8
#2	3993.3	56121.	4385.3

Sample Name: CCV-4239351 Acquired: 11/13/2016 16:19:58 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47931**	**.46873**	**.91024**	**.48934**	**.50489**	**.46671**	**-.00102**	**5.0336**	**.48919**	**.49301**	**.50312**	F **.44690**
Stddev	.00126	.00080	.00188	.00019	.00060	.00233	.00086	.0171	.00078	.00027	.00089	.00024
%RSD	.26382	.16992	.20660	.03975	.11975	.49988	84.728	.34000	.15993	.05515	.17721	.05354
#1	.48021	.46929	.90891	.48920	.50532	.46836	-.00163	5.0457	.48864	.49282	.50249	.44674
#2	.47842	.46817	.91157	.48948	.50446	.46506	-.00041	5.0215	.48975	.49320	.50375	.44707
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value												.50000
Range												-10.490%

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4021**	**48.631**	**1.0129**	**18.644**	**.45936**	**.50053**	**4.8953**	**.49233**	**.96026**	**.99808**	**.01248**	**.96279**
Stddev	.0227	.072	.0036	.015	.00070	.00135	.0126	.00014	.00473	.00235	.00462	.00450
%RSD	.94582	.14842	.35154	.07780	.15134	.27028	.25775	.02871	.49223	.23564	36.996	.46776
#1	2.4182	48.682	1.0155	18.634	.45887	.50148	4.9042	.49243	.95692	.99641	.01574	.96597
#2	2.3861	48.580	1.0104	18.655	.45986	.49957	4.8864	.49223	.96360	.99974	.00921	.95960
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.93108**	**4.7282**	**10.118**	**1.0104**	**.46366**	**.01210**	**.45207**	**1.0357**	**-.02918**	**.46994**	F **.44551**	**.50456**
Stddev	.00262	.0111	.024	.0001	.00148	.00022	.00044	.0010	.00832	.00144	.00345	.00327
%RSD	.28101	.23362	.23362	.01148	.31880	1.8016	.09825	.10032	28.518	.30605	.77505	.64851
#1	.92923	4.7360	10.135	1.0105	.46471	.01225	.45176	1.0364	-.03506	.47096	.44307	.50688
#2	.93293	4.7204	10.102	1.0103	.46262	.01195	.45238	1.0350	-.02330	.46893	.44795	.50225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass
Value											.50000	
Range											-10.490%	

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4156.5**	**57968.**	**4442.2**
Stddev	2.4	109.	22.7
%RSD	.05658	.18821	.51179
#1	4154.9	58045.	4426.1
#2	4158.2	57890.	4458.3

Sample Name: CCB Acquired: 11/13/2016 16:22:19 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00107**	**-.00000**	**.00526**	**.00063**	**-.00009**	**-.00011**	**.00012**	**-.00652**	**.00014**	**.00013**	**.00017**	**-.00197**	**.00043**
Stddev	.00052	.00019	.00440	.00027	.00013	.00006	.00062	.00291	.00000	.00005	.00022	.00030	.00071
%RSD	48.246	4289.7	83.580	42.255	146.80	56.481	517.86	44.641	2.3435	36.153	129.34	15.078	164.80
#1	.00144	.00013	.00837	.00082	.00000	-.00015	-.00032	-.00858	.00014	.00016	.00033	-.00176	.00093
#2	.00071	-.00014	.00215	.00044	-.00018	-.00006	.00056	-.00446	.00014	.00010	.00001	-.00218	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04131**	**.00131**	**.00301**	**.00007**	**.00200**	**.05552**	**.00017**	**.00052**	**.00062**	**.00979**	**.00419**	**.00152**	**-.01179**
Stddev	.02500	.00140	.00007	.00004	.00066	.01058	.00010	.00083	.00011	.00108	.00053	.00072	.00380
%RSD	60.507	107.50	2.2381	65.113	32.879	19.065	60.457	160.81	18.413	11.059	12.750	47.368	32.266
#1	.05899	.00230	.00296	.00004	.00153	.04804	.00010	.00110	.00070	.00903	.00457	.00203	-.01448
#2	.02364	.00031	.00306	.00010	.00246	.06300	.00025	-.00007	.00054	.01056	.00381	.00101	-.00910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02523**	**-.00015**	**.00016**	**.00405**	**.00032**	**.00140**	**-.01721**	**.00015**	**-.00028**	**-.00093**
Stddev	.00814	.00032	.00014	.00041	.00012	.00071	.00486	.00049	.00013	.00281
%RSD	32.266	211.18	90.609	10.116	37.136	50.556	28.265	326.78	44.372	302.00
#1	-.03099	-.00038	.00006	.00434	.00023	.00090	-.01377	-.00020	-.00037	.00106
#2	-.01947	.00007	.00025	.00376	.00040	.00190	-.02065	.00050	-.00019	-.00292
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4180.2**	**59208.**	**4428.4**
Stddev	6.2	103.	3.8
%RSD	.14930	.17431	.08492
#1	4175.8	59135.	4431.1
#2	4184.6	59281.	4425.8

Sample Name: CCVL-4245706 Acquired: 11/13/2016 16:24:54 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01139**	**.09477**	**.01619**	**.09501**	**.00994**	**.00090**	**.10021**	**.19549**	**.00506**	**.01024**	**.01013**	**.01158**
Stddev	.00038	.00055	.00064	.00009	.00008	.00006	.00169	.00157	.00005	.00026	.00033	.00027
%RSD	3.3200	.57537	3.9261	.09216	.81587	6.1866	1.6856	.80321	.89272	2.5196	3.2082	2.3169
#1	.01113	.09438	.01664	.09507	.00988	.00094	.09902	.19438	.00503	.01042	.00990	.01139
#2	.01166	.09515	.01574	.09495	.01000	.00086	.10141	.19660	.00509	.01006	.01036	.01177
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09918**	**2.9833**	**.02229**	**.19210**	**.00923**	**.01860**	**1.0141**	**.04003**	**2.7408**	**.01107**	**.00853**	**.01983**
Stddev	.00081	.0134	.00064	.00013	.00003	.00040	.0114	.00008	.0005	.00134	.00100	.00022
%RSD	.81969	.44829	2.8882	.06709	.32134	2.1663	1.1190	.19165	.01720	12.144	11.690	1.1334
#1	.09860	2.9739	.02184	.19201	.00921	.01889	1.0221	.03998	2.7404	.01012	.00924	.01967
#2	.09975	2.9928	.02275	.19219	.00925	.01832	1.0061	.04009	2.7411	.01202	.00783	.01999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01146**	**.45439**	**.97239**	**.09928**	**.00943**	**.01720**	**.00861**	**.01601**	F **.02675**	**.00927**	**.01734**	**.01631**
Stddev	.00172	.00687	.01470	.00029	.00001	.00035	.00017	.00057	.03298	.00007	.00011	.00015
%RSD	15.053	1.5116	1.5116	.29344	.10147	2.0394	1.9569	3.5735	123.26	.75873	.63107	.94517
#1	.01268	.44953	.96200	.09907	.00943	.01745	.00873	.01641	.00344	.00922	.01742	.01641
#2	.01024	.45924	.98278	.09948	.00942	.01695	.00849	.01560	.05007	.00932	.01726	.01620
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4236.0**	**59745.**	**4471.5**
Stddev	2.9	20.	15.7
%RSD	.06772	.03268	.35111
#1	4234.0	59731.	4460.4
#2	4238.1	59759.	4482.6

Sample Name: 280-90534-C-3-B Acquired: 11/13/2016 16:27:27 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00152**	**.00963**	**.00251**	**.03013**	**.00077**	**-.00003**	**-.00097**	**78.958**	**.00054**
Stddev	.00018	.00033	.00192	.00021	.00002	.00007	.00121	.106	.00005
%RSD	11.638	3.4364	76.313	.68116	3.0089	277.59	124.63	.13371	8.7086
#1	.00164	.00986	.00386	.03028	.00079	.00003	-.00183	78.883	.00051
#2	.00139	.00940	.00116	.02999	.00075	-.00008	-.00012	79.033	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.00038**	**-.00157**	**.05875**	**1.2654**	**.01501**	**26.389**	**.00180**	**-.00063**
Stddev	.00019	.00002	.00004	.00154	.0081	.00137	.009	.00000	.00015
%RSD	77.366	6.2326	2.2758	2.6255	.63794	9.1230	.03413	.07144	23.789
#1	.00038	.00040	-.00154	.05766	1.2711	.01598	26.383	.00180	-.00073
#2	.00011	.00037	-.00160	.05985	1.2597	.01404	26.395	.00179	-.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.8566**	**.00072**	**.01282**	**.00082**	**12.968**	**.00025**	**-.00339**	**4.6802**	**10.016**
Stddev	.0105	.00017	.00074	.00010	.005	.00183	.00188	.0071	.015
%RSD	.13317	22.843	5.8127	12.569	.03816	734.55	55.276	.15170	.15170
#1	7.8640	.00061	.01229	.00075	12.964	.00155	-.00207	4.6853	10.026
#2	7.8492	.00084	.01334	.00090	12.971	-.00105	-.00472	4.6752	10.005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00130**	**.11654**	**.00220**	**.00024**	**-.00187**	**-.04717**	**-.00033**	**.00174**	**-.00016**
Stddev	.00125	.00005	.00201	.00027	.00026	.05082	.00003	.00019	.00217
%RSD	96.311	.04385	91.412	113.18	13.912	107.73	10.479	10.734	1375.9
#1	-.00041	.11657	.00078	.00042	-.00205	-.01124	-.00035	.00161	-.00169
#2	-.00218	.11650	.00362	.00005	-.00169	-.08311	-.00031	.00187	.00138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4077.2**	**57675.**	**4456.2**
Stddev	.3	290.	.9
%RSD	.00800	.50264	.02010
#1	4077.0	57470.	4456.9
#2	4077.4	57880.	4455.6

Sample Name: 280-90534-C-4-B Acquired: 11/13/2016 16:30:00 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00167**	**.01019**	**.00040**	**.02358**	**.00224**	**-.00008**	**.00069**	**56.070**	**.00050**
Stddev	.00007	.00041	.00163	.00023	.00019	.00012	.00077	.029	.00011
%RSD	4.2631	4.0422	404.91	.95754	8.3545	147.77	111.34	.05176	22.384
#1	.00172	.01048	.00155	.02342	.00211	.00000	.00015	56.090	.00042
#2	.00162	.00990	-.00075	.02374	.00238	-.00017	.00124	56.049	.00058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00031**	**.00064**	**-.00162**	**.01268**	**.81999**	**.01443**	**14.715**	**.00040**	**-.00052**
Stddev	.00017	.00012	.00007	.00180	.02082	.00194	.040	.00008	.00002
%RSD	54.690	18.974	4.2606	14.226	2.5394	13.418	.27510	18.867	4.6532
#1	.00043	.00056	-.00157	.01396	.80527	.01580	14.686	.00046	-.00050
#2	.00019	.00073	-.00167	.01141	.83472	.01306	14.743	.00035	-.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.8558**	**.00051**	**.01014**	**.00045**	**9.8660**	**-.00194**	**-.00026**	**5.9638**	**12.763**
Stddev	.0046	.00035	.00242	.00060	.0418	.00054	.00181	.0078	.017
%RSD	.05243	68.871	23.838	133.51	.42352	27.746	701.24	.13019	.13019
#1	8.8525	.00026	.00843	.00088	9.8956	-.00156	.00102	5.9583	12.751
#2	8.8591	.00075	.01185	.00003	9.8365	-.00232	-.00154	5.9693	12.774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00150**	**.07678**	**.00326**	**.00003**	**-.00013**	**-.01834**	**-.00028**	**.00098**	**-.00152**
Stddev	.00047	.00012	.00017	.00019	.00327	.03413	.00044	.00005	.00122
%RSD	31.421	.15813	5.2859	569.30	2427.6	186.11	155.46	4.8541	80.771
#1	-.00117	.07687	.00314	-.00010	-.00245	-.04247	.00003	.00102	-.00238
#2	-.00183	.07670	.00338	.00017	.00218	.00579	-.00059	.00095	-.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4097.0**	**57851.**	**4427.8**
Stddev	3.1	8.	10.9
%RSD	.07613	.01351	.24615
#1	4094.7	57845.	4420.1
#2	4099.2	57856.	4435.6

Sample Name: 280-90632-AE-1-A Acquired: 11/13/2016 16:32:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00125**	W **2.5951**	W **2.9640**	**-.00079**	**.03314**	**.01659**	**.00049**	**-.00200**	**36.942**
Stddev	.00081	.0068	.0015	.00258	.00007	.00016	.00000	.00213	.101
%RSD	65.313	.26133	.05179	328.46	.20555	.97889	.25615	106.14	.27450
#1	.00182	2.5903	2.9629	-.00261	.03309	.01671	.00049	-.00351	36.870
#2	.00067	2.5999	2.9651	.00104	.03318	.01648	.00049	-.00050	37.014
Check ?	Chk Pass	Chk Warn	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.5000	500.00						
Low Limit		-.20000	3.2000						

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00056**	**.01646**	**.00035**	**-.00170**	**.05904**	**2.3307**	**.00722**	**16.529**	**1.7679**
Stddev	.00006	.00022	.00001	.00007	.00039	.1228	.00228	.005	.0023
%RSD	11.255	1.3167	1.9235	4.2340	.66012	5.2696	31.558	.02863	.12849
#1	.00061	.01661	.00034	-.00165	.05876	2.4175	.00883	16.526	1.7663
#2	.00052	.01631	.00035	-.00175	.05932	2.2438	.00561	16.532	1.7695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00073**	**5.5455**	**.03550**	**.00317**	**.00220**	**57.667**	**-.00218**	**-.00025**	**6.7599**
Stddev	.00014	.0418	.00026	.00005	.00051	.205	.00038	.00249	.0212
%RSD	19.259	.75367	.72018	1.6766	23.142	.35570	17.264	987.33	.31353
#1	-.00083	5.5160	.03532	.00313	.00184	57.522	-.00244	.00151	6.7449
#2	-.00063	5.5751	.03568	.00321	.00256	57.812	-.00191	-.00201	6.7749
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.466**	**-.00081**	**.06017**	**.00360**	**-.00027**	**.00241**	**-.01198**	**.00022**	**.11450**
Stddev	.045	.00081	.00000	.00008	.00009	.00356	.00072	.00008	.00016
%RSD	.31353	100.32	.00408	2.3360	34.046	147.61	6.0361	35.966	.13936
#1	14.434	-.00024	.06017	.00354	-.00020	-.00011	-.01147	.00027	.11439
#2	14.498	-.00139	.06017	.00366	-.00033	.00493	-.01249	.00016	.11461
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00079**
Stddev	.00087
%RSD	109.06
#1	.00141
#2	.00018
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90632-AE-1-A Acquired: 11/13/2016 16:32:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4156.0**	**58131.**	**4411.8**
Stddev	14.3	160.	12.0
%RSD	.34320	.27562	.27243
#1	4146.0	58244.	4420.3
#2	4166.1	58018.	4403.3

Sample Name: 90632-AE-1-A SD@5 Acquired: 11/13/2016 16:35:03 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00114**	**.58338**	**-.00100**	**.00666**	**.00361**	**.00006**	**.00050**	**7.7192**	**.00015**
Stddev	.00003	.00198	.00188	.00013	.00001	.00003	.00322	.0180	.00002
%RSD	2.4447	.33935	188.43	1.9626	.19196	46.563	643.64	.23293	11.730
#1	.00112	.58198	.00033	.00675	.00361	.00004	-.00178	7.7064	.00014
#2	.00116	.58478	-.00233	.00656	.00362	.00007	.00278	7.7319	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00366**	**.00008**	**-.00190**	**.01922**	**.49999**	**.00043**	**3.4922**	**.36976**	**-.00026**
Stddev	.00030	.00031	.00030	.00165	.02595	.00071	.0165	.00017	.00006
%RSD	8.1012	390.95	15.902	8.5746	5.1894	163.48	.47301	.04486	22.086
#1	.00387	.00030	-.00211	.01805	.51833	-.00007	3.5038	.36965	-.00030
#2	.00345	-.00014	-.00168	.02038	.48164	.00093	3.4805	.36988	-.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.1793**	**.00762**	**.00187**	**.00101**	**11.859**	**-.00057**	**-.00127**	**1.3700**	**2.9318**
Stddev	.0021	.00024	.00070	.00028	.010	.00091	.00057	.0144	.0308
%RSD	.17993	3.1267	37.714	28.298	.08081	159.47	44.919	1.0489	1.0489
#1	1.1778	.00778	.00137	.00081	11.865	.00007	-.00167	1.3598	2.9101
#2	1.1808	.00745	.00237	.00121	11.852	-.00122	-.00086	1.3802	2.9536
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00036**	**.01244**	**.00373**	**.00010**	**.00040**	**-.04106**	**.00008**	**.02358**	**.00133**
Stddev	.00101	.00008	.00081	.00017	.00016	.00558	.00021	.00011	.00026
%RSD	281.19	.60624	21.641	179.16	40.412	13.597	271.40	.44892	19.734
#1	-.00035	.01238	.00431	.00022	.00028	-.04500	.00023	.02351	.00152
#2	.00107	.01249	.00316	-.00003	.00051	-.03711	-.00007	.02366	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4203.3**	**59153.**	**4503.5**
Stddev	14.7	18.	12.4
%RSD	.35046	.03019	.27454
#1	4213.7	59141.	4494.8
#2	4192.9	59166.	4512.2

Sample Name: 280-90632-AE-1-B MS Acquired: 11/13/2016 16:37:35 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05242**	**5.0114**	**.99073**	**1.0567**	**2.1213**	**.04938**	W **2.0455**	**89.046**	**.10511**
Stddev	.00066	.0142	.00159	.0046	.0006	.00009	.0123	.165	.00049
%RSD	1.2586	.28397	.16025	.43471	.03054	.18705	.60014	.18584	.46675
#1	.05195	5.0214	.98961	1.0534	2.1218	.04944	2.0368	89.163	.10476
#2	.05289	5.0013	.99185	1.0599	2.1209	.04931	2.0541	88.929	.10546
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51101**	**.20638**	**.23179**	**1.0537**	**53.688**	**1.0540**	**64.986**	**2.2455**	**1.0113**
Stddev	.00082	.00101	.00065	.0006	.030	.0028	.188	.0049	.0040
%RSD	.16113	.49148	.28221	.05739	.05593	.26705	.28887	.21646	.39165
#1	.51159	.20710	.23225	1.0542	53.666	1.0560	64.853	2.2421	1.0141
#2	.51042	.20566	.23132	1.0533	53.709	1.0520	65.119	2.2489	1.0085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**56.771**	**.53042**	**10.160**	**.50289**	**63.804**	**.51123**	**1.9608**	**16.802**	**35.957**
Stddev	.460	.00072	.018	.00007	.273	.00052	.0193	.031	.066
%RSD	.81089	.13639	.17623	.01381	.42717	.10105	.98424	.18267	.18267
#1	56.446	.53093	10.147	.50284	63.611	.51086	1.9472	16.780	35.910
#2	57.097	.52991	10.173	.50294	63.997	.51159	1.9745	16.824	36.003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0567**	**1.0350**	**.97158**	**.94825**	**2.0466**	**2.1539**	**.49053**	**.57358**	**.54451**
Stddev	.0024	.0004	.00409	.00155	.0070	.0446	.00047	.00199	.00430
%RSD	.11918	.03978	.42138	.16317	.34387	2.0725	.09519	.34664	.79057
#1	2.0584	1.0353	.96869	.94716	2.0417	2.1223	.49020	.57217	.54756
#2	2.0549	1.0347	.97448	.94934	2.0516	2.1854	.49086	.57498	.54147
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4033.0**	**55891.**	**4385.2**
Stddev	31.4	166.	12.8
%RSD	.77854	.29642	.29258
#1	4010.8	56008.	4376.1
#2	4055.2	55774.	4394.3

Sample Name: 280-90632-AE-1-C MSD Acquired: 11/13/2016 16:39:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05153**	**4.9743**	**.98020**	**1.0443**	**2.0983**	**.04891**	W **2.0043**	**88.568**	**.10333**
Stddev	.00029	.0365	.00149	.0031	.0202	.00044	.0044	.937	.00030
%RSD	.56541	.73447	.15175	.29331	.96134	.90340	.21748	1.0581	.28831
#1	.05174	4.9484	.97915	1.0422	2.0841	.04860	2.0012	87.906	.10312
#2	.05133	5.0001	.98125	1.0465	2.1126	.04923	2.0074	89.231	.10354
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50264**	**.20248**	**.22707**	**1.0381**	**53.133**	**1.0464**	**63.948**	**2.2253**	**.99865**
Stddev	.00025	.00023	.00137	.0180	.375	.0103	.100	.0057	.00086
%RSD	.04939	.11353	.60350	1.7294	.70609	.98215	.15562	.25796	.08621
#1	.50282	.20231	.22804	1.0254	52.868	1.0391	64.018	2.2293	.99926
#2	.50246	.20264	.22611	1.0508	53.398	1.0537	63.877	2.2212	.99804
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**56.258**	**.52135**	**9.9904**	**.49483**	**63.580**	**.50118**	**1.9294**	**16.694**	**35.724**
Stddev	.762	.00027	.0284	.00037	.066	.00335	.0024	.163	.349
%RSD	1.3550	.05083	.28388	.07541	.10411	.66926	.12337	.97791	.97791
#1	55.719	.52154	10.010	.49457	63.533	.49881	1.9311	16.578	35.477
#2	56.797	.52116	9.9703	.49509	63.627	.50356	1.9277	16.809	35.971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.0215**	**1.0220**	**.95732**	**.93395**	**2.0234**	**2.1028**	**.48041**	**.56147**	**.54140**
Stddev	.0050	.0106	.00489	.00273	.0024	.0291	.00169	.00395	.00928
%RSD	.24613	1.0379	.51056	.29245	.11868	1.3856	.35127	.70351	1.7144
#1	2.0179	1.0145	.96078	.93588	2.0251	2.0822	.48161	.56427	.53483
#2	2.0250	1.0295	.95386	.93202	2.0217	2.1235	.47922	.55868	.54796
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4030.1**	**56302.**	**4444.4**
Stddev	19.9	284.	44.5
%RSD	.49363	.50440	1.0008
#1	4016.0	56101.	4475.8
#2	4044.1	56503.	4412.9

Sample Name: 280-90632-AE-1-A PDS Acquired: 11/13/2016 16:42:08 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00346**	**3.9102**	**.20795**	**.13380**	**.12505**	**.05116**	**-.00156**	**56.451**	**.05390**
Stddev	.00007	.0068	.00023	.00074	.00067	.00011	.00018	.165	.00029
%RSD	2.1112	.17281	.10920	.55063	.53685	.20775	11.758	.29309	.53182
#1	.00341	3.9149	.20811	.13432	.12552	.05123	-.00143	56.568	.05410
#2	.00351	3.9054	.20779	.13328	.12457	.05108	-.00169	56.334	.05370
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.06678**	**.05368**	**.04745**	**1.0880**	**23.305**	**.11658**	**35.374**	**1.7438**	**.05149**
Stddev	.00022	.00006	.00040	.0046	.023	.00068	.155	.0083	.00093
%RSD	.33074	.11028	.84322	.42699	.09983	.58406	.43768	.47792	1.7985
#1	.06693	.05372	.04773	1.0847	23.321	.11610	35.265	1.7379	.05083
#2	.06662	.05364	.04717	1.0913	23.288	.11706	35.484	1.7497	.05214
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.293**	**.08469**	**2.1063**	**.10796**	**58.450**	**.09579**	**.20214**	**11.292**	**24.165**
Stddev	.147	.00005	.0077	.00077	.010	.00340	.00236	.051	.109
%RSD	.53840	.06313	.36760	.71573	.01736	3.5538	1.1674	.45043	.45043
#1	27.189	.08465	2.1117	.10742	58.457	.09819	.20047	11.328	24.242
#2	27.397	.08473	2.1008	.10851	58.442	.09338	.20381	11.256	24.088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09901**	**.10951**	**.20024**	**.04603**	**.22588**	**.55110**	**.05170**	**.29477**	**.05512**
Stddev	.00100	.00069	.00165	.00010	.00149	.00390	.00033	.00216	.00008
%RSD	1.0103	.62790	.82453	.22011	.66128	.70832	.63022	.73223	.13784
#1	.09830	.10902	.19907	.04610	.22482	.55386	.05193	.29325	.05517
#2	.09971	.10999	.20141	.04596	.22693	.54834	.05147	.29630	.05506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4178.3**	**58903.**	**4708.4**
Stddev	7.1	449.	12.3
%RSD	.16906	.76222	.26102
#1	4173.3	59221.	4717.1
#2	4183.3	58586.	4699.7

Sample Name: 280-90632-K-2-A Acquired: 11/13/2016 16:44:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350904 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00143**	W **3.0729**	**.00124**	**.03495**	**.01683**	**.00037**	**-.00210**	**38.525**	**.00061**
Stddev	.00036	.0177	.00282	.00044	.00008	.00002	.00000	.094	.00000
%RSD	24.893	.57764	227.94	1.2520	.47880	5.8216	.05413	.24397	.76909
#1	.00168	3.0854	-.00076	.03526	.01688	.00035	-.00210	38.592	.00060
#2	.00118	3.0603	.00323	.03465	.01677	.00038	-.00210	38.459	.00061
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		500.00							
Low Limit		3.2000							

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01618**	**.00070**	**-.00197**	**.05866**	**2.4441**	**.00753**	**17.223**	**1.8795**	**.00072**
Stddev	.00013	.00020	.00004	.00248	.0249	.00167	.021	.0000	.00029
%RSD	.81178	27.929	2.2328	4.2238	1.0179	22.226	.12355	.00109	39.854
#1	.01627	.00056	-.00200	.05691	2.4265	.00871	17.238	1.8795	.00052
#2	.01609	.00084	-.00193	.06041	2.4617	.00635	17.208	1.8795	.00092
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.0926**	**.03469**	**.00410**	**.00225**	**61.405**	**-.00013**	**.00057**	**6.7619**	**14.471**
Stddev	.0153	.00036	.00106	.00135	.087	.00063	.00124	.0329	.070
%RSD	.25078	1.0318	25.792	59.826	.14125	504.15	217.05	.48633	.48633
#1	6.1035	.03444	.00335	.00130	61.466	.00032	.00145	6.7852	14.520
#2	6.0818	.03494	.00485	.00321	61.344	-.00057	-.00031	6.7387	14.421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00041**	**.06219**	**.00405**	**.00006**	**.00264**	**-.03049**	**.00009**	**.11481**	**.00014**
Stddev	.00024	.00039	.00095	.00020	.00124	.00493	.00025	.00019	.00059
%RSD	59.070	.62481	23.576	349.43	47.199	16.157	277.83	.16837	430.76
#1	-.00058	.06246	.00472	.00020	.00352	-.03397	-.00009	.11467	.00056
#2	-.00024	.06191	.00337	-.00008	.00176	-.02701	.00027	.11494	-.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4278.7**	**61232.**	**4790.6**
Stddev	10.3	119.	33.7
%RSD	.24185	.19487	.70242
#1	4286.0	61148.	4766.8
#2	4271.4	61316.	4814.4

Sample Name: CCVH-4239353 Acquired: 11/13/2016 16:47:04 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00134**	**46.339**	**.00035**	**.00078**	**-.00018**	**.00010**	**.96921**	**-.00202**	**.00077**	**-.00066**	**.00021**	**-.00402**
Stddev	.00025	.301	.00255	.00000	.00050	.00003	.00042	.00249	.00017	.00025	.00007	.00017
%RSD	18.256	.65027	730.29	.05188	282.82	26.305	.04313	123.23	22.627	37.471	32.034	4.2454
#1	.00117	46.552	-.00145	.00078	-.00053	.00008	.96892	-.00378	.00064	-.00083	.00016	-.00390
#2	.00152	46.126	.00215	.00078	.00018	.00012	.96951	-.00026	.00089	-.00048	.00026	-.00414
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.404**	**.15411**	**.00138**	**.05086**	**.00070**	**-.00105**	**237.77**	**.00021**	**.00648**	**.00049**	**5.0544**	**.00245**
Stddev	.025	.01927	.00011	.00144	.00001	.00007	.84	.00002	.00011	.00097	.0097	.00072
%RSD	.05180	12.506	8.1189	2.8293	1.6625	6.2567	.35439	9.1164	1.7399	198.34	.19085	29.529
#1	48.422	.14049	.00146	.04984	.00070	-.00109	238.37	.00022	.00656	.00117	5.0612	.00296
#2	48.386	.16774	.00130	.05187	.00069	-.00100	237.18	.00019	.00640	-.00020	5.0476	.00194
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00130**	**-.02492**	**-.05333**	**-.00007**	**.00049**	W **4.5149**	**.01790**	**.00036**	**10.190**	**.01353**	**-.00000**	**.09692**
Stddev	.00156	.01365	.02921	.00077	.00004	.0034	.00002	.00176	.027	.00019	.00011	.00443
%RSD	119.79	54.763	54.763	1038.9	7.2627	.07628	.11901	483.36	.26201	1.3913	5019.9	4.5694
#1	-.00020	-.01527	-.03268	.00047	.00047	4.5174	.01791	.00161	10.171	.01339	-.00008	.10006
#2	-.00240	-.03457	-.07398	-.00062	.00052	4.5125	.01788	-.00088	10.209	.01366	.00007	.09379
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4136.1**	**57649.**	**4640.6**
Stddev	5.3	283.	21.2
%RSD	.12755	.49091	.45578
#1	4132.3	57449.	4625.7
#2	4139.8	57849.	4655.6

Sample Name: CCV-4239351 Acquired: 11/13/2016 16:49:34 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47592**	**.47045**	**.93198**	**.49202**	**.50004**	**.47134**	**-.00137**	**4.9430**	**.48728**	**.49092**	**.49943**	**.45384**
Stddev	.00003	.00063	.00592	.00155	.00185	.00158	.00140	.0130	.00064	.00072	.00011	.00042
%RSD	.00660	.13349	.63554	.31472	.37052	.33535	102.64	.26197	.13122	.14607	.02218	.09351
#1	.47594	.47000	.93616	.49092	.50135	.47246	-.00236	4.9338	.48683	.49142	.49935	.45414
#2	.47590	.47089	.92779	.49311	.49873	.47022	-.00037	4.9521	.48773	.49041	.49951	.45354
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.3956**	**48.193**	**.99440**	**18.370**	**.45804**	**.49609**	**4.9190**	**.49022**	**.96240**	**.98926**	**.01678**	**.97721**
Stddev	.0139	.045	.00460	.023	.00106	.00101	.0317	.00073	.00057	.00294	.00187	.00082
%RSD	.57876	.09261	.46251	.12315	.23069	.20449	.64368	.14899	.05910	.29685	11.132	.08415
#1	2.4055	48.161	.99766	18.386	.45879	.49681	4.9414	.49074	.96281	.99133	.01810	.97779
#2	2.3858	48.225	.99115	18.354	.45730	.49537	4.8966	.48970	.96200	.98718	.01546	.97662
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.94424**	**4.6728**	**9.9999**	**.99725**	**.47001**	**.01026**	**.45474**	**1.0285**	**-.02217**	**.46698**	F **.43949**	**.49939**
Stddev	.00113	.0114	.0245	.00236	.00151	.00004	.00113	.0001	.02133	.00065	.00170	.00167
%RSD	.11996	.24475	.24475	.23680	.32125	.38106	.24942	.00578	96.174	.13984	.38654	.33420
#1	.94344	4.6647	9.9826	.99558	.47108	.01029	.45555	1.0286	-.03725	.46744	.44069	.49821
#2	.94504	4.6809	10.017	.99892	.46894	.01024	.45394	1.0285	-.00709	.46652	.43829	.50057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass
Value											.50000	
Range											-10.490%	

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4266.3**	**59698.**	**4703.9**
Stddev	.0	2.	4.6
%RSD	.00014	.00319	.09699
#1	4266.3	59699.	4700.7
#2	4266.3	59696.	4707.2

Sample Name: CCB Acquired: 11/13/2016 16:51:54 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00155**	**.00044**	**.00312**	**.00029**	**-.00010**	**.00001**	**.00157**	**.00069**	**.00029**	**.00024**	**.00018**	**-.00173**	**.00150**
Stddev	.00020	.00018	.00051	.00042	.00016	.00008	.00095	.00339	.00002	.00005	.00004	.00023	.00012
%RSD	13.131	40.188	16.406	141.94	156.07	821.95	60.099	494.33	7.5759	20.405	22.228	12.985	8.1086
#1	.00141	.00032	.00276	.00059	.00001	.00006	.00224	.00308	.00030	.00021	.00015	-.00189	.00159
#2	.00170	.00057	.00348	-.00000	-.00021	-.00004	.00091	-.00171	.00027	.00028	.00021	-.00158	.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13598**	**.00241**	**.00077**	**.00008**	**.00192**	**.06409**	**-.00005**	**.00038**	**.00077**	**.01422**	**.00293**	**.00401**	**-.01367**
Stddev	.01137	.00190	.00238	.00001	.00060	.00233	.00003	.00181	.00001	.00174	.00287	.00443	.01423
%RSD	8.3599	78.921	308.30	14.202	31.018	3.6361	50.577	472.11	1.2529	12.254	97.904	110.60	104.09
#1	.12794	.00107	.00246	.00009	.00150	.06574	-.00003	.00166	.00078	.01545	.00090	.00087	-.00361
#2	.14402	.00376	-.00091	.00008	.00235	.06244	-.00007	-.00089	.00077	.01299	.00496	.00714	-.02373
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02926**	**-.00039**	**.00023**	**.00463**	**.00024**	**-.00038**	**-.05756**	**.00027**	**-.00044**	**-.00049**
Stddev	.03045	.00060	.00010	.00199	.00036	.00181	.00985	.00025	.00015	.00151
%RSD	104.09	154.71	42.554	42.889	148.28	476.73	17.118	91.766	34.225	306.82
#1	-.00772	-.00081	.00030	.00604	.00050	-.00166	-.06452	.00045	-.00055	.00057
#2	-.05079	.00004	.00016	.00323	-.00001	.00090	-.05059	.00010	-.00034	-.00156
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4298.6**	**60766.**	**4665.8**
Stddev	2.3	35.	20.8
%RSD	.05400	.05696	.44607
#1	4300.3	60741.	4680.6
#2	4297.0	60790.	4651.1

Sample Name: CCVL-4245706 Acquired: 11/13/2016 16:54:29 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01102**	**.09564**	**.01684**	**.09698**	**.00995**	**.00085**	**.10672**	**.19725**	**.00508**	**.01033**	**.01022**	**.01218**	**.09957**	**2.9779**
Stddev	.00052	.00031	.00052	.00008	.00025	.00000	.00039	.00088	.00022	.00024	.00005	.00017	.00364	.0085
%RSD	4.6932	.32123	3.0988	.08366	2.5154	.41158	.36142	.44554	4.3359	2.3240	.51451	1.4134	3.6592	.28592
#1	.01139	.09586	.01721	.09704	.00977	.00085	.10699	.19662	.00524	.01050	.01025	.01206	.10214	2.9719
#2	.01065	.09542	.01647	.09693	.01013	.00085	.10644	.19787	.00493	.01016	.01018	.01230	.09699	2.9839
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02122**	**.19129**	**.00953**	**.01908**	**1.0178**	**.03957**	**2.7607**	**.01061**	**.00883**	**.01975**	**.01358**	**.46686**	**.99909**	**.09799**
Stddev	.00232	.00027	.00009	.00016	.0031	.00014	.0026	.00049	.00329	.00074	.00214	.02654	.05680	.00017
%RSD	10.938	.13915	.90478	.83058	.29996	.34702	.09513	4.6606	37.230	3.7508	15.786	5.6847	5.6847	.16842
#1	.01957	.19148	.00959	.01919	1.0157	.03947	2.7625	.01095	.00650	.01923	.01206	.48563	1.0393	.09810
#2	.02286	.19110	.00947	.01897	1.0200	.03967	2.7588	.01026	.01115	.02028	.01509	.44810	.95893	.09787
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00954**	**.01603**	**.00917**	**.01592**	**.04258**	**.00931**	**.01718**	**.01592**
Stddev	.00004	.00111	.00011	.00296	.00824	.00026	.00052	.00268
%RSD	.45560	6.9536	1.1552	18.605	19.348	2.8013	3.0343	16.844
#1	.00951	.01524	.00909	.01801	.04841	.00913	.01681	.01782
#2	.00958	.01682	.00924	.01382	.03676	.00950	.01755	.01403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4344.0**	**61324.**	**4770.8**
Stddev	.5	322.	1.4
%RSD	.01241	.52527	.02945
#1	4344.4	61552.	4771.8
#2	4343.6	61097.	4769.8

Sample Name: MB 280-349804/1-A Acquired: 11/13/2016 16:57:03 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/10 Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00136**	**.00617**	**.00209**	**.00049**	**-.00021**	**-.00011**	**.00261**	**.00848**	**.00030**
Stddev	.00037	.00086	.00421	.00045	.00006	.00005	.00079	.00626	.00009
%RSD	26.980	13.985	201.71	91.278	30.474	43.954	30.200	73.771	30.061
#1	.00162	.00678	.00507	.00081	-.00026	-.00008	.00317	.01290	.00036
#2	.00110	.00556	-.00089	.00017	-.00017	-.00014	.00205	.00406	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00039**	**.00043**	**-.00170**	**.00510**	**.06194**	**-.00006**	**.00413**	**.00017**	**-.00008**
Stddev	.00021	.00000	.00019	.00382	.00685	.00005	.00086	.00000	.00000
%RSD	53.804	.34347	11.099	74.947	11.060	84.594	20.827	2.0030	3.8684
#1	.00024	.00043	-.00157	.00781	.06678	-.00002	.00352	.00016	-.00008
#2	.00053	.00043	-.00183	.00240	.05709	-.00009	.00474	.00017	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05403**	**-.00001**	**.00010**	**.00134**	**.01855**	**-.00147**	**.00035**	**.00581**	**.01243**
Stddev	.00282	.00014	.00063	.00109	.00183	.00019	.00033	.00303	.00648
%RSD	5.2164	1960.7	609.40	81.587	9.8613	13.168	95.161	52.158	52.158
#1	.05204	-.00010	-.00034	.00057	.01985	-.00134	.00059	.00795	.01702
#2	.05602	.00009	.00055	.00211	.01726	-.00161	.00012	.00367	.00785
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00081**	**.00022**	**.00297**	**.00055**	**.00023**	**-.04259**	**.00006**	**.00090**	**-.00073**
Stddev	.00072	.00003	.00280	.00019	.00088	.05427	.00024	.00001	.00153
%RSD	89.146	14.808	94.274	34.139	387.27	127.42	376.80	1.6513	209.79
#1	-.00030	.00024	.00494	.00068	-.00040	-.08097	.00023	.00091	.00035
#2	-.00132	.00019	.00099	.00042	.00085	-.00422	-.00011	.00089	-.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4369.3**	**61679.**	**4757.3**
Stddev	11.7	116.	16.4
%RSD	.26833	.18854	.34423
#1	4377.6	61597.	4745.8
#2	4361.0	61761.	4768.9

Sample Name: LCS 280-349804/2-A Acquired: 11/13/2016 16:59:38 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05004**	**1.7533**	**.96557**	**1.0010**	**2.0005**	**.04683**	**2.0201**	**48.513**	**.10123**
Stddev	.00004	.0019	.00416	.0033	.0044	.00015	.0165	.099	.00042
%RSD	.07373	.10751	.43041	.33055	.22184	.31870	.81592	.20477	.41547
#1	.05007	1.7546	.96263	.99862	2.0036	.04672	2.0084	48.583	.10093
#2	.05002	1.7520	.96850	1.0033	1.9974	.04693	2.0317	48.443	.10153
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47945**	**.19676**	**.22685**	**.95375**	**48.625**	**.99129**	F **45.876**	F **.44942**	**.95861**
Stddev	.00035	.00008	.00015	.00089	.179	.00364	.085	.00053	.00042
%RSD	.07404	.03977	.06606	.09306	.36800	.36758	.18609	.11860	.04423
#1	.47920	.19681	.22695	.95313	48.752	.99387	45.816	.44904	.95831
#2	.47970	.19670	.22674	.95438	48.499	.98871	45.936	.44980	.95891
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass
High Limit							56.500	.55000	
Low Limit							46.000	.45000	

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.938**	**.47867**	**9.8193**	**.48902**	**2.0350**	**.49399**	**1.9394**	**9.2384**	**19.770**
Stddev	.131	.00072	.0139	.00108	.0112	.00086	.0013	.0288	.062
%RSD	.26834	.14989	.14196	.22133	.55231	.17350	.06570	.31148	.31148
#1	48.845	.47816	9.8094	.48978	2.0430	.49338	1.9403	9.2587	19.814
#2	49.031	.47918	9.8291	.48825	2.0271	.49459	1.9385	9.2180	19.727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9530**	**.93821**	**.93501**	**.91199**	**1.9864**	**2.0559**	**.46729**	**.43715**	**.51811**
Stddev	.0050	.00155	.00022	.00113	.0018	.0175	.00061	.00223	.00049
%RSD	.25481	.16532	.02312	.12358	.08972	.85223	.13113	.51088	.09440
#1	1.9565	.93931	.93485	.91119	1.9851	2.0435	.46686	.43557	.51845
#2	1.9494	.93712	.93516	.91279	1.9877	2.0683	.46773	.43873	.51776
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4162.4**	**58349.**	**4774.3**
Stddev	1.2	13.	8.0
%RSD	.02865	.02238	.16839
#1	4161.5	58340.	4768.6
#2	4163.2	58359.	4780.0

Sample Name: 280-90424-D-2-A Acquired: 11/13/2016 17:01:57 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00129**	**.01895**	**.00507**	**1.2521**	**.01778**	**.00005**	**.00316**	**18.194**	**.00021**
Stddev	.00033	.00102	.00543	.0576	.00024	.00004	.00229	.039	.00000
%RSD	25.560	5.3574	107.17	4.6017	1.3696	82.410	72.470	.21367	1.0065
#1	.00106	.01966	.00123	1.2929	.01761	.00007	.00478	18.221	.00021
#2	.00152	.01823	.00891	1.2114	.01795	.00002	.00154	18.166	.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00028**	**.00046**	**.00160**	**.02511**	**.77383**	**.03242**	**6.4729**	**.10616**	**.03080**
Stddev	.00017	.00000	.00022	.00047	.05461	.00072	.0210	.00063	.00037
%RSD	59.626	1.0896	13.558	1.8834	7.0573	2.2270	.32407	.59492	1.1853
#1	-.00016	.00045	.00175	.02545	.73522	.03191	6.4877	.10661	.03106
#2	-.00040	.00046	.00145	.02478	.81245	.03293	6.4581	.10571	.03054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **813.64**	**.00327**	**.05607**	**.00092**	F **243.29**	**-.00149**	**.00563**	**3.7976**	**8.1268**
Stddev	2.50	.00046	.00287	.00119	11.45	.00016	.00210	.0137	.0293
%RSD	.30746	14.162	5.1146	128.69	4.7075	10.912	37.195	.36057	.36057
#1	811.87	.00360	.05810	.00008	251.38	-.00160	.00712	3.8072	8.1475
#2	815.41	.00295	.05405	.00176	235.19	-.00137	.00415	3.7879	8.1061
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00080**	**.54904**	**.00285**	**.00031**	**.00403**	**-.01263**	**.00320**	**.00164**	**.00138**
Stddev	.00090	.00032	.00128	.00011	.00107	.01201	.00011	.00001	.00015
%RSD	112.73	.05799	45.070	35.354	26.541	95.108	3.3140	.59704	10.686
#1	-.00144	.54881	.00194	.00023	.00328	-.02112	.00312	.00163	.00127
#2	-.00016	.54926	.00376	.00039	.00479	-.00414	.00327	.00165	.00148
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3810.4**	**52966.**	**4663.2**
Stddev	156.9	207.	27.5
%RSD	4.1187	.39112	.58879
#1	3699.5	52820.	4682.6
#2	3921.4	53112.	4643.8

Sample Name: 280-90424-D-2-A SD@5 Acquired: 11/13/2016 17:04:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00131**	**.00382**	**-.00114**	**.25101**	**.00352**	**-.00006**	**.00270**	**3.7855**	**.00017**
Stddev	.00005	.00011	.00158	.00057	.00004	.00011	.00094	.0012	.00009
%RSD	3.8906	2.7499	138.39	.22721	1.1584	168.43	34.750	.03114	51.736
#1	.00135	.00375	-.00002	.25060	.00355	-.00014	.00204	3.7847	.00011
#2	.00128	.00390	-.00226	.25141	.00349	.00001	.00336	3.7863	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00027**	**-.00110**	**.00622**	**.36474**	**.00506**	**1.3802**	**.02164**	**.00592**
Stddev	.00021	.00000	.00012	.00045	.00646	.00109	.0039	.00010	.00045
%RSD	63.761	.10028	11.370	7.2050	1.7710	21.587	.27883	.46482	7.6160
#1	.00018	.00027	-.00101	.00653	.36931	.00583	1.3775	.02157	.00560
#2	.00049	.00027	-.00119	.00590	.36018	.00429	1.3829	.02171	.00624
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**166.83**	**.00098**	**.01115**	**.00020**	**45.826**	**-.00095**	**-.00276**	**.75598**	**1.6178**
Stddev	.33	.00017	.00187	.00029	.047	.00031	.00042	.00045	.0010
%RSD	.19535	16.838	16.759	144.91	.10182	32.737	15.149	.05937	.05937
#1	166.60	.00086	.00983	-.00000	45.859	-.00117	-.00246	.75567	1.6171
#2	167.06	.00110	.01247	.00041	45.793	-.00073	-.00305	.75630	1.6185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**.11252**	**.00291**	**.00028**	**.00018**	**-.03595**	**.00055**	**.00012**	**-.00116**
Stddev	.00066	.00020	.00109	.00002	.00013	.01121	.00023	.00064	.00150
%RSD	180.56	.17879	37.669	6.2064	73.159	31.189	42.689	531.36	129.80
#1	.00010	.11238	.00368	.00027	.00028	-.04388	.00038	.00057	-.00222
#2	-.00083	.11266	.00213	.00029	.00009	-.02802	.00071	-.00033	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4102.4**	**56498.**	**4593.1**
Stddev	14.1	89.	21.3
%RSD	.34488	.15783	.46394
#1	4112.4	56561.	4608.2
#2	4092.4	56435.	4578.1

Sample Name: 280-90424-D-2-B MS Acquired: 11/13/2016 17:07:05 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05331**	**1.7100**	**1.0074**	**2.1469**	**2.0239**	**.04763**	**1.9468**	**67.143**	**.10258**
Stddev	.00067	.0048	.0034	.0035	.0078	.00005	.0046	.325	.00027
%RSD	1.2624	.28064	.33935	.16366	.38327	.10379	.23722	.48461	.26347
#1	.05378	1.7066	1.0050	2.1494	2.0294	.04760	1.9501	67.373	.10239
#2	.05283	1.7134	1.0098	2.1444	2.0184	.04767	1.9435	66.913	.10277
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47347**	**.19451**	**.23042**	**.97539**	**52.703**	**1.0495**	**51.814**	**.56572**	**.97603**
Stddev	.00113	.00021	.00011	.00063	.087	.0061	.214	.00203	.00359
%RSD	.23862	.10931	.04764	.06472	.16442	.58216	.41248	.35960	.36785
#1	.47427	.19466	.23050	.97494	52.765	1.0538	51.965	.56716	.97857
#2	.47267	.19436	.23034	.97584	52.642	1.0452	51.663	.56428	.97349
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **859.24**	**.47614**	**10.443**	**.46255**	F **232.53**	**.48847**	**1.9866**	**13.260**	**28.376**
Stddev	3.19	.00151	.004	.00049	.50	.00391	.0084	.055	.117
%RSD	.37162	.31691	.03664	.10701	.21594	.79970	.42445	.41331	.41331
#1	861.50	.47721	10.446	.46220	232.88	.49124	1.9926	13.299	28.459
#2	856.99	.47507	10.440	.46290	232.17	.48571	1.9806	13.221	28.293
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9085**	**1.4926**	**.96244**	**.93860**	**1.7648**	**2.0897**	**.48790**	**.47481**	**.52138**
Stddev	.0024	.0046	.00253	.00538	.0143	.0108	.00382	.00156	.00131
%RSD	.12632	.30569	.26292	.57354	.81004	.51579	.78358	.32939	.25212
#1	1.9102	1.4959	.96423	.94240	1.7749	2.0821	.49060	.47591	.52045
#2	1.9068	1.4894	.96065	.93479	1.7547	2.0973	.48520	.47370	.52231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3831.5**	**51409.**	**4446.4**
Stddev	2.4	458.	7.6
%RSD	.06231	.88998	.17054
#1	3829.8	51086.	4451.8
#2	3833.2	51733.	4441.1

Sample Name: 280-90424-D-2-C MSD Acquired: 11/13/2016 17:09:27 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05230**	**1.7112**	**.99807**	**2.1148**	**1.9913**	**.04721**	**1.9161**	**66.260**	**.10090**
Stddev	.00008	.0061	.00533	.0085	.0111	.00011	.0141	.097	.00036
%RSD	.16251	.35668	.53385	.40195	.55927	.22939	.73309	.14661	.36046
#1	.05236	1.7156	.99430	2.1088	1.9992	.04729	1.9062	66.329	.10064
#2	.05224	1.7069	1.0018	2.1208	1.9834	.04713	1.9260	66.191	.10115
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.46961**	**.19224**	**.22629**	**.98091**	**52.487**	**1.0370**	**51.409**	**.55839**	**.96962**
Stddev	.00064	.00044	.00080	.00284	.308	.0040	.085	.00144	.00257
%RSD	.13620	.22799	.35234	.28923	.58758	.38789	.16550	.25837	.26472
#1	.46916	.19255	.22573	.98291	52.705	1.0398	51.349	.55737	.97144
#2	.47007	.19193	.22686	.97890	52.269	1.0341	51.470	.55941	.96781
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **852.23**	**.47229**	**10.318**	**.46070**	F **228.23**	**.48423**	**1.9617**	**13.111**	**28.058**
Stddev	4.50	.00022	.021	.00101	.59	.00315	.0053	.060	.128
%RSD	.52820	.04563	.20486	.21924	.25670	.64961	.26886	.45626	.45626
#1	855.41	.47244	10.303	.46142	227.82	.48200	1.9580	13.154	28.149
#2	849.05	.47214	10.333	.45999	228.65	.48645	1.9654	13.069	27.968
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.8956**	**1.4778**	**.94895**	**.92235**	**1.7470**	**2.0522**	**.48022**	**.47205**	**.51190**
Stddev	.0055	.0125	.00185	.00041	.0002	.0041	.00061	.00068	.00033
%RSD	.28996	.84313	.19499	.04491	.01196	.19961	.12747	.14474	.06353
#1	1.8995	1.4866	.94764	.92206	1.7468	2.0493	.47978	.47253	.51167
#2	1.8917	1.4690	.95025	.92265	1.7471	2.0551	.48065	.47156	.51213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3763.4**	**50615.**	**4343.0**
Stddev	15.4	80.	1.0
%RSD	.41039	.15863	.02352
#1	3752.5	50672.	4342.3
#2	3774.4	50558.	4343.8

Sample Name: 280-90424-D-2-A PDS Acquired: 11/13/2016 17:11:50 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00372**	**.96439**	**.22328**	**1.2733**	**.12685**	**.05174**	**.00365**	**38.939**	**.05560**
Stddev	.00056	.01039	.00048	.0070	.00000	.00017	.00224	.030	.00017
%RSD	14.992	1.0776	.21363	.55405	.00162	.32742	61.314	.07657	.30122
#1	.00333	.95704	.22295	1.2783	.12685	.05162	.00207	38.960	.05571
#2	.00412	.97174	.22362	1.2683	.12685	.05186	.00523	38.918	.05548
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05143**	**.05332**	**.05265**	**1.0691**	**23.973**	**.14283**	**25.659**	**.15513**	**.07743**
Stddev	.00012	.00022	.00109	.0015	.008	.00104	.012	.00055	.00093
%RSD	.23605	.42135	2.0624	.13765	.03246	.73147	.04639	.35392	1.1984
#1	.05152	.05347	.05188	1.0680	23.978	.14209	25.651	.15474	.07678
#2	.05135	.05316	.05342	1.0701	23.967	.14357	25.667	.15552	.07809
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **820.86**	**.05508**	**2.3258**	**.10412**	F **227.16**	**.09704**	**.22056**	**8.5337**	**18.262**
Stddev	1.08	.00034	.0076	.00065	1.28	.00354	.00114	.0310	.066
%RSD	.13141	.61444	.32627	.62203	.56317	3.6463	.51786	.36360	.36360
#1	820.09	.05484	2.3312	.10458	228.07	.09954	.22137	8.5117	18.215
#2	821.62	.05532	2.3204	.10367	226.26	.09454	.21975	8.5556	18.309
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09774**	**.58721**	**.20692**	**.04857**	**.20057**	**.57672**	**.05632**	**.21150**	**.05634**
Stddev	.00056	.00109	.00094	.00072	.00006	.03562	.00016	.00107	.00256
%RSD	.57093	.18552	.45622	1.4919	.02977	6.1758	.28323	.50784	4.5443
#1	.09735	.58644	.20625	.04806	.20052	.60191	.05643	.21075	.05815
#2	.09814	.58798	.20758	.04909	.20061	.55154	.05620	.21226	.05453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3804.3**	**51380.**	**4338.2**
Stddev	49.7	10.	18.3
%RSD	1.3066	.01891	.42210
#1	3839.5	51373.	4325.3
#2	3769.2	51387.	4351.2

Sample Name: CCVH-4239353 Acquired: 11/13/2016 17:14:21 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00142**	**48.423**	**-.00142**	**.00537**	**.00019**	**.00017**	**.97143**	**.00286**	**.00072**	**-.00038**	**.00036**	**-.00258**
Stddev	.00033	.279	.00135	.00066	.00008	.00004	.00126	.00048	.00025	.00008	.00011	.00017
%RSD	23.126	.57715	94.880	12.343	39.758	25.944	.12996	16.851	35.127	21.426	30.199	6.5058
#1	.00118	48.621	-.00238	.00584	.00025	.00014	.97053	.00252	.00054	-.00044	.00043	-.00247
#2	.00165	48.226	-.00047	.00490	.00014	.00020	.97232	.00320	.00089	-.00032	.00028	-.00270
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.754**	**.44682**	**.00150**	**.04612**	**.00057**	**-.00016**	**243.77**	**.00059**	**.00349**	**-.00005**	**5.0565**	**.00409**
Stddev	.205	.05300	.00024	.00012	.00006	.00046	2.52	.00009	.00311	.00148	.0089	.00229
%RSD	.41181	11.862	15.932	.26686	9.9910	293.66	1.0329	14.770	89.026	2796.4	.17692	55.960
#1	49.899	.48430	.00133	.04621	.00061	-.00048	245.55	.00053	.00129	-.00110	5.0628	.00247
#2	49.609	.40935	.00167	.04603	.00053	.00017	241.99	.00065	.00569	.00099	5.0502	.00571
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00173**	**-.01853**	**-.03965**	**-.00003**	**.00045**	W **4.6480**	**.01758**	**.00237**	**10.249**	**.01309**	**.00009**	**.09950**
Stddev	.00088	.00112	.00239	.00073	.00007	.0032	.00001	.00140	.025	.00042	.00019	.00144
%RSD	50.890	6.0204	6.0204	2439.2	15.552	.06802	.07101	59.141	.23922	3.1968	205.16	1.4520
#1	-.00111	-.01774	-.03796	-.00054	.00050	4.6502	.01757	.00138	10.266	.01279	.00023	.10052
#2	-.00235	-.01932	-.04134	.00048	.00040	4.6457	.01759	.00336	10.232	.01338	-.00004	.09848
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3928.8**	**53989.**	**4217.4**
Stddev	6.3	66.	15.8
%RSD	.16098	.12271	.37349
#1	3933.3	53943.	4206.3
#2	3924.3	54036.	4228.5

Sample Name: CCV-4239351 Acquired: 11/13/2016 17:16:51 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48663**	**.48701**	**.94908**	**.49202**	**.49876**	**.47966**	**.00134**	**4.9846**	**.48952**	**.49695**	**.50130**	**.46854**	**2.4345**
Stddev	.00040	.00035	.00292	.00098	.00004	.00089	.00022	.0241	.00023	.00077	.00052	.00016	.0050
%RSD	.08268	.07122	.30731	.19945	.00705	.18556	16.348	.48417	.04685	.15475	.10285	.03336	.20605
#1	.48691	.48676	.95114	.49133	.49873	.47903	.00149	5.0016	.48936	.49641	.50093	.46843	2.4310
#2	.48634	.48725	.94702	.49272	.49878	.48029	.00118	4.9675	.48969	.49750	.50166	.46865	2.4381
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.233**	**1.0025**	**19.225**	**.47737**	**.49733**	**5.3117**	**.49565**	**.96879**	**1.0006**	**.03953**	**.96952**	**.95185**	**4.8100**
Stddev	.061	.0004	.024	.00006	.00044	.0079	.00119	.00221	.0025	.00344	.00154	.00708	.0268
%RSD	.12419	.03621	.12354	.01327	.08902	.14928	.23977	.22800	.24720	8.6978	.15847	.74331	.55749
#1	49.190	1.0028	19.208	.47742	.49765	5.3173	.49481	.97035	.99887	.04196	.96844	.95685	4.7911
#2	49.276	1.0023	19.242	.47733	.49702	5.3061	.49649	.96723	1.0024	.03710	.97061	.94685	4.8290
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.294**	**.99978**	**.47788**	**.00936**	**.47194**	**1.0174**	**-.01490**	**.47990**	**.47169**	**.50063**
Stddev	.057	.00261	.00084	.00227	.00062	.0024	.02941	.00087	.00049	.00265
%RSD	.55749	.26141	.17663	24.244	.13120	.23401	197.31	.18103	.10433	.52937
#1	10.253	.99794	.47729	.01097	.47151	1.0157	-.03570	.48052	.47134	.49876
#2	10.334	1.0016	.47848	.00776	.47238	1.0191	.00589	.47929	.47204	.50251
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3993.1**	**54541.**	**4256.7**
Stddev	12.4	37.	7.3
%RSD	.30972	.06784	.17233
#1	4001.9	54567.	4251.6
#2	3984.4	54514.	4261.9

Sample Name: CCB Acquired: 11/13/2016 17:19:12 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.00057**	**.00101**	**.00275**	**-.00019**	**-.00007**	**.00096**	**-.00483**	**.00013**	**.00035**	**.00015**	**-.00117**	**.00014**
Stddev	.00064	.00030	.00037	.00011	.00008	.00001	.00029	.00261	.00003	.00010	.00005	.00024	.00082
%RSD	76.725	52.045	36.529	4.1351	42.192	13.174	30.359	54.133	25.522	27.819	34.742	20.347	600.55
#1	.00128	.00078	.00075	.00267	-.00013	-.00008	.00076	-.00668	.00015	.00028	.00018	-.00100	-.00044
#2	.00038	.00036	.00127	.00283	-.00024	-.00006	.00117	-.00298	.00010	.00042	.00011	-.00133	.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20047**	**.00156**	**.00143**	**.00007**	**.00249**	**.33369**	**-.00005**	**-.00009**	**.00068**	**.03331**	**.00258**	**.00402**	**.01105**
Stddev	.02720	.00058	.00192	.00006	.00091	.00975	.00008	.00156	.00034	.00077	.00164	.00129	.00495
%RSD	13.568	37.376	134.44	87.975	36.572	2.9220	162.09	1716.6	50.527	2.2996	63.688	31.991	44.779
#1	.21970	.00114	.00279	.00003	.00184	.34059	.00001	.00101	.00044	.03276	.00374	.00493	.00755
#2	.18124	.00197	.00007	.00011	.00313	.32680	-.00010	-.00120	.00092	.03385	.00142	.00311	.01454
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02364**	**-.00060**	**.00015**	**.00172**	**.00011**	**.00089**	**-.01454**	**-.00036**	**-.00006**	**.00262**
Stddev	.01059	.00044	.00003	.00132	.00012	.00080	.00934	.00048	.00040	.00226
%RSD	44.779	73.950	17.772	77.108	104.81	89.730	64.242	134.42	661.40	86.509
#1	.01615	-.00029	.00017	.00078	.00003	.00146	-.02115	-.00070	.00022	.00422
#2	.03112	-.00091	.00013	.00265	.00020	.00033	-.00794	-.00002	-.00035	.00102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4030.5**	**55526.**	**4150.5**
Stddev	7.2	225.	23.7
%RSD	.17813	.40473	.57109
#1	4025.4	55685.	4133.7
#2	4035.6	55367.	4167.2

Sample Name: CCVL-4245706 Acquired: 11/13/2016 17:21:47 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01078**	**.09992**	**.01896**	**.09759**	**.01024**	**.00087**	**.10197**	**.19849**	**.00489**	**.01031**	**.01008**	**.01334**
Stddev	.00033	.00098	.00243	.00060	.00016	.00010	.00281	.00430	.00004	.00011	.00017	.00000
%RSD	3.1016	.98038	12.798	.61126	1.5362	11.469	2.7512	2.1669	.82769	1.0562	1.6446	.00415
#1	.01054	.10061	.02068	.09801	.01013	.00079	.09998	.19545	.00492	.01023	.01020	.01334
#2	.01101	.09923	.01724	.09717	.01035	.00094	.10395	.20154	.00486	.01039	.00997	.01334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09964**	**3.1395**	**.02171**	**.19889**	**.00981**	**.01904**	**1.2360**	**.04036**	**2.7531**	**.00947**	**.02760**	**.01778**
Stddev	.00105	.0129	.00071	.00190	.00000	.00031	.0109	.00026	.0029	.00043	.00247	.00026
%RSD	1.0543	.41115	3.2889	.95309	.00073	1.6319	.88105	.64125	.10650	4.5598	8.9478	1.4899
#1	.10039	3.1487	.02221	.19755	.00981	.01882	1.2283	.04018	2.7510	.00916	.02935	.01796
#2	.09890	3.1304	.02120	.20023	.00981	.01926	1.2437	.04054	2.7552	.00977	.02586	.01759
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01197**	**.48994**	**1.0485**	**.09855**	**.00979**	**.01689**	**.00918**	**.01427**	F **.04135**	**.00956**	**.01845**	**.01507**
Stddev	.00171	.00166	.0035	.00123	.00006	.00027	.00022	.00109	.01933	.00044	.00033	.00029
%RSD	14.320	.33789	.33789	1.2464	.59407	1.5933	2.4124	7.6110	46.750	4.6484	1.7737	1.9109
#1	.01319	.49111	1.0510	.09768	.00983	.01670	.00933	.01351	.05502	.00924	.01822	.01527
#2	.01076	.48877	1.0460	.09942	.00975	.01708	.00902	.01504	.02768	.00987	.01868	.01487
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4063.6**	**55891.**	**4215.3**
Stddev	3.2	301.	22.2
%RSD	.07849	.53801	.52656
#1	4061.3	55678.	4231.0
#2	4065.8	56103.	4199.6

Sample Name: 280-90424-H-3-A Acquired: 11/13/2016 17:24:21 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00114**	**.00799**	**.00244**	**.69455**	**.01104**	**.00001**	**.00493**	**66.095**	**.00018**
Stddev	.00022	.00165	.00132	.00056	.00009	.00004	.00081	.058	.00004
%RSD	18.964	20.702	54.176	.08073	.84509	682.61	16.338	.08730	21.252
#1	.00099	.00916	.00337	.69495	.01111	-.00002	.00436	66.054	.00016
#2	.00129	.00682	.00150	.69416	.01098	.00003	.00550	66.136	.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00040**	**.00030**	**.00142**	**.00734**	**1.5241**	**.15882**	**11.351**	**.04980**	**.00490**
Stddev	.00025	.00004	.00041	.00191	.0611	.00089	.018	.00011	.00000
%RSD	61.673	14.841	28.651	25.973	4.0060	.55766	.15949	.22695	.09395
#1	-.00023	.00026	.00171	.00869	1.4810	.15819	11.339	.04988	.00490
#2	-.00057	.00033	.00113	.00599	1.5673	.15944	11.364	.04972	.00491
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **570.32**	**.00170**	**.02489**	**.00044**	F **284.04**	**-.00468**	**.00079**	**3.9124**	**8.3726**
Stddev	.54	.00050	.00180	.00035	.24	.00021	.00031	.0238	.0509
%RSD	.09524	29.661	7.2190	79.543	.08525	4.4516	39.729	.60791	.60791
#1	570.70	.00134	.02616	.00019	284.22	-.00483	.00101	3.8956	8.3366
#2	569.94	.00205	.02361	.00069	283.87	-.00454	.00057	3.9292	8.4086
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00086**	**4.6383**	**-.00135**	**.00014**	**-.00105**	**.03287**	**.00284**	**.01215**	**-.00082**
Stddev	.00118	.0007	.00015	.00040	.00002	.00784	.00023	.00016	.00057
%RSD	136.83	.01589	11.374	288.91	2.3650	23.842	8.2786	1.3399	69.142
#1	-.00169	4.6389	-.00124	.00042	-.00107	.03841	.00267	.01204	-.00123
#2	-.00003	4.6378	-.00146	-.00014	-.00103	.02733	.00300	.01227	-.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3820.1**	**50682.**	**4201.1**
Stddev	5.0	49.	12.4
%RSD	.12965	.09681	.29628
#1	3816.6	50717.	4192.3
#2	3823.6	50647.	4209.9

Sample Name: 280-90424-D-4-A Acquired: 11/13/2016 17:26:57 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00132**	**.00196**	**-.00167**	**1.7834**	**.01202**	**.00002**	**.00111**	**123.49**	**.00038**
Stddev	.00005	.00011	.00016	.0022	.00000	.00002	.00019	.01	.00004
%RSD	3.4316	5.6536	9.4110	.12489	.02308	72.837	17.318	.00634	10.745
#1	.00129	.00204	-.00178	1.7818	.01203	.00003	.00124	123.49	.00041
#2	.00135	.00188	-.00156	1.7850	.01202	.00001	.00097	123.48	.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.00033**	**.00123**	**.00759**	**1.8291**	**.14466**	**24.213**	**.13391**	**-.00042**
Stddev	.00007	.00009	.00006	.00174	.1715	.00080	.018	.00012	.00011
%RSD	115.06	28.128	5.2614	22.972	9.3752	.55009	.07245	.08766	25.589
#1	-.00011	.00039	.00119	.00882	1.7078	.14522	24.201	.13382	-.00035
#2	-.00001	.00026	.00128	.00635	1.9503	.14410	24.226	.13399	-.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1314.7**	**.00224**	**.01792**	**.00043**	F **581.42**	**-.00241**	**.11603**	**6.1104**	**13.076**
Stddev	4.0	.00028	.00008	.00055	.38	.00399	.00481	.0215	.046
%RSD	.30629	12.574	.42193	127.65	.06603	165.28	4.1421	.35257	.35257
#1	1317.5	.00204	.01797	.00082	581.15	-.00524	.11263	6.1257	13.109
#2	1311.9	.00244	.01787	.00004	581.69	.00041	.11943	6.0952	13.044
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00275**	**3.1114**	**-.00191**	**-.00013**	**-.00142**	**.10086**	**.00025**	**.00159**	**.00070**
Stddev	.00097	.0085	.00012	.00011	.00260	.00917	.00045	.00024	.00131
%RSD	35.057	.27416	6.0551	84.846	183.69	9.0873	180.36	15.248	187.23
#1	-.00207	3.1174	-.00199	-.00021	-.00326	.10734	.00057	.00142	.00163
#2	-.00344	3.1053	-.00183	-.00005	.00042	.09438	-.00007	.00176	-.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3650.2**	**48411.**	**4224.0**
Stddev	.0	53.	5.2
%RSD	.00026	.10993	.12374
#1	3650.2	48449.	4227.7
#2	3650.2	48373.	4220.3

Sample Name: 280-90424-F-5-A Acquired: 11/13/2016 17:29:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00137**	**.00292**	**-.00062**	**3.4755**	**.01101**	**.00003**	**.00270**	**242.66**	**.00073**
Stddev	.00012	.00023	.00065	.0063	.00123	.00005	.00065	20.19	.00007
%RSD	8.6458	7.8730	104.93	.18057	11.206	160.41	23.988	8.3195	9.3615
#1	.00128	.00309	-.00016	3.4711	.01189	.00006	.00224	256.94	.00068
#2	.00145	.00276	-.00107	3.4800	.01014	-.00000	.00315	228.39	.00078
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00045**	**.00256**	**.01106**	**7.1332**	**.30382**	**63.992**	**.36896**	**.00998**
Stddev	.00007	.00026	.00006	.00184	.2340	.02684	.120	.00071	.00053
%RSD	20.970	57.637	2.2161	16.667	3.2808	8.8328	.18721	.19373	5.3434
#1	.00029	.00063	.00260	.01236	7.2986	.32280	64.077	.36946	.01036
#2	.00039	.00026	.00252	.00976	6.9677	.28485	63.908	.36845	.00961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **4370.8**	**.00357**	**.02493**	**.00182**	F **1832.1**	**-.00413**	**.04337**	**4.7246**	**10.111**
Stddev	354.3	.00021	.00032	.00122	3.5	.00058	.00382	.3767	.806
%RSD	8.1053	5.8505	1.2967	67.228	.19208	14.042	8.8164	7.9736	7.9736
#1	4621.3	.00372	.02516	.00269	1834.6	-.00454	.04066	4.9909	10.681
#2	4120.3	.00343	.02470	.00096	1829.6	-.00372	.04607	4.4582	9.5405
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00182**	W **11.406**	**-.00248**	**.00023**	**-.00302**	**.30781**	**.00002**	**.00715**	**-.00095**
Stddev	.00001	.746	.00026	.00017	.00002	.02462	.00075	.00024	.00138
%RSD	.37336	6.5391	10.288	73.467	.74121	7.9995	4240.2	3.3379	145.71
#1	-.00183	11.933	-.00266	.00011	-.00301	.32522	.00055	.00732	.00003
#2	-.00182	10.879	-.00230	.00035	-.00304	.29040	-.00051	.00698	-.00192
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		10.000							
Low Limit		-.02000							

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3309.0**	**43686.**	**3990.6**
Stddev	11.3	100.	277.1
%RSD	.34265	.22881	6.9435
#1	3301.0	43615.	3794.7
#2	3317.0	43756.	4186.6

Sample Name: 280-90424-F-6-A Acquired: 11/13/2016 17:32:17 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00097**	**.00358**	**-.00051**	**3.3818**	**.00986**	**.00003**	**.00255**	**221.60**	**.00073**
Stddev	.00007	.00031	.00230	.0050	.00030	.00005	.00069	1.87	.00001
%RSD	7.2776	8.5986	452.03	.14767	3.0371	208.52	26.865	.84188	1.1687
#1	.00102	.00337	-.00214	3.3783	.01007	.00006	.00303	222.92	.00072
#2	.00092	.00380	.00112	3.3853	.00965	-.00001	.00207	220.28	.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**.00028**	**.00339**	**.01621**	**6.8416**	**.28098**	**61.270**	**.35593**	**.00962**
Stddev	.00007	.00005	.00051	.00113	.0001	.00183	.406	.00087	.00023
%RSD	10.187	17.832	15.064	6.9673	.00184	.64957	.66235	.24333	2.3737
#1	.00065	.00032	.00303	.01541	6.8415	.27969	60.983	.35532	.00978
#2	.00075	.00025	.00375	.01701	6.8417	.28227	61.557	.35655	.00946
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **4008.5**	**.00362**	**.02349**	**.00011**	F **1803.8**	**-.00355**	**.03724**	**4.3071**	**9.2171**
Stddev	13.8	.00025	.00272	.00022	.8	.00232	.00312	.0353	.0756
%RSD	.34442	6.9557	11.577	192.79	.04429	65.271	8.3785	.81979	.81979
#1	4018.3	.00380	.02541	-.00004	1804.4	-.00191	.03504	4.3320	9.2705
#2	3998.8	.00344	.02157	.00027	1803.3	-.00519	.03945	4.2821	9.1637
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00244**	W **10.441**	**-.00204**	**.00065**	**.00079**	**.26563**	**.00001**	**.00689**	**.00111**
Stddev	.00058	.203	.00022	.00005	.00052	.01008	.00006	.00023	.00076
%RSD	23.838	1.9453	10.828	6.8809	65.713	3.7932	1089.7	3.3856	68.468
#1	-.00203	10.584	-.00219	.00062	.00116	.25851	.00005	.00672	.00164
#2	-.00285	10.297	-.00188	.00069	.00042	.27276	-.00004	.00705	.00057
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		10.000							
Low Limit		-.02000							

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3302.7**	**45200.**	**4355.4**
Stddev	5.0	313.	181.8
%RSD	.15264	.69310	4.1735
#1	3299.2	45422.	4226.9
#2	3306.3	44979.	4484.0

Sample Name: 280-90424-B-7-A Acquired: 11/13/2016 17:35:00 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00098**	**.00366**	**.00131**	**1.3167**	**.01837**	**-.00003**	**.00202**	**27.448**	**.00025**
Stddev	.00008	.00005	.00061	.0029	.00015	.00007	.00048	.989	.00023
%RSD	7.7567	1.2875	46.311	.22316	.83417	216.03	23.908	3.6039	90.895
#1	.00104	.00363	.00088	1.3146	.01848	.00002	.00168	28.148	.00009
#2	.00093	.00370	.00174	1.3188	.01827	-.00009	.00237	26.749	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00021**	**.00093**	**.00102**	**.01123**	**1.5678**	**.12521**	**4.7567**	**.00061**	**.00169**
Stddev	.00020	.00032	.00021	.00017	.0023	.00664	.0067	.00002	.00006
%RSD	96.009	35.017	20.470	1.5050	.14412	5.3066	.14028	4.0030	3.8182
#1	.00036	.00070	.00088	.01135	1.5694	.12990	4.7614	.00059	.00174
#2	.00007	.00115	.00117	.01111	1.5662	.12051	4.7520	.00063	.00165
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **562.08**	**.00099**	**.01085**	**.00152**	**113.34**	**-.00283**	**.01236**	**4.6538**	**9.9592**
Stddev	17.30	.00032	.00052	.00026	.29	.00115	.00302	.1062	.2273
%RSD	3.0778	32.260	4.8363	17.169	.25183	40.628	24.478	2.2819	2.2819
#1	574.31	.00121	.01047	.00133	113.14	-.00201	.01022	4.7289	10.120
#2	549.85	.00076	.01122	.00170	113.54	-.00364	.01449	4.5787	9.7985
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00								
Low Limit	11.000								

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00093**	**.65824**	**-.00134**	**.00007**	**.00139**	**.09540**	**.00239**	**.00084**	**.00269**
Stddev	.00108	.01852	.00017	.00009	.00083	.03878	.00029	.00081	.00018
%RSD	115.95	2.8135	12.672	132.54	59.841	40.644	12.082	96.433	6.7332
#1	-.00170	.67134	-.00146	.00013	.00197	.12282	.00219	.00027	.00282
#2	-.00017	.64515	-.00122	.00000	.00080	.06799	.00260	.00142	.00256
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3769.7**	**50629.**	**4144.5**
Stddev	4.9	9.	102.5
%RSD	.12967	.01749	2.4739
#1	3773.2	50623.	4072.0
#2	3766.2	50635.	4217.0

Sample Name: 280-90424-D-8-A Acquired: 11/13/2016 17:37:38 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00129**	**.00396**	**.00090**	**1.5264**	**.00851**	**-.00000**	**.00461**	**23.134**	**-.00006**
Stddev	.00038	.00056	.00060	.0034	.00005	.00009	.00155	.115	.00003
%RSD	29.382	14.077	66.485	.22332	.57104	45267.	33.641	.49737	61.555
#1	.00102	.00436	.00132	1.5288	.00848	.00006	.00351	23.215	-.00008
#2	.00155	.00357	.00048	1.5240	.00855	-.00006	.00571	23.052	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00025**	**.00068**	**.00102**	**.00530**	**2.6582**	**.48873**	**2.6115**	**.00074**	**.00046**
Stddev	.00001	.00027	.00027	.00005	.1023	.00020	.0081	.00008	.00008
%RSD	2.9490	40.046	26.076	.93815	3.8498	.04105	.31132	11.232	17.130
#1	-.00025	.00087	.00083	.00526	2.5859	.48859	2.6057	.00068	.00041
#2	-.00026	.00049	.00121	.00533	2.7306	.48888	2.6172	.00080	.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1044.8**	**.00093**	**.00878**	**.00138**	F **395.83**	**-.00178**	**.07870**	**4.3809**	**9.3751**
Stddev	1.7	.00008	.00118	.00071	.06	.00230	.00379	.0127	.0271
%RSD	.16543	8.7517	13.417	51.708	.01508	129.12	4.8134	.28939	.28939
#1	1046.0	.00087	.00794	.00087	395.79	-.00016	.08138	4.3719	9.3560
#2	1043.6	.00098	.00961	.00188	395.88	-.00341	.07602	4.3899	9.3943
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00214**	**1.7365**	**-.00178**	**.00010**	**.00110**	**-.00678**	**.04085**	**.00072**	**-.00159**
Stddev	.00113	.0011	.00358	.00015	.00097	.00875	.00006	.00055	.00020
%RSD	53.130	.06316	201.32	153.40	87.828	129.09	.14156	76.326	12.836
#1	-.00133	1.7358	.00075	-.00001	.00179	-.01297	.04089	.00033	-.00173
#2	-.00294	1.7373	-.00431	.00020	.00042	-.00059	.04081	.00111	-.00145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3703.6**	**48706.**	**4179.6**
Stddev	.0	195.	9.3
%RSD	.00065	.40114	.22316
#1	3703.6	48845.	4173.0
#2	3703.6	48568.	4186.2

Sample Name: 280-90424-D-9-A Acquired: 11/13/2016 17:40:15 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 349804 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00084**	**.02265**	**.00278**	**1.1283**	**.01128**	**.00006**	**.00164**	**51.964**	**.00039**
Stddev	.00069	.00042	.00078	.0024	.00021	.00011	.00136	.138	.00004
%RSD	81.988	1.8538	27.855	.21180	1.8562	178.12	83.329	.26597	10.276
#1	.00133	.02235	.00333	1.1299	.01143	-.00002	.00260	52.062	.00036
#2	.00035	.02294	.00224	1.1266	.01113	.00015	.00067	51.867	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00005**	**.00032**	**.00121**	**.04091**	**1.4552**	**.03737**	**10.255**	**.20653**	**.00467**
Stddev	.00014	.00007	.00019	.00068	.0329	.00113	.005	.00001	.00039
%RSD	268.82	21.073	15.371	1.6582	2.2618	3.0337	.04572	.00371	8.3868
#1	-.00005	.00037	.00108	.04139	1.4320	.03657	10.251	.20654	.00439
#2	.00015	.00027	.00134	.04043	1.4785	.03817	10.258	.20653	.00494
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **861.38**	**.00167**	**.01463**	**.00149**	F **309.77**	**-.00228**	**-.00242**	**4.6411**	**9.9319**
Stddev	1.13	.00012	.00116	.00037	1.31	.00264	.00286	.0101	.0217
%RSD	.13127	7.3714	7.9302	24.492	.42129	115.90	118.15	.21844	.21844
#1	862.18	.00158	.01381	.00175	310.69	-.00041	-.00445	4.6482	9.9472
#2	860.58	.00176	.01545	.00124	308.85	-.00415	-.00040	4.6339	9.9165
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00164**	**1.2307**	**-.00274**	**.00002**	**-.00056**	**.07149**	**.00346**	**.00295**	**.00126**
Stddev	.00054	.0008	.00244	.00029	.00105	.03748	.00017	.00044	.00115
%RSD	32.737	.06482	89.022	1468.6	186.17	52.427	5.0330	14.969	91.579
#1	-.00126	1.2313	-.00447	-.00018	-.00130	.09800	.00359	.00264	.00207
#2	-.00203	1.2302	-.00102	.00022	.00018	.04499	.00334	.00326	.00044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3753.4**	**49779.**	**4256.4**
Stddev	10.5	67.	56.0
%RSD	.28040	.13541	1.3148
#1	3760.9	49731.	4216.8
#2	3746.0	49827.	4296.0

Sample Name: CCVH-4239353 Acquired: 11/13/2016 17:42:52 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00180**	**48.625**	**-.00210**	**.00684**	**-.00010**	**.00020**	**.98027**	**.00239**	**.00056**	**-.00019**	**.00055**	**-.00161**
Stddev	.00033	.098	.00064	.00030	.00002	.00016	.00104	.00450	.00005	.00015	.00005	.00032
%RSD	18.338	.20186	30.418	4.3167	20.363	81.967	.10624	188.44	8.8232	78.909	8.9867	20.002
#1	.00156	48.695	-.00165	.00704	-.00012	.00008	.97954	.00557	.00052	-.00009	.00058	-.00184
#2	.00203	48.556	-.00255	.00663	-.00009	.00031	.98101	-.00079	.00059	-.00030	.00051	-.00138
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.432**	**.36457**	**.00324**	**.04297**	**.00070**	**-.00206**	**242.68**	**.00019**	**.00542**	**.00040**	W **5.3011**	**.00421**
Stddev	.351	.00148	.00046	.00304	.00001	.00045	1.21	.00002	.00071	.00040	.0029	.00123
%RSD	.71047	.40484	14.281	7.0865	1.6702	21.933	.50057	9.4000	13.003	101.99	.05555	29.241
#1	49.680	.36562	.00291	.04082	.00069	-.00238	243.54	.00017	.00592	.00068	5.3032	.00334
#2	49.183	.36353	.00357	.04512	.00071	-.00174	241.82	.00020	.00492	.00011	5.2990	.00508
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Warn	None
Value											5.0000	
Range											5.0000%	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00560**	**-.01369**	**-.02931**	**.00051**	**.00067**	W **4.7130**	**.01625**	**.00123**	**10.254**	**.01353**	**.00021**	**.10333**
Stddev	.00008	.00449	.00962	.00083	.00002	.0045	.00004	.00018	.004	.00018	.00066	.00444
%RSD	1.4120	32.809	32.809	163.87	2.3328	.09480	.24876	14.949	.03467	1.3324	317.95	4.2954
#1	-.00566	-.01052	-.02251	-.00008	.00066	4.7098	.01622	.00136	10.251	.01340	-.00026	.10019
#2	-.00554	-.01687	-.03611	.00109	.00068	4.7161	.01628	.00110	10.256	.01365	.00067	.10646
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3928.1**	**53893.**	**4292.5**
Stddev	1.9	222.	43.3
%RSD	.04719	.41178	1.0090
#1	3929.4	54050.	4261.9
#2	3926.8	53736.	4323.2

Sample Name: CCV-4239351 Acquired: 11/13/2016 17:45:21 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48408**	**.48841**	**.94653**	**.49150**	**.49784**	**.48626**	**-.00024**	**5.0155**	**.48779**	**.49792**	**.50040**	**.47236**
Stddev	.00150	.00129	.00378	.00019	.00108	.00128	.00069	.0112	.00018	.00138	.00049	.00235
%RSD	.31088	.26428	.39890	.03784	.21690	.26348	281.74	.22288	.03705	.27779	.09761	.49721
#1	.48514	.48750	.94920	.49163	.49860	.48717	.00024	5.0076	.48767	.49890	.50074	.47402
#2	.48301	.48932	.94386	.49137	.49708	.48536	-.00073	5.0234	.48792	.49694	.50005	.47070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4647**	**49.754**	**1.0107**	**19.200**	**.47925**	**.49499**	F **5.7795**	**.49672**	**.96420**	**.99878**	**.27815**	**.97460**
Stddev	.0144	.102	.0077	.029	.00037	.00131	.0479	.00059	.00259	.00045	.00841	.00014
%RSD	.58504	.20431	.75952	.14923	.07732	.26520	.82869	.11887	.26834	.04521	3.0238	.01486
#1	2.4749	49.826	1.0162	19.180	.47899	.49592	5.8134	.49714	.96237	.99846	.28410	.97450
#2	2.4545	49.683	1.0053	19.221	.47951	.49407	5.7456	.49631	.96603	.99910	.27220	.97470
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							5.0000					
Range							10.490%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.94950**	**4.8710**	**10.424**	**.99498**	**.48367**	**.00836**	**.47457**	**1.0083**	**-.00279**	**.47765**	**.47511**	**.50328**
Stddev	.00359	.0179	.038	.00105	.00074	.00006	.00014	.0010	.02343	.00045	.00338	.00074
%RSD	.37772	.36802	.36802	.10582	.15261	.69935	.02920	.09688	840.47	.09411	.71051	.14703
#1	.95203	4.8583	10.397	.99423	.48419	.00832	.47467	1.0076	-.01936	.47733	.47273	.50276
#2	.94696	4.8837	10.451	.99572	.48314	.00841	.47447	1.0090	.01378	.47797	.47750	.50380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3992.6**	**54128.**	**4190.7**
Stddev	1.0	220.	14.0
%RSD	.02422	.40678	.33336
#1	3993.3	54283.	4180.8
#2	3991.9	53972.	4200.5

Sample Name: CCB Acquired: 11/13/2016 17:47:42 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00097**	**.00020**	**.00330**	**.00358**	**-.00016**	**-.00007**	**.00221**	**.00034**	**.00031**	**.00039**	**.00012**	**-.00095**
Stddev	.00042	.00030	.00165	.00019	.00012	.00001	.00015	.00601	.00002	.00015	.00024	.00014
%RSD	43.604	147.18	49.905	5.3676	76.143	14.775	6.7067	1794.3	6.9125	39.554	200.60	15.080
#1	.00127	-.00001	.00213	.00371	-.00007	-.00006	.00232	.00459	.00029	.00050	.00028	-.00085
#2	.00067	.00042	.00446	.00344	-.00024	-.00007	.00211	-.00392	.00032	.00028	-.00005	-.00105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00039**	**.23674**	**.00054**	**.00335**	**.00006**	**.00221**	F **.66139**	**.00003**	**-.00022**	**.00159**	F **.22609**	**.00190**
Stddev	.00272	.03222	.00039	.00042	.00001	.00061	.01467	.00015	.00200	.00088	.00433	.00216
%RSD	691.46	13.610	71.266	12.405	24.356	27.754	2.2175	491.10	903.58	55.341	1.9159	113.98
#1	.00153	.21396	.00027	.00306	.00005	.00178	.67176	-.00008	-.00164	.00222	.22915	.00037
#2	-.00231	.25952	.00082	.00365	.00007	.00265	.65102	.00014	.00119	.00097	.22302	.00343
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit							.50000				.10000	
Low Limit							-.50000				-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00353**	**.00750**	**.01605**	**-.00136**	**.00028**	**.00361**	**.00005**	**.00103**	**-.03365**	**-.00026**	**-.00063**	**-.00252**
Stddev	.00378	.00416	.00890	.00022	.00002	.00132	.00013	.00128	.01072	.00004	.00038	.00039
%RSD	107.25	55.416	55.416	15.864	8.1559	36.714	235.42	124.48	31.842	16.190	60.336	15.641
#1	.00620	.01044	.02234	-.00121	.00030	.00267	-.00004	.00194	-.04123	-.00029	-.00090	-.00280
#2	.00085	.00456	.00976	-.00151	.00026	.00454	.00014	.00012	-.02608	-.00023	-.00036	-.00224
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4075.8**	**56295.**	**4254.1**
Stddev	2.4	31.	7.4
%RSD	.05910	.05550	.17440
#1	4074.0	56272.	4248.9
#2	4077.5	56317.	4259.4

Sample Name: CCVL-4245706 Acquired: 11/13/2016 17:50:18 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01043**	**.09956**	**.01481**	**.09842**	**.00997**	**.00086**	**.10284**	**.20197**	**.00501**	**.01020**	**.01005**	**.01358**
Stddev	.00021	.00003	.00097	.00023	.00004	.00001	.00175	.00027	.00016	.00009	.00010	.00030
%RSD	2.0082	.02642	6.5317	.23180	.35684	.84172	1.7050	.13549	3.1497	.89778	1.0063	2.1874
#1	.01028	.09958	.01549	.09858	.01000	.00086	.10408	.20216	.00490	.01027	.01012	.01337
#2	.01058	.09955	.01413	.09826	.00995	.00087	.10160	.20178	.00512	.01014	.00998	.01379
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10400**	**3.1389**	**.02372**	**.19911**	**.00981**	**.01843**	F **1.5645**	**.04006**	**2.7464**	**.01033**	**.18325**	**.01811**
Stddev	.00111	.0610	.00066	.00059	.00005	.00050	.0134	.00002	.0030	.00133	.00313	.00117
%RSD	1.0659	1.9430	2.7865	.29773	.46904	2.7317	.85340	.06023	.10826	12.885	1.7057	6.4792
#1	.10321	3.1820	.02419	.19953	.00978	.01808	1.5740	.04004	2.7443	.00939	.18546	.01894
#2	.10478	3.0958	.02325	.19869	.00984	.01879	1.5551	.04007	2.7485	.01127	.18104	.01728
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							1.0000					
Range							30.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01258**	**.46032**	**.98508**	**.09714**	**.00989**	**.01557**	**.00922**	**.01561**	**.04510**	**.00918**	**.01768**	**.01563**
Stddev	.00521	.00062	.00133	.00236	.00006	.00159	.00025	.00048	.02035	.00003	.00022	.00031
%RSD	41.396	.13455	.13455	2.4316	.63587	10.224	2.6676	3.1038	45.117	.27866	1.2667	1.9822
#1	.01626	.45988	.98414	.09547	.00993	.01445	.00904	.01527	.05949	.00916	.01752	.01541
#2	.00890	.46076	.98602	.09881	.00984	.01670	.00939	.01596	.03071	.00920	.01784	.01584
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4088.4**	**56232.**	**4283.0**
Stddev	2.7	7.	11.6
%RSD	.06484	.01249	.27145
#1	4090.3	56237.	4274.7
#2	4086.6	56227.	4291.2

Sample Name: MB 280-350311/1-A Acquired: 11/13/2016 17:52:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/9 Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00077**	**.00364**	**.00059**	**.01180**	**.00024**	**-.00001**	**.00207**	**.00933**	**.00026**
Stddev	.00036	.00000	.00034	.00071	.00008	.00000	.00028	.00451	.00014
%RSD	46.668	.09310	57.501	6.0513	32.294	12.149	13.632	48.320	53.271
#1	.00052	.00364	.00083	.01130	.00030	-.00002	.00187	.01252	.00036
#2	.00103	.00364	.00035	.01231	.00019	-.00001	.00227	.00614	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00041**	**.00044**	**-.00072**	**.01532**	**.15947**	**.00055**	**.01454**	**.00026**	**-.00028**
Stddev	.00026	.00019	.00035	.00018	.03849	.00340	.00059	.00005	.00006
%RSD	61.681	44.001	48.341	1.1952	24.136	620.64	4.0768	19.834	21.278
#1	.00060	.00030	-.00047	.01519	.13225	.00295	.01496	.00030	-.00032
#2	.00023	.00057	-.00096	.01545	.18669	-.00186	.01412	.00022	-.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **.55270**	**-.00022**	**.00172**	**.00046**	F **.15821**	**-.00182**	**.00266**	**.00646**	**.01382**
Stddev	.00076	.00033	.00124	.00038	.00342	.00263	.00148	.02808	.06010
%RSD	.13753	148.71	72.004	81.801	2.1631	144.35	55.912	434.80	434.80
#1	.55216	-.00045	.00260	.00073	.16063	-.00368	.00371	.02632	.05632
#2	.55323	.00001	.00084	.00020	.15579	.00004	.00161	-.01340	-.02868
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None
High Limit	.50000				.10000				
Low Limit	-.50000				-.10000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00016**	**.00018**	**.00123**	**.00007**	**-.00006**	**-.00878**	**-.00022**	**.00114**	**.00011**
Stddev	.00105	.00008	.00024	.00008	.00080	.02356	.00024	.00037	.00272
%RSD	665.95	42.232	19.738	118.32	1372.4	268.29	111.76	32.546	2445.7
#1	-.00090	.00024	.00106	.00001	.00051	.00788	-.00039	.00141	.00204
#2	.00059	.00013	.00140	.00013	-.00062	-.02544	-.00005	.00088	-.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4114.6**	**56770.**	**4335.4**
Stddev	3.7	33.	3.8
%RSD	.09087	.05752	.08684
#1	4117.2	56747.	4332.7
#2	4111.9	56793.	4338.0

Sample Name: LCS 280-350311/2-A Acquired: 11/13/2016 17:55:26 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05158**	**1.8330**	**.99437**	**.98952**	**2.0477**	**.05008**	**2.0268**	**50.671**	**.10234**
Stddev	.00056	.0073	.00243	.00485	.0493	.00140	.0051	1.261	.00044
%RSD	1.0792	.39575	.24483	.48983	2.4056	2.7928	.25017	2.4883	.42770
#1	.05197	1.8381	.99609	.98609	2.0129	.04909	2.0232	49.780	.10203
#2	.05119	1.8279	.99265	.99295	2.0826	.05107	2.0303	51.563	.10265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49005**	**.20053**	**.23897**	**1.0065**	**51.498**	**1.0289**	**48.213**	**.47597**	**.96960**
Stddev	.00013	.00032	.00033	.0270	1.146	.0227	.031	.00037	.00204
%RSD	.02707	.15930	.13943	2.6805	2.2254	2.2013	.06477	.07734	.21058
#1	.48995	.20030	.23874	.98742	50.688	1.0129	48.235	.47571	.97105
#2	.49014	.20075	.23921	1.0256	52.309	1.0450	48.191	.47623	.96816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.128**	**.48951**	**9.8630**	**.49564**	**2.1071**	**.49406**	**1.9424**	**9.8000**	**20.972**
Stddev	1.558	.00027	.0018	.00047	.0045	.00332	.0049	.2683	.574
%RSD	3.0463	.05523	.01792	.09571	.21501	.67232	.25234	2.7382	2.7382
#1	50.027	.48971	9.8642	.49530	2.1039	.49171	1.9459	9.6102	20.566
#2	52.230	.48932	9.8617	.49597	2.1103	.49640	1.9389	9.9897	21.378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9660**	**.99320**	**.99098**	**.96354**	**1.9726**	**2.0772**	**.48624**	**.47397**	**.53264**
Stddev	.0001	.02077	.00381	.00185	.0037	.0082	.00007	.00086	.01434
%RSD	.00678	2.0913	.38489	.19232	.18627	.39389	.01453	.18226	2.6916
#1	1.9661	.97851	.98828	.96223	1.9752	2.0714	.48619	.47458	.52250
#2	1.9659	1.0079	.99367	.96485	1.9700	2.0829	.48629	.47335	.54278
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3923.0**	**53045.**	**4176.1**
Stddev	13.5	155.	69.7
%RSD	.34449	.29208	1.6700
#1	3913.4	52935.	4225.4
#2	3932.5	53154.	4126.8

Sample Name: 280-90259-G-1-C Acquired: 11/13/2016 17:57:43 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**.88498**	**.00259**	**.51611**	**.02288**	**-.00003**	**.00348**	**114.60**	**.00040**
Stddev	.00052	.00081	.00265	.00051	.00008	.00006	.00071	.03	.00004
%RSD	74.144	.09186	102.49	.09815	.34043	202.90	20.390	.02916	11.128
#1	.00107	.88555	.00071	.51576	.02293	.00001	.00298	114.63	.00043
#2	.00033	.88440	.00446	.51647	.02282	-.00007	.00398	114.58	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.00222**	**.00136**	**.42294**	**.93243**	**.12634**	**19.619**	**.04258**	**.00475**
Stddev	.00021	.00025	.00010	.00576	.09940	.00112	.007	.00010	.00067
%RSD	673.97	11.447	7.4046	1.3618	10.660	.88546	.03824	.22773	14.144
#1	-.00012	.00240	.00143	.41886	.86214	.12555	19.625	.04252	.00428
#2	.00018	.00204	.00129	.42701	1.0027	.12713	19.614	.04265	.00523
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **533.35**	**.00194**	**.04458**	**.00090**	F **291.36**	**-.00276**	**.01158**	**6.4498**	**13.802**
Stddev	.16	.00061	.00235	.00012	.17	.00036	.00070	.0362	.077
%RSD	.03008	31.647	5.2797	13.010	.05677	13.194	6.0822	.56048	.56048
#1	533.47	.00237	.04292	.00082	291.24	-.00302	.01108	6.4242	13.748
#2	533.24	.00150	.04625	.00098	291.48	-.00251	.01207	6.4753	13.857
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00058**	**5.1208**	**-.00041**	**.00652**	**.00335**	**.00893**	**.00248**	**.00478**	**-.00001**
Stddev	.00017	.0051	.00306	.00029	.00173	.01220	.00049	.00057	.00051
%RSD	29.651	.09893	746.69	4.5096	51.549	136.52	19.826	12.004	6497.0
#1	.00071	5.1244	-.00257	.00673	.00213	.01756	.00283	.00519	-.00037
#2	.00046	5.1173	.00175	.00631	.00457	.00031	.00213	.00437	.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3821.7**	**51398.**	**4323.3**
Stddev	8.7	190.	3.8
%RSD	.22722	.36964	.08801
#1	3815.6	51263.	4320.6
#2	3827.8	51532.	4326.0

Sample Name: 280-90259-G-3-E Acquired: 11/13/2016 18:00:19 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00054**	**1.9239**	**.00256**	**.84113**	**.03651**	**.00007**	**.00206**	**73.017**	**.00041**
Stddev	.00047	.0086	.00108	.00103	.00015	.00003	.00275	.396	.00001
%RSD	86.413	.44497	42.001	.12222	.40330	46.734	133.75	.54293	2.0085
#1	.00021	1.9299	.00332	.84040	.03661	.00010	.00011	73.297	.00041
#2	.00087	1.9178	.00180	.84186	.03640	.00005	.00400	72.736	.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00354**	**.00183**	**1.1452**	**1.6023**	**.14050**	**15.309**	**.03925**	**.01460**
Stddev	.00005	.00011	.00035	.0006	.0568	.00163	.008	.00005	.00026
%RSD	14.010	3.1720	18.974	.04951	3.5437	1.1635	.05508	.13036	1.8047
#1	.00037	.00362	.00208	1.1448	1.5622	.13934	15.315	.03922	.01442
#2	.00030	.00346	.00158	1.1456	1.6425	.14165	15.303	.03929	.01479
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **819.09**	**.00160**	**.06113**	**.00146**	F **411.35**	**-.00225**	**.01076**	**8.9640**	**19.183**
Stddev	3.97	.00032	.00127	.00100	.60	.00125	.00255	.0214	.046
%RSD	.48409	20.037	2.0719	68.376	.14568	55.865	23.704	.23828	.23828
#1	821.89	.00182	.06023	.00075	410.93	-.00136	.00895	8.9489	19.151
#2	816.29	.00137	.06202	.00217	411.78	-.00313	.01256	8.9791	19.215
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00113**	**3.9533**	**-.00047**	**.01655**	**-.00064**	**.03300**	**.00473**	**.00528**	**.00027**
Stddev	.00071	.0227	.00170	.00012	.00085	.02769	.00019	.00018	.00048
%RSD	63.139	.57525	358.01	.75368	132.69	83.913	4.0361	3.3822	174.64
#1	-.00163	3.9694	.00073	.01646	-.00004	.01342	.00460	.00515	-.00006
#2	-.00062	3.9373	-.00167	.01664	-.00124	.05258	.00487	.00541	.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3805.6**	**50564.**	**4294.4**
Stddev	8.1	332.	1.3
%RSD	.21272	.65748	.03004
#1	3799.8	50799.	4293.5
#2	3811.3	50329.	4295.3

Sample Name: 280-90259-G-4-C Acquired: 11/13/2016 18:02:55 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00082**	**.49077**	**.00032**	**1.3341**	**.01350**	**.00003**	**.00265**	**16.244**	**.00024**
Stddev	.00017	.00047	.00188	.0020	.00032	.00001	.00070	.010	.00007
%RSD	20.882	.09564	592.49	.15023	2.3557	39.338	26.283	.06023	30.102
#1	.00070	.49043	.00165	1.3327	.01328	.00004	.00216	16.251	.00019
#2	.00094	.49110	-.00101	1.3355	.01373	.00003	.00314	16.237	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00019**	**.00302**	**.00075**	**.24457**	**1.3797**	**.21016**	**3.8103**	**.00637**	**.00266**
Stddev	.00001	.00023	.00000	.00489	.0982	.00118	.0132	.00011	.00023
%RSD	4.2960	7.5205	.33899	2.0003	7.1189	.56172	.34622	1.7522	8.5042
#1	-.00019	.00286	.00075	.24803	1.3102	.21099	3.8197	.00629	.00250
#2	-.00018	.00318	.00075	.24111	1.4491	.20932	3.8010	.00645	.00282
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **834.44**	**.00060**	**.02933**	**.00155**	F **321.39**	**-.00074**	**.00109**	**5.0258**	**10.755**
Stddev	.20	.00018	.00015	.00017	.09	.00038	.00390	.0002	.000
%RSD	.02428	30.507	.51997	10.893	.02792	51.246	357.13	.00340	.00340
#1	834.29	.00047	.02922	.00143	321.32	-.00100	-.00167	5.0257	10.755
#2	834.58	.00073	.02944	.00167	321.45	-.00047	.00385	5.0259	10.755
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00024**	**1.0981**	**-.00145**	**.00341**	**.00060**	**.05246**	**.00670**	**.00404**	**.00099**
Stddev	.00115	.0013	.00228	.00008	.00095	.04077	.00059	.00016	.00112
%RSD	486.34	.11997	157.75	2.3261	157.98	77.722	8.8036	4.0510	113.09
#1	.00058	1.0971	-.00306	.00336	-.00007	.08129	.00712	.00415	.00179
#2	-.00105	1.0990	.00017	.00347	.00127	.02363	.00628	.00392	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3778.4**	**50566.**	**4286.4**
Stddev	3.3	206.	5.6
%RSD	.08673	.40719	.13020
#1	3780.8	50420.	4290.4
#2	3776.1	50712.	4282.5

Sample Name: 280-90259-G-5-C Acquired: 11/13/2016 18:05:31 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00085**	**4.3862**	**.00122**	**1.6085**	**.05483**	**.00030**	**-.00048**	**36.422**	**.00031**
Stddev	.00048	.0026	.00101	.0007	.00049	.00009	.00014	.094	.00006
%RSD	56.332	.05975	83.053	.04386	.89944	28.688	28.377	.25781	18.164
#1	.00051	4.3880	.00050	1.6080	.05448	.00036	-.00039	36.356	.00035
#2	.00118	4.3843	.00194	1.6090	.05518	.00024	-.00058	36.489	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00136**	**.00312**	**.00208**	**2.9768**	**1.9952**	**.10553**	**11.135**	**.17262**	**.00714**
Stddev	.00001	.00017	.00005	.0066	.0664	.00020	.002	.00057	.00034
%RSD	.57403	5.3225	2.4709	.22296	3.3256	.19187	.01865	.33022	4.8264
#1	.00136	.00301	.00204	2.9721	1.9483	.10567	11.133	.17303	.00690
#2	.00135	.00324	.00211	2.9815	2.0421	.10539	11.136	.17222	.00738
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **708.20**	**.00232**	**.12852**	**.00402**	F **228.95**	**-.00119**	**.00211**	**12.187**	**26.080**
Stddev	3.16	.00037	.00137	.00043	.09	.00266	.00265	.064	.136
%RSD	.44662	15.839	1.0688	10.567	.03872	222.22	125.51	.52240	.52240
#1	705.97	.00258	.12950	.00372	229.02	.00068	.00398	12.142	25.984
#2	710.44	.00206	.12755	.00432	228.89	-.00307	.00024	12.232	26.177
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00147**	**1.7545**	**.00145**	**.04298**	**.00175**	**.08299**	**.00827**	**.01209**	**.00337**
Stddev	.00038	.0034	.00398	.00050	.00121	.01467	.00008	.00091	.00315
%RSD	25.702	.19481	274.32	1.1695	69.000	17.671	.95526	7.5420	93.637
#1	-.00120	1.7521	-.00136	.04333	.00090	.09336	.00821	.01144	.00560
#2	-.00173	1.7569	.00427	.04262	.00261	.07262	.00832	.01273	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3842.5**	**51095.**	**4310.1**
Stddev	6.0	140.	35.7
%RSD	.15584	.27433	.82746
#1	3838.2	50996.	4335.3
#2	3846.7	51194.	4284.9

Sample Name: 280-90259-E-6-C Acquired: 11/13/2016 18:08:06 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**1.7126**	**.00153**	**1.6282**	**.05273**	**.00008**	**.00056**	**37.931**	**.00042**
Stddev	.00002	.0149	.00351	.0022	.00004	.00002	.00072	.119	.00020
%RSD	2.5062	.86699	229.33	.13181	.07020	20.898	129.23	.31325	46.778
#1	.00071	1.7021	.00401	1.6266	.05276	.00006	.00005	38.015	.00056
#2	.00069	1.7231	-.00095	1.6297	.05271	.00009	.00107	37.847	.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00014**	**.00354**	**.00266**	**.93405**	**1.6676**	**.08262**	**11.141**	**.03530**	**.02661**
Stddev	.00004	.00020	.00008	.00127	.1048	.00080	.033	.00005	.00005
%RSD	28.021	5.5223	2.9533	.13604	6.2850	.96911	.29668	.13058	.18686
#1	.00011	.00368	.00260	.93315	1.5935	.08205	11.164	.03526	.02657
#2	.00017	.00341	.00272	.93495	1.7417	.08318	11.118	.03533	.02664
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **856.87**	**.00284**	**.08281**	**.00122**	F **291.52**	**-.00229**	**-.00026**	**8.6998**	**18.618**
Stddev	.18	.00047	.00106	.00090	.25	.00281	.00020	.0113	.024
%RSD	.02141	16.399	1.2861	73.936	.08647	122.69	77.649	.13007	.13007
#1	856.74	.00251	.08206	.00058	291.34	-.00428	-.00012	8.7078	18.635
#2	857.00	.00317	.08356	.00186	291.70	-.00030	-.00041	8.6918	18.600
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00067**	**1.5057**	**-.00186**	**.01174**	**.00078**	**.12815**	**.00632**	**.00738**	**-.00149**
Stddev	.00179	.0015	.00186	.00027	.00263	.01439	.00016	.00043	.00047
%RSD	265.60	.10313	100.18	2.3350	335.26	11.225	2.5984	5.7574	31.249
#1	.00059	1.5046	-.00054	.01194	.00265	.11798	.00644	.00708	-.00116
#2	-.00194	1.5068	-.00317	.01155	-.00108	.13833	.00621	.00768	-.00182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3776.2**	**50588.**	**4307.7**
Stddev	9.0	144.	28.1
%RSD	.23836	.28469	.65141
#1	3782.5	50486.	4287.8
#2	3769.8	50690.	4327.5

Sample Name: 280-90259-E-7-C Acquired: 11/13/2016 18:10:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00103**	**.13229**	**-.00014**	**2.2903**	**.02279**	**-.00013**	**.00209**	**54.427**	**.00037**
Stddev	.00036	.00068	.00332	.0003	.00018	.00011	.00151	.067	.00011
%RSD	34.767	.51028	2333.8	.01502	.79192	89.625	72.279	.12229	29.646
#1	.00078	.13277	.00221	2.2901	.02292	-.00005	.00102	54.380	.00030
#2	.00128	.13181	-.00249	2.2905	.02267	-.00021	.00316	54.474	.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00052**	**.00227**	**.00150**	**.34193**	**6.5124**	**.38536**	**9.1710**	**.37136**	**.02340**
Stddev	.00014	.00009	.00023	.00157	.1026	.00311	.0434	.00026	.00023
%RSD	27.379	3.8019	15.510	.45840	1.5761	.80744	.47315	.07078	.97467
#1	.00042	.00233	.00133	.34082	6.4398	.38316	9.1404	.37118	.02356
#2	.00062	.00221	.00166	.34304	6.5850	.38756	9.2017	.37155	.02324
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1232.5**	**.00490**	**.05036**	**.00083**	F **600.05**	**-.00267**	**-.00205**	**5.9164**	**12.661**
Stddev	.8	.00034	.00204	.00065	.05	.00134	.00019	.0038	.008
%RSD	.06127	6.8545	4.0411	78.102	.00815	50.306	9.3805	.06469	.06469
#1	1231.9	.00514	.04892	.00037	600.08	-.00362	-.00219	5.9137	12.655
#2	1233.0	.00467	.05180	.00129	600.01	-.00172	-.00191	5.9191	12.667
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00060**	**2.1806**	**-.00223**	**.00125**	**.00238**	**.32261**	**.00179**	**.00351**	**-.00019**
Stddev	.00035	.0012	.00051	.00002	.00002	.01409	.00015	.00003	.00035
%RSD	57.452	.05636	22.644	1.8588	.92993	4.3687	8.5487	.95357	185.13
#1	-.00036	2.1797	-.00188	.00124	.00240	.31265	.00168	.00348	.00006
#2	-.00085	2.1815	-.00259	.00127	.00237	.33258	.00190	.00353	-.00044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3705.6**	**48887.**	**4288.3**
Stddev	28.9	194.	29.1
%RSD	.78008	.39586	.67917
#1	3685.2	49023.	4308.9
#2	3726.1	48750.	4267.7

Sample Name: CCVH-4239353 Acquired: 11/13/2016 18:13:19 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2714
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00207**	**48.830**	**.00019**	**.00743**	**-.00025**	**.00014**	**.97483**	**.00158**	**.00046**	**-.00060**	**.00028**	**-.00062**	**49.282**
Stddev	.00014	.022	.00115	.00112	.00013	.00002	.00061	.00487	.00018	.00021	.00002	.00049	.234
%RSD	6.9837	.04428	618.24	15.082	50.922	16.498	.06280	307.76	38.876	35.813	6.3236	78.689	.47499
#1	.00217	48.814	.00100	.00822	-.00016	.00016	.97526	.00503	.00033	-.00075	.00026	-.00027	49.448
#2	.00197	48.845	-.00063	.00663	-.00034	.00013	.97440	-.00186	.00059	-.00044	.00029	-.00096	49.117
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.32893**	**-.00010**	**.04451**	**.00073**	**-.00159**	**243.19**	**.00086**	**.00552**	**.00157**	**5.0864**	**.00292**	**-.00470**	**-.01770**
Stddev	.08235	.00044	.00241	.00009	.00052	.49	.00047	.00013	.00080	.0160	.00056	.00169	.01735
%RSD	25.036	459.66	5.4064	11.990	32.473	.20339	54.948	2.3917	50.562	.31496	19.193	35.865	98.012
#1	.38716	-.00041	.04621	.00079	-.00196	242.84	.00052	.00543	.00101	5.0977	.00332	-.00351	-.02997
#2	.27070	.00022	.04281	.00066	-.00123	243.54	.00119	.00562	.00214	5.0751	.00252	-.00590	-.00543
Check ?	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None	None	None
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.03788**	**.00003**	**.00054**	**4.7579**	**.01604**	**-.00027**	**10.192**	**.01384**	**.00015**	**.09998**
Stddev	.03713	.00007	.00017	.0052	.00022	.00090	.034	.00059	.00007	.00047
%RSD	98.012	241.20	30.286	.10997	1.3742	338.52	.33552	4.2980	43.548	.46847
#1	-.06414	-.00002	.00066	4.7616	.01620	.00037	10.216	.01426	.00020	.10031
#2	-.01163	.00008	.00043	4.7542	.01589	-.00091	10.167	.01342	.00010	.09965
Check ?	None	None	None	Chk Pass	None	None	Chk Pass	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3909.1**	**53419.**	**4283.7**
Stddev	14.3	40.	16.2
%RSD	.36498	.07543	.37724
#1	3919.2	53390.	4272.3
#2	3899.0	53447.	4295.1

Sample Name: CCV-4239351 Acquired: 11/13/2016 18:15:49 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48413**	**.49001**	**.95971**	**.49234**	**.49632**	**.48534**	**.00008**	**4.9799**	**.48737**	**.49817**	**.50028**	**.47456**
Stddev	.00177	.00422	.00275	.00041	.00003	.00051	.00242	.0022	.00033	.00098	.00022	.00420
%RSD	.36653	.86069	.28697	.08238	.00600	.10606	3133.1	.04514	.06873	.19617	.04463	.88593
#1	.48287	.48703	.95776	.49263	.49630	.48498	.00179	4.9814	.48713	.49748	.50012	.47159
#2	.48538	.49299	.96165	.49205	.49634	.48571	-.00163	4.9783	.48760	.49886	.50044	.47753
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4484**	**49.909**	**1.0072**	**19.110**	**.47817**	**.49450**	F **5.6594**	**.49789**	**.96248**	**.99696**	**.13774**	**.97362**
Stddev	.0084	.180	.0068	.001	.00066	.00024	.0164	.00119	.00234	.00304	.00526	.00026
%RSD	.34427	.36111	.67328	.00698	.13879	.04837	.28989	.23904	.24338	.30488	3.8167	.02641
#1	2.4544	50.036	1.0120	19.109	.47770	.49467	5.6710	.49705	.96414	.99481	.14146	.97380
#2	2.4425	49.781	1.0024	19.111	.47864	.49433	5.6478	.49873	.96083	.99911	.13403	.97344
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							5.0000					
Range							10.490%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.94902**	**4.8836**	**10.451**	**.99200**	**.48459**	**.00955**	**.47492**	**1.0102**	**-.02351**	**.47571**	**.47177**	**.50257**
Stddev	.00558	.0016	.003	.00378	.00134	.00061	.00055	.0031	.00895	.00064	.00127	.00192
%RSD	.58788	.03338	.03338	.38071	.27552	6.4333	.11500	.30356	38.053	.13493	.26923	.38154
#1	.95296	4.8847	10.453	.98933	.48553	.00912	.47453	1.0123	-.02984	.47525	.47087	.50121
#2	.94507	4.8824	10.448	.99467	.48365	.00999	.47530	1.0080	-.01719	.47616	.47267	.50392
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3980.0**	**54434.**	**4204.3**
Stddev	24.5	71.	37.1
%RSD	.61503	.13066	.88350
#1	3997.3	54485.	4178.1
#2	3962.7	54384.	4230.6

Sample Name: CCB Acquired: 11/13/2016 18:18:10 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**.00006**	**.00228**	**.00366**	**.00002**	**.00005**	**.00244**	**-.00071**	**.00032**	**.00035**	**.00040**	**-.00119**
Stddev	.00115	.00011	.00070	.00010	.00034	.00013	.00017	.00616	.00017	.00004	.00009	.00046
%RSD	134.11	167.63	30.748	2.6422	1732.6	281.44	6.9250	862.46	54.057	12.398	21.657	38.451
#1	.00004	-.00001	.00278	.00373	.00026	-.00004	.00232	-.00507	.00020	.00032	.00034	-.00087
#2	.00167	.00014	.00179	.00359	-.00022	.00014	.00255	.00364	.00044	.00038	.00047	-.00152
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00151**	**.21726**	**.00187**	**-.00210**	**.00005**	**.00208**	F **.58375**	**-.00009**	**.00072**	**.00036**	F **.11217**	**.00360**
Stddev	.00088	.00646	.00132	.00121	.00001	.00077	.01919	.00036	.00007	.00184	.00821	.00111
%RSD	58.293	2.9731	70.798	57.647	12.203	37.205	3.2870	397.33	9.0180	513.51	7.3183	30.914
#1	.00213	.21269	.00281	-.00124	.00004	.00153	.59732	-.00034	.00077	.00166	.11797	.00281
#2	.00089	.22182	.00093	-.00295	.00005	.00263	.57018	.00016	.00068	-.00095	.10636	.00439
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit							.50000				.10000	
Low Limit							-.50000				-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00204**	**-.00832**	**-.01782**	**-.00075**	**.00023**	**.00264**	**.00007**	**.00089**	**-.03274**	**.00003**	**-.00034**	**-.00110**
Stddev	.00064	.00857	.01834	.00002	.00007	.00171	.00031	.00076	.06431	.00020	.00003	.00068
%RSD	31.393	102.95	102.95	2.8150	32.056	64.973	458.79	85.362	196.43	566.48	8.1919	62.255
#1	.00159	-.00226	-.00485	-.00073	.00018	.00143	.00029	.00035	.01273	-.00010	-.00036	-.00158
#2	.00249	-.01439	-.03078	-.00076	.00028	.00385	-.00015	.00143	-.07821	.00017	-.00032	-.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4019.7**	**55175.**	**4204.1**
Stddev	2.7	5.	32.7
%RSD	.06644	.00958	.77676
#1	4021.6	55179.	4227.2
#2	4017.8	55171.	4181.0

Sample Name: CCVL-4245706 Acquired: 11/13/2016 18:20:46 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01063**	**.10020**	**.01933**	**.09843**	**.00974**	**.00098**	**.10678**	**.19595**	**.00486**	**.01029**	**.01013**	**.01400**
Stddev	.00071	.00054	.00347	.00044	.00007	.00001	.00044	.00211	.00016	.00001	.00006	.00066
%RSD	6.6631	.53605	17.950	.44482	.67818	.65422	.41413	1.0754	3.2372	.05349	.59544	4.7436
#1	.01013	.10058	.02178	.09812	.00969	.00098	.10647	.19744	.00475	.01030	.01009	.01447
#2	.01113	.09982	.01688	.09874	.00979	.00097	.10709	.19446	.00498	.01029	.01018	.01353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10159**	**3.1466**	**.02141**	**.19847**	**.00997**	**.01872**	F **1.4920**	**.04050**	**2.7474**	**.00930**	**.09838**	**.01739**
Stddev	.00180	.0357	.00072	.00223	.00001	.00042	.0042	.00043	.0019	.00128	.00038	.00018
%RSD	1.7703	1.1331	3.3650	1.1255	.06694	2.2384	.27803	1.0654	.06809	13.733	.39018	1.0138
#1	.10286	3.1213	.02090	.19689	.00997	.01842	1.4949	.04020	2.7487	.00839	.09865	.01726
#2	.10032	3.1718	.02192	.20005	.00996	.01902	1.4891	.04081	2.7461	.01020	.09811	.01751
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							1.0000					
Range							30.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01656**	**.47766**	**1.0222**	**.09692**	**.00979**	**.01624**	**.00887**	**.01654**	F **.02190**	**.00931**	**.01857**	**.01680**
Stddev	.00063	.01358	.0291	.00090	.00008	.00107	.00006	.00058	.00256	.00040	.00032	.00016
%RSD	3.7863	2.8425	2.8425	.92888	.82098	6.5686	.65951	3.4912	11.672	4.2968	1.7030	.94188
#1	.01700	.46806	1.0017	.09756	.00985	.01700	.00892	.01695	.02370	.00903	.01879	.01669
#2	.01611	.48726	1.0427	.09629	.00973	.01549	.00883	.01613	.02009	.00959	.01834	.01691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4043.2**	**55797.**	**4225.3**
Stddev	7.5	109.	12.0
%RSD	.18571	.19581	.28488
#1	4048.5	55874.	4216.7
#2	4037.9	55720.	4233.8

Sample Name: 280-90259-S-8-D Acquired: 11/13/2016 18:23:19 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00102**	**.19938**	**.00274**	**1.2393**	**.00869**	**.00003**	**.00131**	**8.6548**	**.00026**
Stddev	.00053	.00144	.00264	.0001	.00008	.00006	.00030	.0069	.00009
%RSD	52.239	.72345	96.344	.00953	.89291	165.60	23.150	.07921	33.611
#1	.00064	.20040	.00460	1.2392	.00863	.00007	.00152	8.6499	.00032
#2	.00140	.19836	.00087	1.2394	.00874	-.00001	.00109	8.6596	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00006**	**.00152**	**.00196**	**.11518**	**1.1485**	**.36044**	**.90939**	**.01364**	**.00611**
Stddev	.00015	.00003	.00004	.00117	.0325	.00080	.00087	.00007	.00003
%RSD	258.10	2.2443	2.0503	1.0131	2.8334	.22329	.09579	.52756	.44939
#1	.00016	.00154	.00193	.11601	1.1255	.35988	.90878	.01369	.00609
#2	-.00005	.00149	.00199	.11436	1.1715	.36101	.91001	.01359	.00613
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **644.84**	**.00440**	**.01043**	**.00079**	F **306.78**	**-.00075**	**-.00381**	**4.1489**	**8.8786**
Stddev	1.82	.00014	.00007	.00198	.02	.00171	.00008	.0050	.0108
%RSD	.28293	3.1612	.66020	252.42	.00574	229.21	2.1056	.12171	.12171
#1	646.13	.00450	.01048	.00219	306.79	.00046	-.00386	4.1453	8.8710
#2	643.55	.00430	.01038	-.00062	306.76	-.00196	-.00375	4.1525	8.8863
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00098**	**2.4411**	**-.00040**	**.00314**	**-.00134**	**-.00298**	**.00194**	**.02025**	**.00084**
Stddev	.00028	.0028	.00051	.00004	.00165	.00908	.00014	.00029	.00093
%RSD	29.193	.11564	126.21	1.2609	123.09	304.63	7.4357	1.4315	110.89
#1	-.00118	2.4431	-.00004	.00316	-.00250	.00344	.00183	.02004	.00150
#2	-.00077	2.4391	-.00077	.00311	-.00017	-.00940	.00204	.02045	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3773.3**	**50227.**	**4175.3**
Stddev	15.2	124.	48.3
%RSD	.40246	.24782	1.1571
#1	3784.0	50139.	4141.1
#2	3762.6	50315.	4209.4

Sample Name: 280-90259-S-8-D SD@5 Acquired: 11/13/2016 18:25:55 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.04214**	**.00443**	**.26216**	**.00155**	**-.00012**	**.00226**	**1.7600**	**.00018**
Stddev	.00049	.00084	.00173	.00123	.00027	.00014	.00060	.0101	.00001
%RSD	58.445	1.9870	39.113	.46953	17.749	120.23	26.569	.57606	3.4015
#1	.00049	.04154	.00566	.26129	.00135	-.00022	.00268	1.7529	.00017
#2	.00118	.04273	.00321	.26303	.00174	-.00002	.00183	1.7672	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00037**	**.00037**	**-.00035**	**.02667**	**.37371**	**.07352**	**.19191**	**.00278**	**.00098**
Stddev	.00014	.00011	.00011	.00094	.04766	.00047	.00154	.00001	.00034
%RSD	36.113	30.851	32.164	3.5134	12.753	.63469	.80013	.23689	35.127
#1	.00028	.00045	-.00043	.02601	.40741	.07385	.19300	.00279	.00122
#2	.00047	.00029	-.00027	.02733	.34001	.07319	.19083	.00278	.00073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**131.23**	**.00104**	**.00198**	**.00054**	**61.708**	**-.00159**	**-.00091**	**.80836**	**1.7299**
Stddev	.54	.00001	.00170	.00062	.108	.00073	.00089	.01066	.0228
%RSD	.40835	1.3706	85.695	115.33	.17438	46.105	97.769	1.3193	1.3193
#1	131.61	.00105	.00078	.00098	61.632	-.00211	-.00154	.81590	1.7460
#2	130.85	.00103	.00318	.00010	61.784	-.00107	-.00028	.80082	1.7138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**.48938**	**.00156**	**.00068**	**.00051**	**-.05692**	**.00018**	**.00378**	**-.00106**
Stddev	.00074	.00064	.00069	.00038	.00047	.00383	.00031	.00004	.00199
%RSD	433.85	.13128	44.120	56.007	92.332	6.7334	174.31	1.1863	188.21
#1	.00035	.48892	.00204	.00041	.00085	-.05963	-.00004	.00381	.00035
#2	-.00069	.48983	.00107	.00095	.00018	-.05421	.00039	.00375	-.00247
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3971.7**	**53313.**	**4251.7**
Stddev	23.4	45.	43.9
%RSD	.59023	.08347	1.0318
#1	3955.1	53282.	4282.7
#2	3988.3	53345.	4220.6

Sample Name: 280-90259-S-8-E MS Acquired: 11/13/2016 18:28:28 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05345**	**2.0375**	W **2.3882**	**1.0245**	**2.2959**	**2.0099**	**.04847**	W **2.0100**	**57.884**
Stddev	.00025	.0108	.0046	.0020	.0010	.0032	.00015	.0041	.091
%RSD	.47324	.52865	.19150	.19585	.04532	.15808	.30970	.20313	.15728
#1	.05327	2.0451	2.3850	1.0231	2.2952	2.0077	.04836	2.0071	57.820
#2	.05363	2.0299	2.3915	1.0259	2.2967	2.0122	.04857	2.0129	57.948
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit			500.00					2.0000	
Low Limit			3.2000					-.20000	

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10394**	**.47981**	**.19562**	**.24059**	**1.1205**	**53.454**	**1.4052**	**46.370**	**.48109**
Stddev	.00003	.00186	.00091	.00023	.0047	.142	.0025	.016	.00107
%RSD	.02980	.38693	.46374	.09734	.41559	.26561	.17604	.03399	.22182
#1	.10396	.48113	.19626	.24076	1.1238	53.354	1.4035	46.381	.48034
#2	.10391	.47850	.19498	.24043	1.1173	53.555	1.4070	46.359	.48184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.95860**	W **730.67**	**.48493**	**10.407**	**.46763**	F **333.46**	**.49657**	**2.0243**	**14.284**
Stddev	.00678	.10	.00305	.016	.00132	.28	.00156	.0044	.014
%RSD	.70705	.01419	.62816	.15498	.28282	.08411	.31367	.21867	.09974
#1	.96339	730.75	.48708	10.418	.46857	333.26	.49768	2.0211	14.294
#2	.95381	730.60	.48277	10.396	.46670	333.66	.49547	2.0274	14.274
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		500.00				200.00			
Low Limit		11.000				-.20000			

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.568**	**1.9060**	**3.5620**	**.97855**	**.95835**	**1.7807**	**2.0423**	**.48500**	**.50109**
Stddev	.030	.0108	.0062	.00337	.00194	.0118	.0003	.00165	.00223
%RSD	.09974	.56553	.17404	.34402	.20271	.66509	.01536	.34032	.44566
#1	30.589	1.9136	3.5576	.97617	.95697	1.7891	2.0421	.48383	.49951
#2	30.546	1.8984	3.5664	.98093	.95972	1.7724	2.0425	.48616	.50267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.52569**
Stddev	.00387
%RSD	.73584
#1	.52295
#2	.52842
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90259-S-8-E MS Acquired: 11/13/2016 18:28:28 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3749.2**	**50281.**	**4275.7**
Stddev	32.7	111.	3.2
%RSD	.87321	.22115	.07495
#1	3726.1	50359.	4277.9
#2	3772.4	50202.	4273.4

Sample Name: 280-90259-S-8-F MSD Acquired: 11/13/2016 18:30:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05316**	**2.0333**	W **2.4349**	**1.0132**	**2.1931**	**2.0007**	**.04861**	**1.9744**	**57.558**
Stddev	.00060	.0055	.0004	.0089	.0079	.0059	.00008	.0079	.243
%RSD	1.1235	.27166	.01814	.87307	.35866	.29215	.17454	.40145	.42168
#1	.05273	2.0372	2.4346	1.0069	2.1876	2.0049	.04855	1.9688	57.730
#2	.05358	2.0294	2.4352	1.0195	2.1987	1.9966	.04867	1.9800	57.387
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			500.00						
Low Limit			3.2000						

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10299**	**.47812**	**.19447**	**.23743**	**1.1107**	**53.531**	**1.3819**	**46.646**	**.48177**
Stddev	.00012	.00026	.00013	.00112	.0010	.301	.0021	.070	.00062
%RSD	.11259	.05532	.06880	.47030	.09404	.56308	.15221	.14902	.12950
#1	.10307	.47830	.19457	.23664	1.1099	53.744	1.3834	46.597	.48133
#2	.10291	.47793	.19438	.23822	1.1114	53.318	1.3804	46.695	.48221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.95809**	W **693.69**	**.48234**	**10.294**	**.46683**	F **312.33**	**.49184**	**1.9943**	**14.030**
Stddev	.00159	1.40	.00022	.029	.00207	.66	.00080	.0120	.053
%RSD	.16582	.20220	.04641	.28345	.44429	.21216	.16186	.60387	.38132
#1	.95921	694.69	.48250	10.273	.46829	311.86	.49240	1.9858	14.068
#2	.95696	692.70	.48218	10.315	.46536	312.79	.49127	2.0028	13.992
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		500.00				200.00			
Low Limit		11.000				-.20000			

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.024**	**1.8966**	**3.4185**	**.97942**	**.95827**	**1.7771**	**2.0610**	**.48506**	**.50607**
Stddev	.114	.0006	.0148	.00217	.00118	.0024	.0117	.00121	.00179
%RSD	.38132	.03268	.43400	.22117	.12339	.13228	.56691	.25041	.35337
#1	30.105	1.8961	3.4290	.97789	.95744	1.7788	2.0528	.48420	.50480
#2	29.943	1.8970	3.4080	.98095	.95911	1.7755	2.0693	.48592	.50733
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.52238**
Stddev	.00156
%RSD	.29831
#1	.52348
#2	.52127
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90259-S-8-F MSD Acquired: 11/13/2016 18:30:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3720.3**	**49691.**	**4184.4**
Stddev	16.4	19.	52.1
%RSD	.44052	.03918	1.2441
#1	3708.7	49705.	4147.5
#2	3731.9	49678.	4221.2

Sample Name: 280-90259-S-8-D PDS Acquired: 11/13/2016 18:33:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00415**	**1.1517**	**.21990**	**1.3146**	**.11573**	**.05243**	**.00400**	**29.234**	**.05510**
Stddev	.00036	.0037	.00030	.0019	.00006	.00021	.00037	.087	.00011
%RSD	8.7086	.31838	.13642	.14530	.05181	.39446	9.3199	.29915	.20079
#1	.00389	1.1543	.21969	1.3159	.11568	.05258	.00427	29.296	.05518
#2	.00440	1.1491	.22011	1.3132	.11577	.05229	.00374	29.173	.05503
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05155**	**.05351**	**.05390**	**1.1674**	**23.932**	**.46209**	**20.201**	**.06453**	**.05727**
Stddev	.00008	.00023	.00074	.0004	.103	.00191	.030	.00020	.00053
%RSD	.14714	.43285	1.3694	.03585	.43236	.41351	.14910	.31142	.92299
#1	.05150	.05367	.05442	1.1677	23.859	.46344	20.180	.06467	.05690
#2	.05160	.05334	.05337	1.1671	24.005	.46074	20.223	.06439	.05764
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **644.06**	**.05652**	**2.2494**	**.10231**	F **300.54**	**.09766**	**.22131**	**8.8387**	**18.915**
Stddev	.36	.00046	.0102	.00005	.51	.00084	.00024	.0342	.073
%RSD	.05582	.81014	.45504	.04428	.16924	.85842	.10619	.38717	.38717
#1	644.31	.05619	2.2567	.10227	300.90	.09825	.22148	8.8145	18.863
#2	643.80	.05684	2.2422	.10234	300.18	.09707	.22114	8.8629	18.967
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09396**	**2.4256**	**.21118**	**.05227**	**.19941**	**.54268**	**.05596**	**.23331**	**.05544**
Stddev	.00005	.0022	.00132	.00051	.00109	.03447	.00002	.00027	.00104
%RSD	.05525	.09059	.62421	.98239	.54620	6.3514	.04049	.11581	1.8792
#1	.09392	2.4241	.21025	.05191	.20018	.56705	.05597	.23350	.05618
#2	.09400	2.4272	.21211	.05264	.19864	.51831	.05594	.23312	.05470
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3782.4**	**50305.**	**4272.8**
Stddev	25.9	28.	7.9
%RSD	.68594	.05588	.18404
#1	3764.1	50285.	4267.2
#2	3800.7	50325.	4278.4

Sample Name: 280-90259-G-9-C Acquired: 11/13/2016 18:35:45 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00170**	**.49561**	**.00070**	**1.4806**	**.01256**	**.00003**	**.00058**	**5.7739**	**.00030**
Stddev	.00024	.00084	.00082	.0015	.00016	.00006	.00053	.0028	.00018
%RSD	14.028	.16944	117.04	.10074	1.2708	201.25	91.832	.04794	59.142
#1	.00153	.49502	.00012	1.4816	.01267	.00007	.00020	5.7758	.00042
#2	.00186	.49621	.00128	1.4795	.01245	-.00001	.00095	5.7719	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00254**	**.00203**	**.38853**	**1.3351**	**.29529**	**.69238**	**.01060**	**.02137**
Stddev	.00004	.00032	.00017	.00074	.0027	.00128	.00383	.00003	.00016
%RSD	12.810	12.605	8.5815	.18986	.20533	.43283	.55273	.25530	.75744
#1	.00031	.00231	.00191	.38905	1.3332	.29619	.69508	.01058	.02126
#2	.00037	.00277	.00215	.38800	1.3371	.29438	.68967	.01062	.02149
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **515.54**	**.00955**	**.01434**	**.00166**	F **202.81**	**-.00238**	**-.00284**	**4.6724**	**9.9990**
Stddev	.07	.00003	.00201	.00003	.11	.00111	.00117	.0111	.0238
%RSD	.01418	.33736	13.998	2.0431	.05440	46.789	41.110	.23826	.23826
#1	515.49	.00953	.01576	.00168	202.73	-.00159	-.00201	4.6803	10.016
#2	515.59	.00958	.01292	.00163	202.89	-.00317	-.00366	4.6646	9.9822
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00045**	**1.0691**	**-.00093**	**.00628**	**.00139**	**-.01116**	**.00396**	**.06274**	**.00091**
Stddev	.00077	.0010	.00231	.00029	.00217	.04095	.00025	.00074	.00041
%RSD	170.62	.09212	247.43	4.6018	155.68	367.08	6.4014	1.1862	45.491
#1	.00100	1.0697	-.00257	.00608	.00292	.01780	.00378	.06222	.00061
#2	-.00009	1.0684	.00070	.00649	-.00014	-.04011	.00414	.06327	.00120
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3809.8**	**51274.**	**4267.7**
Stddev	1.0	16.	19.7
%RSD	.02670	.03148	.46162
#1	3809.1	51285.	4253.8
#2	3810.6	51262.	4281.7

Sample Name: 280-90259-G-10-C Acquired: 11/13/2016 18:38:21 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00079**	**.41666**	**.00398**	**.88504**	**.17514**	**.00006**	**-.00111**	**11.566**	**.00029**
Stddev	.00003	.00087	.00105	.00264	.00025	.00001	.00366	.045	.00004
%RSD	4.1851	.20980	26.409	.29865	.14301	22.302	331.38	.38877	12.961
#1	.00082	.41604	.00324	.88317	.17496	.00007	-.00370	11.598	.00032
#2	.00077	.41728	.00473	.88691	.17531	.00005	.00148	11.535	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00066**	**.00087**	**.00202**	**.25243**	**1.7496**	**.06166**	**5.1933**	**.06707**	**.01170**
Stddev	.00023	.00002	.00002	.00125	.0563	.00085	.0569	.00068	.00082
%RSD	35.404	2.1527	1.1110	.49344	3.2165	1.3803	1.0950	1.0136	7.0031
#1	.00049	.00086	.00204	.25331	1.7098	.06106	5.1531	.06659	.01112
#2	.00083	.00088	.00201	.25155	1.7894	.06226	5.2335	.06755	.01227
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**466.56**	**.00139**	**.13787**	**.00067**	**4.8713**	**-.00015**	**.00089**	**6.3885**	**13.671**
Stddev	.01	.00032	.00146	.00098	.0128	.00022	.00179	.0209	.045
%RSD	.00248	22.929	1.0566	147.12	.26315	145.54	200.70	.32677	.32677
#1	466.56	.00117	.13684	.00136	4.8804	.00000	-.00037	6.3737	13.640
#2	466.57	.00162	.13890	-.00003	4.8623	-.00031	.00216	6.4032	13.703
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00196**	**.55054**	**.00024**	**.00503**	**.00140**	**-.05737**	**.00452**	**.00282**	**.00038**
Stddev	.00109	.00096	.00030	.00012	.00078	.04234	.00050	.00013	.00269
%RSD	55.788	.17431	129.03	2.4170	55.846	73.802	10.987	4.6066	707.09
#1	-.00273	.54987	.00045	.00511	.00196	-.08730	.00416	.00273	-.00152
#2	-.00119	.55122	.00002	.00494	.00085	-.02743	.00487	.00291	.00229
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3791.3**	**51377.**	**4365.0**
Stddev	4.2	559.	74.2
%RSD	.11161	1.0884	1.6999
#1	3788.3	51772.	4312.6
#2	3794.3	50981.	4417.5

Sample Name: 280-90259-E-11-C Acquired: 11/13/2016 18:40:57 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**7.0253**	**.00602**	**1.1160**	**.13458**	**.00034**	**.00010**	**142.70**	**.00078**
Stddev	.00016	.0028	.00222	.0066	.00034	.00007	.00129	.13	.00005
%RSD	19.536	.03937	36.876	.58851	.25408	19.193	1346.2	.09022	5.9649
#1	.00072	7.0273	.00759	1.1114	.13434	.00039	.00101	142.79	.00075
#2	.00095	7.0234	.00445	1.1207	.13482	.00030	-.00082	142.61	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00164**	**.00508**	**.00413**	**4.4343**	**2.3338**	**.05420**	**32.418**	**.31141**	**.00019**
Stddev	.00005	.00022	.00018	.0288	.0559	.00053	.094	.00055	.00025
%RSD	3.1407	4.2835	4.3447	.64948	2.3964	.97406	.28876	.17675	127.23
#1	.00168	.00492	.00400	4.4546	2.2942	.05457	32.352	.31102	.00002
#2	.00161	.00523	.00426	4.4139	2.3733	.05383	32.484	.31180	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**431.96**	**.00556**	**.18441**	**.00497**	F **239.27**	**-.00332**	**.01286**	**20.883**	**44.690**
Stddev	.35	.00009	.00162	.00100	1.31	.00205	.00191	.071	.151
%RSD	.08182	1.6229	.87584	20.085	.54873	61.849	14.873	.33829	.33829
#1	431.71	.00550	.18555	.00426	238.34	-.00477	.01151	20.933	44.796
#2	432.21	.00563	.18327	.00567	240.20	-.00187	.01421	20.833	44.583
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					200.00				
Low Limit					-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00163**	**3.6426**	**-.00017**	**.04058**	**.00116**	**.07399**	**.00997**	**.08559**	**.00127**
Stddev	.00013	.0024	.00084	.00006	.00149	.00386	.00002	.00077	.00005
%RSD	8.2222	.06718	509.73	.15491	128.05	5.2236	.16143	.89488	4.1286
#1	-.00173	3.6443	-.00076	.04053	.00222	.07126	.00998	.08505	.00131
#2	-.00154	3.6409	.00043	.04062	.00011	.07672	.00995	.08614	.00123
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3807.9**	**51803.**	**4362.5**
Stddev	9.2	383.	16.7
%RSD	.24146	.73863	.38176
#1	3801.4	52073.	4350.7
#2	3814.4	51532.	4374.3

Sample Name: 280-90259-C-12-C Acquired: 11/13/2016 18:43:32 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00057**	**8.7381**	**.00427**	**1.2870**	**.10735**	**.00046**	**-.00178**	**37.012**	**.00065**
Stddev	.00067	.0090	.00043	.0010	.00029	.00002	.00180	.042	.00001
%RSD	116.81	.10257	10.177	.07363	.27165	3.8087	100.97	.11330	1.5670
#1	.00010	8.7317	.00457	1.2877	.10755	.00047	-.00306	37.042	.00066
#2	.00104	8.7444	.00396	1.2863	.10714	.00045	-.00051	36.983	.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00204**	**.00598**	**.01195**	**5.3257**	**2.7797**	**.11635**	**8.5588**	**.20701**	**.00267**
Stddev	.00024	.00013	.00019	.0158	.1050	.00084	.0192	.00057	.00056
%RSD	11.687	2.1284	1.6143	.29724	3.7776	.71972	.22402	.27696	20.796
#1	.00221	.00607	.01208	5.3369	2.7055	.11576	8.5452	.20660	.00228
#2	.00187	.00589	.01181	5.3145	2.8540	.11694	8.5724	.20742	.00307
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **606.43**	**.00562**	**.17568**	**.00388**	W **194.44**	**-.00106**	**.00022**	**21.689**	**46.414**
Stddev	1.44	.00001	.00114	.00040	.08	.00051	.00279	.124	.265
%RSD	.23709	.22747	.65103	10.297	.04215	48.249	1288.8	.57087	.57087
#1	607.45	.00563	.17649	.00417	194.49	-.00070	.00219	21.776	46.601
#2	605.41	.00561	.17487	.00360	194.38	-.00142	-.00176	21.601	46.226
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				180.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00138**	**.82934**	**.00062**	**.04773**	**.00087**	**.09615**	**.01309**	**.01714**	**.00132**
Stddev	.00004	.00276	.00199	.00003	.00417	.00309	.00017	.00125	.00216
%RSD	2.9602	.33247	322.80	.05461	480.67	3.2110	1.3297	7.2808	164.06
#1	-.00141	.83129	-.00079	.04771	.00382	.09397	.01296	.01626	.00284
#2	-.00135	.82739	.00203	.04775	-.00208	.09834	.01321	.01802	-.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3822.4**	**51344.**	**4357.5**
Stddev	3.0	54.	7.5
%RSD	.07917	.10482	.17145
#1	3820.2	51306.	4362.8
#2	3824.5	51382.	4352.2

Sample Name: 280-90259-G-13-C Acquired: 11/13/2016 18:46:06 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350311 6010C Q5

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00079**	**5.4595**	**-.00062**	**1.6660**	**.06826**	**.00026**	**.00029**	**36.635**	**.00043**
Stddev	.00015	.0183	.00275	.0014	.00039	.00011	.00064	.022	.00013
%RSD	18.778	.33544	446.33	.08657	.57672	44.288	222.73	.06020	31.051
#1	.00068	5.4724	.00133	1.6650	.06854	.00034	.00074	36.619	.00052
#2	.00089	5.4465	-.00256	1.6670	.06798	.00018	-.00016	36.651	.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00085**	**.00397**	**.00375**	**3.0764**	**2.1340**	**.05645**	**8.6375**	**.11105**	**.00358**
Stddev	.00020	.00003	.00006	.0022	.0666	.00214	.0095	.00002	.00004
%RSD	23.146	.84075	1.6301	.07135	3.1216	3.7973	.10978	.01937	1.0933
#1	.00071	.00394	.00370	3.0749	2.0869	.05796	8.6442	.11106	.00360
#2	.00098	.00399	.00379	3.0780	2.1811	.05493	8.6308	.11103	.00355
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **910.91**	**.00335**	**.10179**	**.00278**	F **360.15**	**-.00248**	**.01395**	**15.786**	**33.782**
Stddev	1.68	.00002	.00047	.00145	.55	.00232	.00097	.001	.001
%RSD	.18474	.67861	.46596	52.194	.15285	93.581	6.9294	.00350	.00350
#1	912.10	.00333	.10212	.00381	359.76	-.00084	.01463	15.786	33.783
#2	909.72	.00336	.10145	.00176	360.54	-.00412	.01326	15.786	33.781
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00024**	**1.0771**	**.00084**	**.03411**	**.00054**	**.04000**	**.00755**	**.02760**	**.00198**
Stddev	.00091	.0036	.00081	.00031	.00213	.01456	.00031	.00058	.00029
%RSD	378.14	.33672	97.024	.90058	394.53	36.396	4.1601	2.0922	14.534
#1	.00040	1.0796	.00026	.03389	.00205	.05029	.00777	.02801	.00177
#2	-.00088	1.0745	.00141	.03432	-.00097	.02970	.00733	.02719	.00218
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3770.2**	**50716.**	**4453.6**
Stddev	3.5	83.	19.6
%RSD	.09414	.16365	.44084
#1	3772.7	50657.	4467.4
#2	3767.7	50775.	4439.7

Sample Name: CCVH-4239353 Acquired: 11/13/2016 18:48:41 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00192**	**48.765**	**.00066**	**.00667**	**.00025**	**.00014**	**.99736**	**.00255**	**.00053**	**-.00044**	**.00045**	**-.00097**
Stddev	.00010	.125	.00236	.00077	.00006	.00005	.00271	.00257	.00011	.00007	.00001	.00007
%RSD	5.4584	.25562	356.46	11.600	24.832	36.402	.27192	100.44	21.589	14.792	3.3328	6.9728
#1	.00184	48.677	.00233	.00722	.00021	.00018	.99928	.00437	.00061	-.00049	.00044	-.00092
#2	.00199	48.853	-.00101	.00612	.00030	.00010	.99545	.00074	.00045	-.00039	.00046	-.00101
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.329**	**.28385**	**.00103**	**.04334**	**.00069**	**-.00151**	**242.38**	**.00050**	**.00559**	**-.00077**	**5.0841**	**.00246**
Stddev	.232	.09636	.00189	.00281	.00002	.00011	.69	.00048	.00028	.00037	.0037	.00084
%RSD	.46991	33.947	183.99	6.4754	2.7202	7.2158	.28641	94.303	4.9267	47.657	.07245	34.019
#1	49.165	.35199	.00237	.04532	.00071	-.00143	241.89	.00084	.00540	-.00102	5.0867	.00305
#2	49.493	.21572	-.00031	.04135	.00068	-.00158	242.87	.00017	.00579	-.00051	5.0815	.00187
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00371**	**-.02219**	**-.04748**	**-.00129**	**.00060**	W **4.7008**	**.01615**	**-.00022**	**10.204**	**.01375**	**.00025**	**.10452**
Stddev	.00184	.02500	.05350	.00036	.00000	.0144	.00010	.00002	.003	.00095	.00047	.00264
%RSD	49.559	112.68	112.68	27.783	.25432	.30680	.59096	9.8125	.02591	6.8898	183.97	2.5235
#1	-.00241	-.00451	-.00965	-.00155	.00060	4.7110	.01622	-.00024	10.202	.01308	-.00008	.10265
#2	-.00501	-.03987	-.08531	-.00104	.00060	4.6906	.01608	-.00021	10.206	.01442	.00059	.10638
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3964.7**	**54275.**	**4314.4**
Stddev	17.8	486.	60.6
%RSD	.44875	.89510	1.4035
#1	3977.3	53932.	4357.2
#2	3952.1	54619.	4271.6

Sample Name: CCV-4239351 Acquired: 11/13/2016 18:51:11 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49054**	**.48770**	**.96453**	**.50055**	**.49746**	**.48176**	**-.00203**	**4.9403**	**.49628**	**.49944**	**.50211**	**.48679**
Stddev	.00140	.00232	.00167	.00100	.00155	.00060	.00076	.0100	.00003	.00029	.00043	.00306
%RSD	.28530	.47642	.17332	.20064	.31080	.12513	37.420	.20198	.00689	.05746	.08627	.62849
#1	.48955	.48934	.96335	.50126	.49636	.48134	-.00256	4.9333	.49626	.49924	.50181	.48462
#2	.49153	.48605	.96571	.49984	.49855	.48219	-.00149	4.9474	.49631	.49964	.50242	.48895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4464**	**49.340**	**1.0048**	**19.106**	**.47797**	**.49806**	W **5.5209**	**.49810**	**.97055**	**1.0048**	**.08455**	**.99693**
Stddev	.0064	.062	.0010	.007	.00023	.00088	.0229	.00055	.00029	.0012	.00247	.00185
%RSD	.26185	.12485	.09711	.03471	.04811	.17728	.41438	.11017	.02993	.11468	2.9240	.18533
#1	2.4419	49.383	1.0055	19.101	.47781	.49869	5.5370	.49771	.97075	1.0056	.08629	.99562
#2	2.4509	49.296	1.0041	19.110	.47813	.49744	5.5047	.49849	.97034	1.0040	.08280	.99823
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							5.0000					
Range							10.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.97304**	**4.8454**	**10.369**	**.99759**	**.48434**	**.00808**	**.47613**	**1.0193**	**-.01464**	**.47653**	**.46962**	**.50107**
Stddev	.00189	.0073	.016	.00461	.00076	.00001	.00005	.0037	.01634	.00126	.00084	.00315
%RSD	.19414	.14970	.14970	.46229	.15693	.14945	.01006	.35888	111.66	.26504	.17827	.62935
#1	.97438	4.8505	10.380	.99433	.48380	.00809	.47610	1.0167	-.02619	.47742	.47022	.49884
#2	.97171	4.8403	10.358	1.0008	.48488	.00807	.47617	1.0219	-.00308	.47563	.46903	.50330
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4020.6**	**55103.**	**4396.1**
Stddev	3.2	61.	11.1
%RSD	.07980	.11125	.25236
#1	4018.3	55147.	4404.0
#2	4022.9	55060.	4388.3

Sample Name: CCB Acquired: 11/13/2016 18:53:31 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00103**	**.00048**	**.00285**	**.00388**	**-.00003**	**.00010**	**.00169**	**-.00171**	**.00012**	**.00041**	**.00012**	**-.00095**
Stddev	.00015	.00015	.00222	.00022	.00054	.00001	.00049	.00122	.00004	.00009	.00010	.00026
%RSD	14.870	30.541	78.044	5.6725	1689.1	13.904	29.064	71.188	33.177	22.948	83.170	27.156
#1	.00113	.00058	.00442	.00404	.00035	.00009	.00204	-.00085	.00015	.00047	.00019	-.00077
#2	.00092	.00037	.00128	.00372	-.00041	.00011	.00134	-.00257	.00009	.00034	.00005	-.00113
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00102**	**.18707**	**.00107**	**.00100**	**.00005**	**.00179**	F **.52111**	**-.00005**	**.00125**	**.00139**	W **.07233**	**.00093**
Stddev	.00299	.01273	.00217	.00082	.00005	.00086	.01024	.00021	.00016	.00041	.00103	.00185
%RSD	292.95	6.8057	202.90	81.603	99.878	47.846	1.9647	444.92	12.735	29.773	1.4273	198.31
#1	-.00109	.17807	.00260	.00158	.00009	.00119	.51387	-.00020	.00136	.00169	.07160	-.00038
#2	.00313	.19607	-.00046	.00042	.00001	.00240	.52835	.00010	.00114	.00110	.07306	.00224
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit							.50000				.05000	
Low Limit							-.50000				-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00344**	**-.01006**	**-.02152**	**-.00048**	**.00015**	**.00122**	**-.00013**	**.00155**	**-.03026**	**-.00021**	**-.00028**	**-.00015**
Stddev	.00141	.00663	.01420	.00067	.00005	.00137	.00034	.00058	.05614	.00012	.00042	.00232
%RSD	41.081	65.968	65.968	138.21	30.942	112.30	258.35	37.268	185.51	56.819	148.48	1578.2
#1	.00444	-.00537	-.01148	-.00095	.00012	.00219	-.00037	.00114	-.06996	-.00012	.00001	.00149
#2	.00244	-.01475	-.03156	-.00001	.00018	.00025	.00011	.00196	.00944	-.00029	-.00058	-.00178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4054.4**	**56490.**	**4298.4**
Stddev	6.2	380.	15.6
%RSD	.15391	.67281	.36372
#1	4050.0	56221.	4287.3
#2	4058.8	56758.	4309.4

Sample Name: CCVL-4245706 Acquired: 11/13/2016 18:56:07 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01077**	**.09877**	**.01624**	**.09963**	**.00957**	**.00084**	**.10782**	**.19603**	**.00512**	**.01040**	**.01001**	**.01374**
Stddev	.00014	.00031	.00014	.00117	.00014	.00007	.00342	.00327	.00005	.00028	.00017	.00003
%RSD	1.3248	.30959	.87249	1.1728	1.4591	8.4469	3.1753	1.6674	.99915	2.7009	1.7422	.20362
#1	.01087	.09899	.01614	.09881	.00967	.00089	.11024	.19834	.00516	.01060	.00988	.01372
#2	.01067	.09856	.01634	.10046	.00947	.00079	.10540	.19371	.00508	.01020	.01013	.01376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10120**	**3.1583**	**.02261**	**.19733**	**.00971**	**.01889**	F **1.4238**	**.04056**	**2.7714**	**.00924**	**.05837**	**.01771**
Stddev	.00044	.0156	.00461	.00345	.00000	.00006	.0070	.00003	.0022	.00017	.00367	.00336
%RSD	.43621	.49445	20.407	1.7463	.02106	.33450	.49051	.07334	.07780	1.8160	6.2827	18.948
#1	.10151	3.1693	.02588	.19977	.00971	.01885	1.4188	.04058	2.7729	.00912	.06097	.01534
#2	.10089	3.1473	.01935	.19490	.00971	.01894	1.4287	.04054	2.7699	.00936	.05578	.02008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							1.0000					
Range							30.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01269**	**.47515**	**1.0168**	**.09730**	**.00987**	**.01649**	**.00948**	**.01661**	F **.02294**	**.00918**	**.01814**	**.01662**
Stddev	.00027	.00857	.0183	.00060	.00013	.00047	.00013	.00169	.00033	.00004	.00025	.00043
%RSD	2.0952	1.8033	1.8033	.61211	1.3521	2.8513	1.3626	10.170	1.4310	.46533	1.3517	2.5618
#1	.01288	.48121	1.0298	.09772	.00996	.01615	.00939	.01541	.02271	.00921	.01797	.01631
#2	.01251	.46910	1.0039	.09688	.00977	.01682	.00958	.01780	.02318	.00915	.01832	.01692
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4083.3**	**56920.**	**4367.2**
Stddev	.2	9.	.6
%RSD	.00414	.01524	.01285
#1	4083.2	56926.	4366.8
#2	4083.4	56914.	4367.6

Sample Name: MB 280-350339/1-A Acquired: 11/13/2016 18:58:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/9 Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00076**	**.00146**	**.00237**	**.00133**	**-.00015**	**.00002**	**.00364**	**.00376**	**.00037**
Stddev	.00040	.00000	.00023	.00011	.00009	.00006	.00176	.00364	.00022
%RSD	52.266	.20594	9.8119	8.6052	59.877	265.22	48.342	96.868	59.992
#1	.00104	.00146	.00254	.00141	-.00009	.00007	.00239	.00633	.00021
#2	.00048	.00145	.00221	.00125	-.00022	-.00002	.00488	.00118	.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00042**	**.00014**	**-.00058**	**.00215**	**.12536**	**.00157**	**.00144**	**.00008**	**-.00062**
Stddev	.00025	.00007	.00002	.00071	.01196	.00115	.00040	.00005	.00033
%RSD	60.436	50.354	3.9509	33.229	9.5404	73.196	27.782	63.708	52.589
#1	.00024	.00018	-.00057	.00165	.11690	.00239	.00115	.00012	-.00086
#2	.00059	.00009	-.00060	.00266	.13381	.00076	.00172	.00005	-.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.43041**	**.00006**	**.00225**	**.00108**	W **.05093**	**-.00109**	**.00202**	**-.00369**	**-.00790**
Stddev	.00609	.00013	.00123	.00062	.00019	.00100	.00072	.00484	.01035
%RSD	1.4156	223.65	54.862	57.263	.36936	91.841	35.457	131.11	131.11
#1	.43472	.00016	.00138	.00152	.05079	-.00180	.00151	-.00711	-.01522
#2	.42610	-.00003	.00312	.00064	.05106	-.00038	.00253	-.00027	-.00058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	None
High Limit					.05000				
Low Limit					-.05000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00109**	**.00016**	**.00162**	**.00005**	**.00191**	**-.04492**	**-.00013**	**.00019**	**.00004**
Stddev	.00046	.00004	.00111	.00004	.00045	.03149	.00030	.00022	.00142
%RSD	42.267	23.786	68.145	76.641	23.398	70.109	228.23	114.45	3611.2
#1	-.00142	.00013	.00241	.00002	.00159	-.06719	-.00034	.00004	.00105
#2	-.00077	.00019	.00084	.00007	.00222	-.02265	.00008	.00035	-.00097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4133.3**	**57863.**	**4410.8**
Stddev	3.6	28.	2.5
%RSD	.08729	.04786	.05640
#1	4130.8	57844.	4412.5
#2	4135.9	57883.	4409.0

Sample Name: LCS 280-350339/2-A Acquired: 11/13/2016 19:01:15 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05142**	**1.8079**	**.98578**	**1.0044**	**1.9891**	**.04825**	**2.0358**	**48.889**	**.10249**
Stddev	.00044	.0096	.00524	.0013	.0069	.00014	.0024	.110	.00042
%RSD	.86462	.53201	.53138	.12524	.34486	.29480	.11595	.22519	.41116
#1	.05173	1.8011	.98948	1.0053	1.9940	.04835	2.0341	48.967	.10278
#2	.05110	1.8147	.98208	1.0035	1.9843	.04814	2.0375	48.811	.10219
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48328**	**.19679**	**.24004**	**.97285**	**49.734**	**.99734**	**47.298**	**.46274**	**.95743**
Stddev	.00068	.00068	.00026	.00374	.154	.00037	.044	.00033	.00422
%RSD	.14046	.34388	.10753	.38447	.31010	.03682	.09308	.07115	.44031
#1	.48376	.19727	.23986	.97020	49.844	.99760	47.329	.46297	.96041
#2	.48280	.19631	.24023	.97549	49.625	.99708	47.267	.46251	.95445
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.556**	**.48275**	**9.8381**	**.48983**	**2.0273**	**.50021**	**1.9586**	**9.4899**	**20.308**
Stddev	.125	.00132	.0065	.00182	.0113	.00174	.0014	.0057	.012
%RSD	.25217	.27301	.06592	.37229	.55790	.34725	.07191	.05962	.05962
#1	49.468	.48368	9.8427	.49112	2.0353	.50143	1.9596	9.4939	20.317
#2	49.644	.48182	9.8335	.48854	2.0193	.49898	1.9576	9.4859	20.300
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9601**	**.96123**	**.96464**	**.94371**	**1.9753**	**2.0456**	**.47278**	**.45612**	**.52298**
Stddev	.0024	.00216	.00350	.00018	.0083	.0302	.00086	.00046	.00421
%RSD	.12072	.22459	.36268	.01900	.42081	1.4774	.18127	.10189	.80557
#1	1.9618	.96276	.96711	.94384	1.9812	2.0669	.47339	.45644	.52596
#2	1.9584	.95970	.96217	.94359	1.9694	2.0242	.47217	.45579	.52000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3945.0**	**54407.**	**4377.8**
Stddev	1.8	68.	11.2
%RSD	.04592	.12445	.25477
#1	3946.3	54455.	4385.7
#2	3943.8	54359.	4369.9

Sample Name: 280-90592-A-1-A Acquired: 11/13/2016 19:03:33 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00032**	**.04356**	**.00404**	**.01879**	**.14717**	**-.00002**	**-.00065**	**33.052**	**.00058**
Stddev	.00043	.00036	.00090	.00089	.00011	.00006	.00105	.074	.00016
%RSD	135.69	.82422	22.188	4.7619	.07237	310.76	160.87	.22269	27.319
#1	.00063	.04381	.00468	.01943	.14724	.00002	-.00140	33.104	.00047
#2	.00001	.04330	.00341	.01816	.14709	-.00006	.00009	33.000	.00069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00095**	**.00043**	**.00002**	**1.0064**	**1.6042**	**.02855**	**12.199**	**.07571**	**.00351**
Stddev	.00034	.00023	.00012	.0072	.0010	.00144	.011	.00016	.00111
%RSD	35.226	53.588	503.55	.71662	.05935	5.0599	.09340	.20758	31.745
#1	.00119	.00060	-.00006	1.0013	1.6036	.02958	12.191	.07560	.00272
#2	.00072	.00027	.00011	1.0115	1.6049	.02753	12.207	.07582	.00430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**55.092**	**.00083**	**.15363**	**.00109**	**1.2969**	**-.00274**	**.00443**	**22.152**	**47.406**
Stddev	.338	.00040	.00013	.00024	.0108	.00011	.00260	.124	.265
%RSD	.61376	48.535	.08405	22.348	.83604	4.0991	58.767	.55882	.55882
#1	55.331	.00054	.15354	.00126	1.2893	-.00266	.00259	22.240	47.593
#2	54.853	.00111	.15372	.00092	1.3046	-.00282	.00627	22.065	47.218
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00041**	**.17265**	**.00209**	**.00107**	**.00297**	**-.03052**	**-.00000**	**.00363**	**.00092**
Stddev	.00154	.00004	.00056	.00036	.00018	.00777	.00018	.00013	.00116
%RSD	379.97	.02553	26.782	33.568	6.0948	25.454	16288.	3.6897	125.67
#1	-.00150	.17268	.00248	.00082	.00285	-.02502	.00012	.00372	.00174
#2	.00068	.17262	.00169	.00133	.00310	-.03601	-.00013	.00354	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4002.8**	**55147.**	**4427.9**
Stddev	5.1	80.	6.9
%RSD	.12698	.14444	.15633
#1	3999.2	55090.	4423.0
#2	4006.4	55203.	4432.8

Sample Name: 280-90592-A-2-A Acquired: 11/13/2016 19:06:06 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00088**	**.04044**	**.00376**	**.02865**	**.12059**	**-.00007**	**-.00075**	**32.961**	**.00060**
Stddev	.00033	.00038	.00258	.00086	.00022	.00003	.00243	.037	.00002
%RSD	37.792	.93527	68.740	2.9978	.18570	39.697	323.65	.11336	2.6372
#1	.00065	.04071	.00558	.02926	.12043	-.00009	.00097	32.987	.00061
#2	.00112	.04018	.00193	.02805	.12075	-.00005	-.00247	32.934	.00059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.00051**	**-.00059**	**2.0744**	**1.3997**	**.05151**	**13.147**	**.12108**	**.00029**
Stddev	.00004	.00015	.00063	.0048	.0271	.00083	.042	.00014	.00007
%RSD	14.331	29.080	105.77	.23299	1.9350	1.6209	.32190	.11265	24.369
#1	-.00027	.00062	-.00103	2.0778	1.3805	.05210	13.177	.12118	.00034
#2	-.00033	.00041	-.00015	2.0710	1.4188	.05092	13.117	.12099	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**84.949**	**-.00026**	**.20023**	**.00071**	**2.8983**	**-.00310**	**-.00336**	**21.014**	**44.971**
Stddev	.417	.00010	.00264	.00118	.0165	.00068	.00262	.008	.017
%RSD	.49060	36.684	1.3198	165.85	.56903	22.089	77.877	.03692	.03692
#1	85.244	-.00019	.20210	.00154	2.9100	-.00261	-.00151	21.020	44.983
#2	84.655	-.00033	.19836	-.00012	2.8867	-.00358	-.00522	21.009	44.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00090**	**.16543**	**.00229**	**.00064**	**.00077**	**-.01928**	**-.00047**	**.00122**	**-.00147**
Stddev	.00053	.00003	.00123	.00012	.00037	.02962	.00095	.00022	.00170
%RSD	58.962	.02110	53.899	19.288	48.760	153.61	200.72	18.136	115.42
#1	-.00053	.16546	.00316	.00073	.00103	-.04023	.00020	.00137	-.00027
#2	-.00128	.16541	.00142	.00055	.00050	.00166	-.00114	.00106	-.00267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3988.0**	**55152.**	**4394.6**
Stddev	6.5	149.	27.5
%RSD	.16241	.27047	.62657
#1	3983.4	55046.	4375.2
#2	3992.6	55257.	4414.1

Sample Name: 280-90592-A-2-A SD@5 Acquired: 11/13/2016 19:08:37 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00095**	**.00994**	**.00235**	**.00712**	**.02526**	**-.00001**	**.00090**	**6.8980**	**.00026**
Stddev	.00023	.00033	.00502	.00052	.00002	.00017	.00127	.0032	.00008
%RSD	23.777	3.3683	213.58	7.3642	.07525	2384.7	141.01	.04676	31.593
#1	.00111	.00971	-.00120	.00749	.02527	-.00012	.00180	6.8957	.00031
#2	.00079	.01018	.00590	.00675	.02525	.00011	.00000	6.9002	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00028**	**.00029**	**-.00028**	**.43614**	**.35037**	**.01096**	**2.8048**	**.02565**	**-.00014**
Stddev	.00011	.00005	.00008	.00475	.02184	.00092	.0133	.00003	.00006
%RSD	38.473	15.669	27.890	1.0880	6.2326	8.4326	.47277	.12398	40.987
#1	.00036	.00032	-.00033	.43279	.36581	.01030	2.7954	.02567	-.00017
#2	.00020	.00026	-.00022	.43950	.33493	.01161	2.8141	.02563	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.388**	**-.00022**	**.04034**	**.00079**	**.61320**	**-.00119**	**.00260**	**4.2843**	**9.1684**
Stddev	.055	.00013	.00091	.00121	.00913	.00172	.00207	.0013	.0028
%RSD	.29665	55.976	2.2675	153.63	1.4895	144.91	79.409	.03011	.03011
#1	18.427	-.00031	.03969	-.00007	.61966	.00003	.00114	4.2852	9.1703
#2	18.350	-.00014	.04098	.00164	.60674	-.00241	.00406	4.2834	9.1664
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00011**	**.03454**	**.00235**	**.00028**	**.00092**	**-.04813**	**.00018**	**.00007**	**.00096**
Stddev	.00095	.00005	.00132	.00018	.00044	.00218	.00001	.00041	.00157
%RSD	827.73	.13343	56.050	64.701	48.358	4.5347	3.1400	590.58	163.31
#1	-.00078	.03457	.00329	.00041	.00060	-.04967	.00017	.00036	-.00015
#2	.00056	.03451	.00142	.00015	.00123	-.04659	.00018	-.00022	.00207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4064.6**	**56460.**	**4407.0**
Stddev	10.6	167.	.3
%RSD	.25988	.29613	.00741
#1	4057.2	56579.	4406.8
#2	4072.1	56342.	4407.3

Sample Name: 280-90592-A-2-B MS Acquired: 11/13/2016 19:11:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05199**	**1.8867**	**.99361**	**1.0362**	**2.1224**	**.04829**	W **2.0291**	**82.957**	**.10321**
Stddev	.00020	.0042	.00067	.0024	.0001	.00009	.0046	.040	.00009
%RSD	.39262	.22019	.06731	.22699	.00546	.18448	.22726	.04769	.09148
#1	.05185	1.8897	.99409	1.0345	2.1225	.04823	2.0258	82.984	.10314
#2	.05214	1.8838	.99314	1.0379	2.1223	.04835	2.0324	82.929	.10327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47950**	**.19749**	**.23869**	**3.1722**	**51.779**	**1.0540**	**60.688**	**.58826**	**.96491**
Stddev	.00075	.00033	.00028	.0039	.051	.0034	.097	.00059	.00037
%RSD	.15608	.16758	.11756	.12350	.09816	.32007	.15958	.10025	.03854
#1	.47897	.19725	.23849	3.1749	51.815	1.0564	60.620	.58784	.96464
#2	.48003	.19772	.23888	3.1694	51.743	1.0517	60.757	.58867	.96517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**138.23**	**.47906**	**10.139**	**.48357**	**5.1120**	**.50193**	**1.9643**	**31.948**	**68.368**
Stddev	.20	.00090	.002	.00296	.0124	.00122	.0069	.015	.032
%RSD	.14178	.18787	.02454	.61260	.24360	.24394	.34865	.04694	.04694
#1	138.37	.47842	10.138	.48148	5.1032	.50280	1.9691	31.958	68.390
#2	138.09	.47970	10.141	.48567	5.1208	.50106	1.9595	31.937	68.345
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9660**	**1.1391**	**.96534**	**.95403**	**1.9248**	**2.1122**	**.47434**	**.46138**	**.52762**
Stddev	.0085	.0002	.00314	.00076	.0005	.0149	.00065	.00128	.00382
%RSD	.43381	.01843	.32496	.07927	.02493	.70485	.13612	.27736	.72428
#1	1.9599	1.1393	.96312	.95456	1.9252	2.1017	.47388	.46047	.52492
#2	1.9720	1.1390	.96755	.95349	1.9245	2.1227	.47480	.46228	.53033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3857.0**	**53047.**	**4344.4**
Stddev	4.1	109.	4.1
%RSD	.10672	.20493	.09329
#1	3859.9	53124.	4347.2
#2	3854.1	52970.	4341.5

Sample Name: 280-90592-A-2-C MSD Acquired: 11/13/2016 19:13:27 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05143**	**1.8726**	**.98519**	**1.0212**	**2.1219**	**.04857**	W **2.0073**	**82.970**	**.10194**
Stddev	.00004	.0032	.00326	.0031	.0233	.00072	.0002	1.125	.00004
%RSD	.07890	.17252	.33114	.30567	1.0972	1.4782	.00821	1.3556	.04026
#1	.05140	1.8749	.98750	1.0190	2.1383	.04908	2.0072	83.765	.10197
#2	.05145	1.8703	.98288	1.0234	2.1054	.04807	2.0074	82.175	.10191
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit							2.0000		
Low Limit							-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47600**	**.19581**	**.23673**	**3.1531**	**51.757**	**1.0549**	**60.045**	**.58205**	**.95688**
Stddev	.00098	.00014	.00149	.0498	.565	.0086	.093	.00085	.00116
%RSD	.20496	.07098	.63149	1.5803	1.0911	.81831	.15541	.14587	.12072
#1	.47531	.19591	.23567	3.1884	52.156	1.0610	60.111	.58265	.95770
#2	.47669	.19572	.23778	3.1179	51.358	1.0488	59.979	.58145	.95607
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**137.35**	**.47456**	**10.007**	**.47987**	**4.9977**	**.49493**	**1.9523**	**31.782**	**68.014**
Stddev	1.41	.00102	.021	.00225	.0111	.00142	.0015	.396	.848
%RSD	1.0268	.21465	.20827	.46935	.22211	.28678	.07472	1.2463	1.2463
#1	138.35	.47384	10.022	.48146	4.9899	.49593	1.9513	32.063	68.614
#2	136.36	.47528	9.9921	.47828	5.0056	.49393	1.9533	31.502	67.415
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9329**	**1.1364**	**.95643**	**.94014**	**1.9018**	**2.0501**	**.46909**	**.45362**	**.52617**
Stddev	.0002	.0132	.00176	.00089	.0004	.0016	.00066	.00157	.01168
%RSD	.00937	1.1640	.18407	.09481	.02342	.07601	.13978	.34661	2.2205
#1	1.9328	1.1458	.95768	.94077	1.9015	2.0512	.46955	.45474	.53444
#2	1.9331	1.1271	.95519	.93950	1.9021	2.0490	.46862	.45251	.51791
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3857.9**	**53066.**	**4300.4**
Stddev	13.1	50.	57.4
%RSD	.33979	.09341	1.3341
#1	3867.2	53031.	4259.8
#2	3848.6	53101.	4340.9

Sample Name: CCVH-4239353 Acquired: 11/13/2016 19:15:43 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00232**	**50.258**	**-.00063**	**.00388**	**.00037**	**.00022**	**.98500**	**.00063**	**.00078**	**-.00041**	**.00011**	**-.00094**
Stddev	.00054	1.679	.00050	.00033	.00058	.00002	.00071	.00054	.00020	.00011	.00035	.00014
%RSD	23.298	3.3412	78.311	8.4996	154.78	7.0752	.07258	85.253	25.324	26.265	318.57	15.300
#1	.00271	51.445	-.00099	.00412	.00078	.00021	.98450	.00101	.00092	-.00033	.00036	-.00084
#2	.00194	49.071	-.00028	.00365	-.00004	.00023	.98551	.00025	.00064	-.00049	-.00014	-.00104
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.850**	**.23195**	**.00218**	**.04032**	**.00090**	**.00296**	**249.40**	**.00055**	**.00499**	**.00014**	**4.9393**	**.00309**
Stddev	2.219	.00751	.00221	.00546	.00005	.00111	8.57	.00013	.00146	.00047	.0018	.00096
%RSD	4.3645	3.2374	101.62	13.540	5.4267	37.398	3.4370	24.296	29.216	329.94	.03573	30.925
#1	52.420	.22664	.00061	.04418	.00093	.00218	255.47	.00045	.00602	.00047	4.9380	.00241
#2	49.281	.23726	.00374	.03646	.00086	.00375	243.34	.00064	.00396	-.00019	4.9405	.00376
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00191**	**-.02744**	**-.05873**	**-.00014**	**.00039**	W **4.7262**	**.01634**	**.00600**	**10.181**	**.01407**	**.00051**	**.11146**
Stddev	.00122	.02857	.06113	.00058	.00011	.0081	.00007	.00205	.015	.00016	.00047	.00834
%RSD	63.898	104.09	104.09	413.80	28.418	.17106	.44809	34.205	.14266	1.1115	92.888	7.4818
#1	.00105	-.00725	-.01551	-.00055	.00047	4.7319	.01639	.00455	10.191	.01396	.00017	.11735
#2	.00277	-.04764	-.10196	.00027	.00031	4.7205	.01628	.00745	10.170	.01418	.00084	.10556
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3917.2**	**53217.**	**4163.3**
Stddev	3.0	260.	177.9
%RSD	.07784	.48929	4.2727
#1	3919.3	53033.	4037.5
#2	3915.0	53401.	4289.1

Sample Name: CCV-4239351 Acquired: 11/13/2016 19:18:13 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48791**	**.48936**	**.95723**	**.49679**	**.49402**	**.48263**	**.00054**	**4.9436**	**.49346**	**.49892**	**.49932**	**.48359**	**2.4617**
Stddev	.00015	.00039	.00101	.00118	.00288	.00354	.00227	.0337	.00022	.00016	.00110	.00150	.0150
%RSD	.02995	.07895	.10524	.23812	.58206	.73269	422.14	.68150	.04523	.03165	.22078	.31050	.60871
#1	.48802	.48963	.95794	.49595	.49198	.48013	.00214	4.9198	.49362	.49881	.49855	.48253	2.4511
#2	.48781	.48908	.95652	.49763	.49605	.48514	-.00107	4.9674	.49330	.49904	.50010	.48465	2.4723
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.411**	**1.0036**	**18.999**	**.47603**	**.49675**	**5.1843**	**.49893**	**.96837**	**1.0012**	**.03640**	**.98830**	**.96469**	**4.8407**
Stddev	.300	.0091	.045	.00099	.00045	.0042	.00102	.00383	.0018	.00128	.00289	.00189	.0645
%RSD	.60639	.90913	.23715	.20742	.09055	.08123	.20409	.39519	.17710	3.5092	.29204	.19566	1.3335
#1	49.199	.99719	18.968	.47533	.49707	5.1813	.49821	.96567	.99992	.03731	.99034	.96602	4.7950
#2	49.623	1.0101	19.031	.47673	.49643	5.1873	.49965	.97108	1.0024	.03550	.98626	.96335	4.8863
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.359**	**.99141**	**.48315**	**.00831**	**.47432**	**1.0153**	**-.02050**	**.47320**	**.46745**	**.49890**
Stddev	.138	.00273	.00320	.00141	.00061	.0036	.00181	.00058	.00248	.00487
%RSD	1.3335	.27575	.66308	16.975	.12840	.35204	8.8477	.12157	.53081	.97683
#1	10.261	.98948	.48089	.00731	.47389	1.0128	-.02179	.47279	.46570	.49546
#2	10.457	.99334	.48542	.00931	.47475	1.0178	-.01922	.47361	.46921	.50235
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3972.0**	**54720.**	**4269.3**
Stddev	8.4	192.	2.0
%RSD	.21054	.35157	.04604
#1	3966.1	54856.	4270.7
#2	3977.9	54584.	4267.9

Sample Name: CCB Acquired: 11/13/2016 19:20:34 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00114**	**.00009**	**.00319**	**.00226**	**.00000**	**-.00003**	**.00166**	**-.00015**	**.00026**	**.00033**	**.00014**	**-.00064**	**-.00174**
Stddev	.00028	.00017	.00043	.00033	.00005	.00000	.00111	.00302	.00023	.00001	.00025	.00038	.00270
%RSD	24.855	187.90	13.378	14.544	2123.8	10.093	66.995	1966.1	88.449	3.5112	171.55	59.771	155.25
#1	.00134	.00021	.00289	.00249	.00004	-.00003	.00087	-.00229	.00043	.00032	.00032	-.00037	.00017
#2	.00094	-.00003	.00349	.00202	-.00003	-.00003	.00245	.00198	.00010	.00034	-.00003	-.00091	-.00364
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.17711**	**.00197**	**.00125**	**.00014**	**.00243**	**.27234**	**.00028**	**.00024**	**.00044**	**.03005**	**.00096**	**.00009**	**.00394**
Stddev	.00511	.00045	.00274	.00000	.00000	.00872	.00000	.00264	.00092	.00213	.00002	.00140	.01727
%RSD	2.8846	22.845	218.14	2.7502	.15239	3.2016	1.1344	1110.3	209.08	7.0913	2.1671	1622.0	438.71
#1	.17350	.00229	.00319	.00014	.00243	.26617	.00028	-.00163	.00109	.02854	.00095	-.00090	.01614
#2	.18072	.00165	-.00068	.00013	.00243	.27851	.00028	.00211	-.00021	.03156	.00098	.00107	-.00827
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00842**	**.00005**	**.00025**	**.00074**	**.00003**	**.00302**	**-.04391**	**.00032**	**-.00041**	**.00196**
Stddev	.03695	.00041	.00003	.00171	.00007	.00108	.00857	.00016	.00046	.00236
%RSD	438.71	787.64	11.678	229.91	207.30	35.697	19.520	50.120	112.70	120.45
#1	.03455	-.00024	.00023	-.00046	.00008	.00226	-.03785	.00043	-.00008	.00029
#2	-.01770	.00034	.00028	.00195	-.00001	.00379	-.04998	.00021	-.00073	.00363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4021.6**	**55605.**	**4236.5**
Stddev	8.1	31.	15.2
%RSD	.20198	.05486	.35797
#1	4015.9	55584.	4247.2
#2	4027.4	55627.	4225.8

Sample Name: CCVL-4245706 Acquired: 11/13/2016 19:23:08 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01065**	**.10675**	**.01503**	**.09889**	**.01004**	**.00091**	**.10527**	**.19861**	**.00510**	**.01046**	**.00991**	**.01389**	**.10112**	**3.1131**
Stddev	.00007	.00008	.00246	.00050	.00046	.00011	.00084	.00837	.00012	.00001	.00007	.00013	.00341	.0309
%RSD	.65065	.07458	16.349	.50514	4.5377	12.406	.79598	4.2125	2.4298	.14225	.73901	.90846	3.3701	.99170
#1	.01060	.10670	.01677	.09924	.00972	.00099	.10468	.19270	.00518	.01047	.00997	.01380	.09871	3.0913
#2	.01070	.10681	.01329	.09853	.01036	.00083	.10587	.20453	.00501	.01045	.00986	.01398	.10353	3.1349
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02141**	**.19927**	**.00981**	**.01915**	**1.2424**	**.04034**	**2.7603**	**.01010**	**.02844**	**.01923**	**.01384**	**.46003**	**.98446**	**.09883**
Stddev	.00030	.00180	.00000	.00010	.0032	.00016	.0022	.00069	.00077	.00063	.00007	.00628	.01344	.00001
%RSD	1.4218	.90336	.02553	.52957	.25935	.39437	.08148	6.8519	2.7153	3.2790	.49369	1.3655	1.3655	.01030
#1	.02163	.20054	.00981	.01908	1.2447	.04045	2.7619	.00961	.02898	.01967	.01389	.46447	.99397	.09882
#2	.02120	.19800	.00981	.01923	1.2401	.04023	2.7587	.01059	.02789	.01878	.01379	.45559	.97496	.09884
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00982**	**.01454**	**.00944**	**.01664**	**.05168**	**.00916**	**.01815**	**.01468**
Stddev	.00007	.00240	.00001	.00218	.04130	.00018	.00013	.00169
%RSD	.67475	16.507	.06139	13.123	79.926	2.0115	.74334	11.546
#1	.00977	.01623	.00944	.01510	.02247	.00903	.01806	.01348
#2	.00987	.01284	.00944	.01819	.08088	.00929	.01825	.01587
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4042.9**	**56177.**	**4275.2**
Stddev	1.5	67.	10.7
%RSD	.03655	.12001	.25075
#1	4044.0	56129.	4267.6
#2	4041.9	56225.	4282.8

Sample Name: 280-90592-A-3-A Acquired: 11/13/2016 19:25:41 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00060**	**.11743**	**.00275**	**.01682**	**.14625**	**.00004**	**-.00181**	**32.754**	**.00053**
Stddev	.00025	.00118	.00445	.00014	.00065	.00004	.00163	.107	.00001
%RSD	41.789	1.0057	161.94	.85346	.44702	98.194	90.148	.32597	1.6371
#1	.00078	.11827	.00589	.01672	.14672	.00006	-.00066	32.830	.00052
#2	.00042	.11660	-.00040	.01692	.14579	.00001	-.00296	32.679	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00101**	**.00074**	**-.00012**	**1.0382**	**1.5210**	**.02834**	**12.072**	**.07533**	**-.00035**
Stddev	.00041	.00016	.00015	.0025	.0039	.00262	.027	.00026	.00012
%RSD	40.582	21.254	126.71	.23992	.25736	9.2385	.22018	.34437	34.450
#1	.00130	.00085	-.00001	1.0364	1.5238	.03020	12.091	.07552	-.00027
#2	.00072	.00063	-.00022	1.0399	1.5182	.02649	12.053	.07515	-.00044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**53.959**	**.00115**	**.14982**	**.00045**	**1.2385**	**-.00273**	**.00116**	**22.180**	**47.464**
Stddev	.318	.00023	.00303	.00160	.0007	.00303	.00233	.017	.035
%RSD	.58846	19.944	2.0228	355.15	.05626	111.00	201.48	.07465	.07465
#1	53.735	.00099	.14768	.00158	1.2390	-.00487	.00280	22.191	47.489
#2	54.184	.00131	.15197	-.00068	1.2380	-.00059	-.00049	22.168	47.439
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00007**	**.17036**	**.00052**	**.00238**	**.00162**	**-.01282**	**-.00001**	**.00276**	**.00034**
Stddev	.00018	.00003	.00104	.00007	.00237	.00325	.00001	.00015	.00149
%RSD	261.67	.01627	199.16	3.0962	146.77	25.315	84.088	5.5223	440.79
#1	-.00019	.17038	.00126	.00233	.00330	-.01053	-.00000	.00287	.00139
#2	.00006	.17034	-.00021	.00243	-.00006	-.01512	-.00001	.00266	-.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3973.2**	**54613.**	**4305.4**
Stddev	12.4	243.	1.6
%RSD	.31100	.44441	.03721
#1	3964.4	54441.	4304.2
#2	3981.9	54784.	4306.5

Sample Name: 280-90592-A-4-A Acquired: 11/13/2016 19:28:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**.19026**	**.00783**	**.02092**	**.31631**	**-.00007**	**.00156**	**34.958**	**.00033**
Stddev	.00011	.00041	.00353	.00103	.00086	.00001	.00008	.224	.00004
%RSD	13.336	.21297	45.063	4.9035	.27177	19.883	5.3352	.64188	13.439
#1	.00077	.19055	.01033	.02020	.31571	-.00008	.00150	34.799	.00036
#2	.00094	.18998	.00534	.02165	.31692	-.00006	.00162	35.116	.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00004**	**.00014**	**-.00038**	**.52746**	**1.9332**	**.03215**	**6.8059**	**.13756**	**.00054**
Stddev	.00020	.00012	.00013	.00124	.0125	.00010	.0083	.00003	.00000
%RSD	549.12	82.308	33.464	.23601	.64496	.30423	.12255	.02108	.18435
#1	.00010	.00006	-.00029	.52658	1.9420	.03222	6.8000	.13754	.00054
#2	-.00017	.00022	-.00047	.52834	1.9244	.03208	6.8118	.13758	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**44.300**	**.00033**	**.12242**	**.00172**	**1.3299**	**-.00001**	**-.00081**	**15.021**	**32.146**
Stddev	.042	.00010	.00214	.00036	.0001	.00135	.00314	.110	.235
%RSD	.09437	31.166	1.7474	20.722	.00968	18519.	386.79	.73051	.73051
#1	44.271	.00026	.12393	.00147	1.3298	.00095	-.00303	14.944	31.980
#2	44.330	.00040	.12091	.00197	1.3300	-.00096	.00141	15.099	32.312
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00000**	**.56807**	**-.00036**	**.00007**	**-.00105**	**-.01842**	**.00174**	**.00908**	**-.00096**
Stddev	.00010	.00107	.00185	.00009	.00103	.02630	.00046	.00052	.00195
%RSD	6212.8	.18874	512.36	124.89	98.114	142.79	26.229	5.7464	203.93
#1	.00007	.56732	-.00167	.00001	-.00032	.00018	.00142	.00871	-.00234
#2	-.00007	.56883	.00095	.00013	-.00178	-.03702	.00207	.00945	.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3947.9**	**54417.**	**4261.0**
Stddev	.1	102.	6.8
%RSD	.00370	.18669	.16053
#1	3948.0	54488.	4265.9
#2	3947.8	54345.	4256.2

Sample Name: 280-90592-A-5-A Acquired: 11/13/2016 19:30:46 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00055**	**.11800**	**.00049**	**.01360**	**.08363**	**.00013**	**-.00079**	**4.8203**	**.00036**
Stddev	.00004	.00022	.00169	.00031	.00053	.00003	.00125	.0053	.00014
%RSD	6.9136	.18471	344.59	2.2571	.63699	21.058	157.90	.11092	38.749
#1	.00058	.11785	-.00071	.01338	.08400	.00011	.00009	4.8165	.00046
#2	.00053	.11816	.00169	.01382	.08325	.00015	-.00167	4.8241	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00000**	**.00153**	**-.00060**	**.07039**	**.63675**	**.01732**	**2.3296**	**.00377**	**-.00008**
Stddev	.00000	.00014	.00019	.00024	.02316	.00045	.0075	.00005	.00008
%RSD	113.25	9.4026	30.894	.33733	3.6378	2.5722	.32379	1.3661	99.074
#1	-.00000	.00163	-.00074	.07055	.62037	.01764	2.3349	.00373	-.00014
#2	-.00001	.00143	-.00047	.07022	.65313	.01701	2.3243	.00380	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**33.781**	**.00071**	**.00611**	**.00120**	**.15191**	**-.00097**	**-.00078**	**13.571**	**29.043**
Stddev	.100	.00004	.00246	.00049	.00219	.00031	.00346	.030	.064
%RSD	.29727	5.1369	40.247	40.990	1.4399	32.235	440.68	.21961	.21961
#1	33.852	.00074	.00437	.00155	.15036	-.00075	.00166	13.550	28.997
#2	33.710	.00068	.00785	.00085	.15346	-.00119	-.00323	13.592	29.088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00019**	**.02913**	**.00050**	**.00192**	**.00223**	**-.03075**	**.00034**	**.00094**	**-.00052**
Stddev	.00004	.00018	.00176	.00031	.00022	.01574	.00006	.00051	.00116
%RSD	19.666	.62803	351.79	15.876	10.040	51.170	18.472	53.555	221.37
#1	-.00022	.02900	-.00074	.00214	.00207	-.01962	.00029	.00130	.00030
#2	-.00017	.02926	.00174	.00171	.00239	-.04188	.00038	.00059	-.00134
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4032.3**	**55537.**	**4340.4**
Stddev	1.0	46.	4.0
%RSD	.02557	.08220	.09145
#1	4033.0	55569.	4343.2
#2	4031.6	55505.	4337.6

Sample Name: 280-90592-A-6-A Acquired: 11/13/2016 19:33:19 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00081**	**.00779**	**.00361**	**.02376**	**.20293**	**-.00008**	**-.00106**	**35.550**	**.00051**
Stddev	.00015	.00008	.00165	.00022	.00055	.00008	.00053	.147	.00006
%RSD	18.979	1.0011	45.815	.91412	.27012	103.14	50.416	.41365	12.063
#1	.00091	.00773	.00477	.02391	.20332	-.00002	-.00143	35.654	.00046
#2	.00070	.00785	.00244	.02360	.20254	-.00013	-.00068	35.446	.00055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00017**	**.00036**	**.00016**	**.06907**	**.96222**	**.05056**	**12.219**	**.03112**	**-.00030**
Stddev	.00028	.00012	.00055	.00177	.03943	.00209	.004	.00006	.00016
%RSD	166.05	33.438	336.62	2.5588	4.0974	4.1350	.03653	.19871	53.048
#1	-.00037	.00045	-.00023	.06782	.93434	.04908	12.215	.03116	-.00041
#2	.00003	.00028	.00056	.07032	.99010	.05203	12.222	.03107	-.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.011**	**.00050**	**.19232**	**.00102**	**1.5395**	**-.00066**	**.00089**	**19.716**	**42.192**
Stddev	.199	.00007	.00094	.00016	.0074	.00274	.00274	.036	.076
%RSD	.41414	14.156	.48624	16.080	.48049	411.96	306.01	.18124	.18124
#1	48.152	.00045	.19165	.00090	1.5343	.00127	.00283	19.741	42.246
#2	47.870	.00055	.19298	.00113	1.5448	-.00260	-.00104	19.691	42.138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00063**	**.16879**	**.00049**	**.00010**	**-.00038**	**-.02835**	**.00038**	**.00130**	**.00028**
Stddev	.00064	.00042	.00138	.00010	.00130	.01781	.00028	.00000	.00000
%RSD	101.74	.25021	282.89	101.40	336.88	62.837	74.464	.13155	.81403
#1	-.00108	.16909	.00147	.00017	.00053	-.01575	.00018	.00130	.00028
#2	-.00018	.16849	-.00049	.00003	-.00130	-.04095	.00058	.00130	.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3960.9**	**54581.**	**4323.8**
Stddev	6.2	26.	6.1
%RSD	.15672	.04752	.14052
#1	3956.5	54600.	4319.5
#2	3965.3	54563.	4328.1

Sample Name: 280-90592-A-7-A Acquired: 11/13/2016 19:35:52 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00089**	**.00553**	**.00514**	**.01813**	**.13912**	**-.00013**	**-.00305**	**27.689**	**.00061**
Stddev	.00020	.00009	.00267	.00001	.00050	.00021	.00056	.073	.00002
%RSD	21.962	1.5383	51.861	.06589	.35769	170.87	18.327	.26531	3.7276
#1	.00103	.00559	.00703	.01812	.13947	.00003	-.00266	27.637	.00059
#2	.00075	.00547	.00326	.01813	.13877	-.00028	-.00345	27.741	.00062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.00039**	**-.00032**	**2.6123**	**1.3826**	**.02846**	**10.454**	**.20096**	**-.00060**
Stddev	.00007	.00008	.00003	.0090	.0242	.00270	.046	.00030	.00031
%RSD	193.53	20.922	10.401	.34369	1.7504	9.4935	.44421	.14984	51.008
#1	.00008	.00033	-.00035	2.6059	1.3997	.02655	10.486	.20117	-.00082
#2	-.00001	.00045	-.00030	2.6186	1.3655	.03037	10.421	.20074	-.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**45.907**	**.00002**	**.19675**	**-.00068**	**1.0657**	**-.00329**	**-.00086**	**22.121**	**47.338**
Stddev	.165	.00003	.00497	.00008	.0035	.00287	.00142	.020	.042
%RSD	.36035	204.41	2.5282	12.260	.33002	87.187	165.80	.08950	.08950
#1	45.790	.00004	.20027	-.00062	1.0632	-.00531	.00015	22.107	47.308
#2	46.024	-.00001	.19323	-.00074	1.0681	-.00126	-.00186	22.135	47.368
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00045**	**.14232**	**.00113**	**-.00006**	**-.00086**	**.00033**	**-.00047**	**.00109**	**-.00173**
Stddev	.00036	.00040	.00142	.00029	.00153	.03133	.00014	.00022	.00059
%RSD	80.077	.28276	126.26	487.80	177.62	9386.1	29.761	20.424	34.216
#1	-.00019	.14203	.00213	-.00026	.00022	-.02182	-.00056	.00124	-.00215
#2	-.00070	.14260	.00012	.00014	-.00194	.02249	-.00037	.00093	-.00131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3993.9**	**55094.**	**4301.1**
Stddev	14.6	205.	6.1
%RSD	.36494	.37146	.14079
#1	4004.2	55239.	4305.4
#2	3983.6	54950.	4296.8

Sample Name: 280-90592-A-8-A Acquired: 11/13/2016 19:38:24 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00100**	**.08836**	**.00540**	**.01671**	**.13986**	**-.00006**	**-.00180**	**15.617**	**.00058**
Stddev	.00015	.00010	.00117	.00023	.00136	.00001	.00193	.068	.00012
%RSD	14.603	.11498	21.632	1.3904	.97293	23.957	106.83	.43713	20.663
#1	.00111	.08843	.00623	.01688	.14082	-.00005	-.00317	15.666	.00067
#2	.00090	.08829	.00458	.01655	.13890	-.00007	-.00044	15.569	.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**.00117**	**-.00018**	**2.0991**	**1.4744**	**.04164**	**8.1614**	**.08070**	**-.00054**
Stddev	.00020	.00008	.00024	.0049	.0277	.00008	.0055	.00028	.00007
%RSD	662.44	6.4434	133.32	.23176	1.8804	.19319	.06735	.34231	13.666
#1	-.00011	.00122	-.00035	2.1025	1.4940	.04169	8.1652	.08050	-.00049
#2	.00017	.00111	-.00001	2.0956	1.4548	.04158	8.1575	.08089	-.00059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**56.583**	**.00072**	**.43713**	**-.00017**	**.53968**	**-.00252**	**-.00131**	**24.868**	**53.217**
Stddev	.061	.00027	.00299	.00239	.00490	.00104	.00002	.116	.247
%RSD	.10833	37.755	.68288	1403.5	.90884	41.213	1.4034	.46470	.46470
#1	56.627	.00091	.43924	-.00186	.53621	-.00178	-.00130	24.950	53.392
#2	56.540	.00053	.43502	.00152	.54315	-.00325	-.00133	24.786	53.043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00096**	**.08972**	**.00193**	**.00134**	**-.00089**	**-.02980**	**.00037**	**.02107**	**-.00084**
Stddev	.00054	.00034	.00066	.00024	.00283	.00462	.00009	.00020	.00237
%RSD	56.136	.37773	34.228	17.883	318.50	15.520	24.532	.94842	282.96
#1	-.00058	.08996	.00240	.00117	.00111	-.02653	.00030	.02121	-.00251
#2	-.00134	.08948	.00146	.00151	-.00289	-.03306	.00043	.02093	.00084
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3997.1**	**55335.**	**4323.8**
Stddev	4.5	177.	49.2
%RSD	.11216	.32054	1.1380
#1	4000.3	55461.	4289.0
#2	3994.0	55210.	4358.6

Sample Name: 280-90592-A-9-A Acquired: 11/13/2016 19:40:57 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00099**	**.06930**	**.00368**	**.01023**	**.07308**	**.00007**	**.00041**	**3.2747**	**.00013**
Stddev	.00027	.00035	.00014	.00014	.00082	.00002	.00313	.0202	.00007
%RSD	27.262	.50317	3.7369	1.3454	1.1184	27.293	754.34	.61650	51.666
#1	.00080	.06954	.00378	.01033	.07366	.00006	.00262	3.2890	.00017
#2	.00119	.06905	.00358	.01014	.07250	.00009	-.00180	3.2605	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00022**	**.00147**	**-.00052**	**.09240**	**.33226**	**.00389**	**1.5491**	**.00885**	**-.00036**
Stddev	.00006	.00025	.00009	.00067	.06380	.00049	.0030	.00002	.00033
%RSD	26.977	16.984	16.533	.71983	19.203	12.706	.19258	.19317	90.413
#1	-.00026	.00165	-.00058	.09193	.37737	.00424	1.5470	.00884	-.00060
#2	-.00018	.00129	-.00046	.09287	.28714	.00354	1.5512	.00886	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**86.898**	**.00176**	**.01104**	**.00072**	**.25086**	**-.00018**	**.00047**	**17.093**	**36.578**
Stddev	.546	.00002	.00133	.00060	.00362	.00031	.00335	.043	.092
%RSD	.62814	1.0545	12.054	82.999	1.4444	169.35	705.91	.25162	.25162
#1	87.284	.00177	.01010	.00115	.25342	.00004	.00284	17.123	36.643
#2	86.512	.00175	.01198	.00030	.24829	-.00040	-.00189	17.062	36.513
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00051**	**.02060**	**.00036**	**.00188**	**.00122**	**-.04044**	**.00065**	**.00204**	**-.00106**
Stddev	.00030	.00003	.00027	.00028	.00053	.02411	.00005	.00069	.00051
%RSD	57.883	.14387	75.324	14.689	43.500	59.620	7.8360	33.762	48.156
#1	-.00072	.02062	.00017	.00169	.00085	-.02339	.00069	.00252	-.00070
#2	-.00030	.02058	.00055	.00208	.00160	-.05748	.00062	.00155	-.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3963.2**	**54709.**	**4268.4**
Stddev	11.0	35.	17.3
%RSD	.27824	.06416	.40539
#1	3955.4	54734.	4256.1
#2	3971.0	54685.	4280.6

Sample Name: 280-90592-A-10-A Acquired: 11/13/2016 19:43:30 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00089**	**.11407**	**.00336**	**.01957**	**.27484**	**-.00001**	**-.00152**	**42.608**	**.00045**
Stddev	.00038	.00058	.00216	.00018	.00101	.00002	.00033	.097	.00005
%RSD	42.884	.50558	64.346	.90345	.36888	326.13	21.499	.22859	11.687
#1	.00062	.11367	.00183	.01970	.27412	-.00002	-.00175	42.539	.00041
#2	.00116	.11448	.00489	.01945	.27556	.00001	-.00129	42.677	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00026**	**.00533**	**.00028**	**.11984**	**7.5187**	**.06918**	**9.2315**	**.00351**	**-.00064**
Stddev	.00016	.00020	.00023	.00041	.0354	.00034	.0037	.00001	.00041
%RSD	60.667	3.8295	81.193	.34220	.47104	.48639	.03983	.31092	64.560
#1	-.00015	.00547	.00044	.11955	7.4937	.06894	9.2289	.00352	-.00093
#2	-.00037	.00518	.00012	.12013	7.5438	.06941	9.2341	.00351	-.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.428**	**.00080**	**.47077**	**.00134**	**.96042**	**-.00212**	**-.00104**	**26.183**	**56.031**
Stddev	.136	.00007	.00330	.00018	.00118	.00346	.00034	.089	.191
%RSD	.25989	8.7638	.70196	13.742	.12248	163.33	32.583	.34009	.34009
#1	52.524	.00085	.47311	.00121	.95959	.00033	-.00080	26.120	55.896
#2	52.331	.00075	.46844	.00147	.96125	-.00456	-.00128	26.246	56.166
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00023**	**.72189**	**-.00104**	**.00150**	**-.00152**	**-.01160**	**.00512**	**.01062**	**.00060**
Stddev	.00042	.00368	.00028	.00051	.00089	.00309	.00037	.00023	.00060
%RSD	186.48	.50919	26.801	34.141	58.398	26.621	7.2279	2.1617	100.22
#1	-.00053	.71929	-.00124	.00187	-.00215	-.00942	.00538	.01046	.00018
#2	.00007	.72449	-.00084	.00114	-.00089	-.01379	.00485	.01078	.00103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3941.3**	**54282.**	**4245.7**
Stddev	5.2	13.	2.9
%RSD	.13129	.02362	.06735
#1	3937.7	54291.	4247.8
#2	3945.0	54273.	4243.7

Sample Name: 280-90592-A-11-A Acquired: 11/13/2016 19:46:03 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00084**	**.01081**	**.00300**	**.00692**	**.10838**	**-.00005**	**-.00058**	**17.836**	**.00054**
Stddev	.00001	.00030	.00271	.00065	.00014	.00003	.00189	.020	.00035
%RSD	1.6078	2.7333	90.267	9.3390	.13103	48.927	327.69	.11375	64.433
#1	.00083	.01101	.00491	.00738	.10828	-.00003	-.00191	17.851	.00030
#2	.00085	.01060	.00108	.00647	.10848	-.00007	.00076	17.822	.00079
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00030**	**.00159**	**-.00001**	**.00778**	**.37295**	**.02344**	**2.9500**	**.00320**	**-.00037**
Stddev	.00022	.00000	.00032	.00157	.01620	.00022	.0031	.00006	.00020
%RSD	75.398	.16982	2530.3	20.135	4.3427	.93226	.10505	1.9949	55.914
#1	-.00014	.00160	-.00024	.00889	.38440	.02360	2.9478	.00315	-.00051
#2	-.00046	.00159	.00022	.00667	.36150	.02329	2.9522	.00324	-.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**101.33**	**.00092**	**.09343**	**.00176**	**4.3697**	**-.00563**	**.00012**	**20.865**	**44.652**
Stddev	.14	.00040	.00273	.00006	.0245	.00026	.00258	.040	.085
%RSD	.13855	44.147	2.9256	3.1697	.56023	4.5704	2242.5	.19041	.19041
#1	101.23	.00063	.09150	.00172	4.3524	-.00582	-.00171	20.837	44.592
#2	101.43	.00120	.09536	.00180	4.3870	-.00545	.00194	20.893	44.712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00010**	**.05995**	**.00202**	**.00012**	**-.00163**	**-.02926**	**.00144**	**.00923**	**.00127**
Stddev	.00070	.00007	.00210	.00017	.00033	.02652	.00040	.00007	.00064
%RSD	685.44	.11411	104.06	150.01	20.120	90.659	27.844	.77115	50.285
#1	.00039	.05990	.00350	-.00001	-.00186	-.04801	.00116	.00928	.00173
#2	-.00060	.06000	.00053	.00024	-.00140	-.01050	.00173	.00918	.00082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3946.8**	**54150.**	**4263.7**
Stddev	4.6	371.	10.8
%RSD	.11777	.68589	.25392
#1	3950.1	54413.	4271.3
#2	3943.5	53887.	4256.0

Sample Name: CCVH-4239353 Acquired: 11/13/2016 19:48:35 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00195**	**49.242**	**.00196**	**.00120**	**.00050**	**.00023**	**.98817**	**-.00277**	**.00050**	**-.00028**	**.00044**	**-.00125**
Stddev	.00002	.072	.00297	.00013	.00005	.00006	.00086	.00472	.00004	.00003	.00008	.00001
%RSD	.93120	.14645	151.67	10.837	9.2309	26.705	.08684	170.09	7.6768	11.022	17.918	.80614
#1	.00197	49.293	.00406	.00129	.00054	.00018	.98757	-.00611	.00053	-.00030	.00050	-.00125
#2	.00194	49.191	-.00014	.00111	.00047	.00027	.98878	.00056	.00048	-.00026	.00039	-.00124
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.689**	**.10159**	**.00171**	**.04385**	**.00066**	**-.00147**	**243.82**	**.00067**	**.00483**	**.00084**	**4.9930**	**.00246**
Stddev	.006	.01216	.00002	.00389	.00003	.00015	.21	.00015	.00054	.00011	.0049	.00351
%RSD	.01293	11.970	.89823	8.8828	3.8275	10.320	.08426	22.165	11.198	13.374	.09751	142.93
#1	49.684	.09299	.00172	.04660	.00068	-.00136	243.67	.00077	.00445	.00092	4.9964	-.00003
#2	49.693	.11019	.00169	.04109	.00064	-.00158	243.96	.00056	.00521	.00076	4.9895	.00494
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00171**	**-.01327**	**-.02840**	**-.00084**	**.00037**	W **4.7249**	**.01653**	**-.00010**	**10.200**	**.01372**	**.00011**	**.10653**
Stddev	.00305	.01689	.03614	.00052	.00004	.0013	.00014	.00145	.044	.00031	.00010	.00118
%RSD	178.25	127.28	127.28	61.847	11.289	.02695	.85740	1510.7	.43352	2.2959	90.434	1.1036
#1	.00045	-.02521	-.05395	-.00047	.00040	4.7258	.01643	-.00112	10.169	.01394	.00004	.10570
#2	-.00387	-.00133	-.00284	-.00121	.00034	4.7240	.01663	.00093	10.231	.01349	.00019	.10737
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3898.2**	**53441.**	**4220.6**
Stddev	.0	69.	1.5
%RSD	.00125	.12965	.03452
#1	3898.3	53490.	4219.5
#2	3898.2	53392.	4221.6

Sample Name: CCV-4239351 Acquired: 11/13/2016 19:51:06 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48991**	**.48842**	**.95565**	**.49322**	**.49744**	**.48210**	**-.00103**	**4.9878**	**.49365**	**.49805**	**.50065**	**.48438**	**2.4642**
Stddev	.00046	.00206	.00490	.00507	.00098	.00163	.00057	.0206	.00240	.00126	.00143	.00002	.0013
%RSD	.09294	.42149	.51254	1.0287	.19724	.33779	55.582	.41217	.48714	.25249	.28548	.00434	.05316
#1	.49023	.48697	.95219	.48964	.49674	.48095	-.00143	4.9733	.49195	.49716	.49964	.48440	2.4651
#2	.48959	.48988	.95912	.49681	.49813	.48325	-.00062	5.0024	.49535	.49894	.50166	.48437	2.4632
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.651**	**1.0098**	**19.188**	**.47762**	**.49471**	**5.1591**	**.49626**	**.97022**	**1.0040**	**.02365**	**.98666**	**.96078**	**4.8298**
Stddev	.139	.0025	.012	.00054	.00063	.0139	.00203	.00139	.0070	.00225	.00208	.00069	.0169
%RSD	.27941	.24362	.06264	.11216	.12645	.27009	.40892	.14306	.70006	9.5238	.21105	.07188	.34904
#1	49.553	1.0081	19.179	.47800	.49515	5.1689	.49483	.96924	.99899	.02525	.98813	.96127	4.8179
#2	49.749	1.0116	19.196	.47724	.49427	5.1492	.49770	.97120	1.0089	.02206	.98519	.96029	4.8418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.336**	**.99771**	**.48306**	**.00886**	**.47318**	**1.0179**	**.02001**	**.47671**	**.46951**	**.49985**
Stddev	.036	.00210	.00150	.00052	.00073	.0045	.01887	.00127	.00109	.00343
%RSD	.34904	.21064	.31120	5.8203	.15485	.43891	94.313	.26590	.23119	.68702
#1	10.310	.99623	.48200	.00850	.47370	1.0147	.03336	.47582	.47028	.49742
#2	10.361	.99920	.48412	.00923	.47267	1.0210	.00667	.47761	.46874	.50228
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3986.2**	**54601.**	**4232.9**
Stddev	3.9	99.	10.5
%RSD	.09835	.18147	.24785
#1	3983.4	54531.	4240.3
#2	3989.0	54671.	4225.5

Sample Name: CCB Acquired: 11/13/2016 19:53:26 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00122**	**.00027**	**.00335**	**.00101**	**.00012**	**-.00001**	**.00155**	**-.00371**	**.00025**	**.00044**	**.00005**	**-.00131**	**-.00096**
Stddev	.00012	.00027	.00328	.00067	.00031	.00005	.00108	.00083	.00001	.00007	.00013	.00020	.00042
%RSD	9.5110	98.700	97.981	66.669	256.42	464.92	69.589	22.440	2.1642	16.275	248.14	15.107	43.243
#1	.00130	.00046	.00567	.00149	.00034	.00002	.00079	-.00430	.00024	.00049	.00014	-.00117	-.00067
#2	.00114	.00008	.00103	.00053	-.00010	-.00005	.00231	-.00312	.00025	.00039	-.00004	-.00145	-.00126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09854**	**.00141**	**.00203**	**.00003**	**.00218**	**.21641**	**-.00006**	**.00026**	**.00037**	**.01938**	**.00244**	**.00395**	**-.00786**
Stddev	.04944	.00033	.00141	.00008	.00070	.00381	.00062	.00012	.00198	.00117	.00081	.00157	.01693
%RSD	50.175	23.497	69.268	301.05	31.895	1.7594	983.95	47.058	536.20	6.0253	33.059	39.651	215.48
#1	.13350	.00118	.00104	-.00003	.00169	.21371	-.00050	.00018	-.00103	.01856	.00300	.00284	-.01983
#2	.06358	.00164	.00302	.00008	.00268	.21910	.00037	.00035	.00177	.02021	.00187	.00506	.00412
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01682**	**.00001**	**.00016**	**.00298**	**.00005**	**.00035**	**-.02645**	**-.00002**	**-.00053**	**-.00106**
Stddev	.03624	.00051	.00008	.00053	.00011	.00184	.01614	.00071	.00009	.00118
%RSD	215.48	6564.8	46.681	17.615	208.98	526.28	61.022	4635.1	17.246	111.88
#1	-.04244	-.00036	.00011	.00336	.00013	.00165	-.03786	.00049	-.00060	-.00022
#2	.00881	.00037	.00022	.00261	-.00002	-.00095	-.01504	-.00052	-.00047	-.00189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4006.2**	**55860.**	**4195.5**
Stddev	10.5	222.	33.6
%RSD	.26204	.39743	.80163
#1	3998.8	55703.	4171.7
#2	4013.7	56017.	4219.2

Sample Name: CCVL-4245706 Acquired: 11/13/2016 19:56:01 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01093**	**.10012**	**.01425**	**.09696**	**.00996**	**.00088**	**.10406**	**.20124**	**.00513**	**.01031**	**.01007**	**.01415**
Stddev	.00005	.00008	.00133	.00026	.00018	.00005	.00058	.00003	.00007	.00002	.00007	.00036
%RSD	.44561	.07674	9.3482	.26607	1.7993	5.2725	.56151	.01272	1.3220	.16934	.70388	2.5267
#1	.01096	.10018	.01331	.09678	.00984	.00085	.10365	.20125	.00517	.01030	.01002	.01440
#2	.01089	.10007	.01520	.09714	.01009	.00091	.10447	.20122	.00508	.01032	.01012	.01390
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09821**	**3.1011**	**.02377**	**.19969**	**.00984**	**.01865**	**1.1769**	**.04031**	**2.7564**	**.01002**	**.01496**	**.01843**
Stddev	.00013	.0117	.00337	.00169	.00001	.00031	.0009	.00006	.0044	.00029	.00043	.00092
%RSD	.13711	.37598	14.181	.84392	.08354	1.6502	.07801	.14622	.15815	2.9133	2.9059	5.0002
#1	.09811	3.1093	.02138	.19850	.00984	.01843	1.1762	.04026	2.7595	.00981	.01526	.01778
#2	.09830	3.0928	.02615	.20089	.00985	.01887	1.1775	.04035	2.7533	.01022	.01465	.01908
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01544**	**.46811**	**1.0017**	**.09713**	**.00992**	**.01692**	**.00892**	**.01634**	F **.00850**	**.00919**	**.01836**	**.01585**
Stddev	.00070	.00503	.0108	.00167	.00005	.00158	.00020	.00076	.03874	.00070	.00027	.00169
%RSD	4.5552	1.0754	1.0754	1.7222	.53372	9.3466	2.1927	4.6329	455.52	7.6535	1.4448	10.689
#1	.01594	.46455	.99413	.09831	.00995	.01804	.00878	.01687	-.01889	.00969	.01855	.01465
#2	.01494	.47167	1.0094	.09594	.00988	.01580	.00906	.01580	.03589	.00869	.01818	.01705
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4046.8**	**55913.**	**4246.4**
Stddev	.5	36.	4.6
%RSD	.01219	.06401	.10791
#1	4046.5	55887.	4243.1
#2	4047.2	55938.	4249.6

Sample Name: 280-90592-A-12-A Acquired: 11/13/2016 19:58:35 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00051**	**.01852**	**.00451**	**.01816**	**.11862**	**-.00001**	**-.00151**	**22.407**	**.00031**
Stddev	.00032	.00024	.00287	.00012	.00054	.00012	.00029	.015	.00015
%RSD	63.245	1.2992	63.643	.63422	.45741	1054.7	19.007	.06570	49.256
#1	.00028	.01835	.00248	.01824	.11823	.00008	-.00131	22.418	.00042
#2	.00073	.01869	.00653	.01808	.11900	-.00010	-.00171	22.397	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00036**	**.00115**	**-.00018**	**.02659**	**1.3267**	**.03064**	**7.1665**	**.00433**	**-.00065**
Stddev	.00014	.00000	.00052	.00429	.0559	.00040	.0094	.00009	.00055
%RSD	39.880	.04638	288.88	16.120	4.2135	1.2987	.13130	2.0003	85.783
#1	-.00046	.00115	.00019	.02356	1.2872	.03092	7.1732	.00427	-.00104
#2	-.00026	.00115	-.00055	.02962	1.3662	.03036	7.1599	.00439	-.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**60.607**	**.00131**	**.03309**	**.00115**	**.27961**	**-.00301**	**-.00171**	**13.365**	**28.600**
Stddev	.005	.00032	.00226	.00074	.00071	.00158	.00006	.008	.017
%RSD	.00804	24.263	6.8183	64.625	.25260	52.597	3.4977	.05883	.05883
#1	60.610	.00154	.03469	.00168	.27911	-.00413	-.00175	13.359	28.588
#2	60.603	.00109	.03150	.00063	.28011	-.00189	-.00167	13.370	28.612
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**.14556**	**.00118**	**.00050**	**-.00060**	**-.01724**	**.00005**	**.00564**	**.00068**
Stddev	.00061	.00012	.00050	.00036	.00024	.01417	.00037	.00008	.00340
%RSD	92.373	.08151	42.146	72.320	40.038	82.213	767.97	1.3600	498.62
#1	-.00023	.14565	.00083	.00025	-.00043	-.00722	-.00021	.00569	.00309
#2	-.00110	.14548	.00153	.00076	-.00077	-.02726	.00031	.00558	-.00172
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3993.7**	**54657.**	**4250.7**
Stddev	14.6	190.	6.7
%RSD	.36460	.34782	.15816
#1	4004.0	54523.	4245.9
#2	3983.4	54792.	4255.4

Sample Name: 280-90592-A-13-A Acquired: 11/13/2016 20:01:08 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00093**	**.07675**	**.00276**	**.01167**	**.03617**	**.00005**	**-.00071**	**1.3531**	**.00031**
Stddev	.00011	.00001	.00154	.00014	.00008	.00009	.00026	.0124	.00007
%RSD	11.997	.01313	55.786	1.2345	.22963	165.24	36.252	.91669	22.164
#1	.00101	.07674	.00385	.01156	.03623	-.00001	-.00053	1.3443	.00026
#2	.00085	.07675	.00167	.01177	.03611	.00012	-.00089	1.3619	.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**.00562**	**-.00017**	**.05288**	**.60478**	**.00591**	**.58463**	**.00595**	**-.00038**
Stddev	.00009	.00024	.00016	.00267	.04382	.00235	.00387	.00000	.00017
%RSD	188.53	4.2899	96.721	5.0431	7.2451	39.680	.66247	.08233	43.726
#1	.00002	.00579	-.00028	.05477	.63576	.00757	.58737	.00595	-.00026
#2	-.00011	.00545	-.00005	.05100	.57379	.00425	.58189	.00595	-.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.879**	**.00085**	**.00622**	**.00053**	**2.8525**	**-.00157**	**.00106**	**11.675**	**24.986**
Stddev	.125	.00005	.00011	.00046	.0021	.00195	.00167	.038	.082
%RSD	.23590	5.3972	1.7808	86.657	.07275	124.36	157.58	.32781	.32781
#1	52.968	.00088	.00615	.00021	2.8510	-.00295	-.00012	11.648	24.928
#2	52.791	.00082	.00630	.00086	2.8540	-.00019	.00224	11.703	25.043
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00073**	**.01121**	**.00079**	**.00050**	**.00036**	**-.05624**	**-.00045**	**.01018**	**-.00013**
Stddev	.00100	.00005	.00120	.00008	.00026	.01224	.00037	.00019	.00204
%RSD	136.65	.45168	152.00	15.954	72.517	21.761	82.467	1.8941	1533.7
#1	-.00144	.01117	.00164	.00055	.00054	-.06489	-.00019	.01032	.00131
#2	-.00002	.01124	-.00006	.00044	.00017	-.04759	-.00071	.01005	-.00157
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4026.0**	**55527.**	**4271.1**
Stddev	2.7	302.	21.6
%RSD	.06781	.54359	.50489
#1	4024.1	55740.	4286.4
#2	4027.9	55313.	4255.9

Sample Name: 280-90592-A-14-A Acquired: 11/13/2016 20:03:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.59967**	**.00047**	**.00360**	**.11809**	**-.00007**	**-.00098**	**4.6742**	**.00060**
Stddev	.00065	.00064	.00010	.00047	.00020	.00006	.00389	.0306	.00023
%RSD	78.205	.10666	21.345	13.208	.17177	84.994	395.45	.65426	38.974
#1	.00037	.60013	.00040	.00393	.11795	-.00003	-.00373	4.6958	.00044
#2	.00130	.59922	.00054	.00326	.11824	-.00011	.00176	4.6525	.00077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00052**	**.00139**	**.00071**	**.44522**	**.31362**	**.01489**	**2.6219**	**.00390**	**-.00032**
Stddev	.00003	.00015	.00001	.00435	.00469	.00099	.0040	.00008	.00037
%RSD	6.3170	10.549	1.2632	.97636	1.4964	6.6799	.15338	1.9969	113.60
#1	-.00049	.00150	.00072	.44829	.31694	.01559	2.6247	.00385	-.00058
#2	-.00054	.00129	.00071	.44214	.31030	.01419	2.6190	.00396	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**86.684**	**.00069**	**.03336**	**.00017**	**9.5264**	**-.00097**	**.00163**	**29.638**	**63.425**
Stddev	.267	.00017	.00106	.00030	.0533	.00080	.00472	.015	.032
%RSD	.30799	25.162	3.1887	176.31	.55926	81.873	289.60	.05036	.05036
#1	86.873	.00082	.03260	-.00004	9.4887	-.00154	-.00171	29.648	63.447
#2	86.495	.00057	.03411	.00038	9.5640	-.00041	.00497	29.627	63.402
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00085**	**.03344**	**.00113**	**.00626**	**.00149**	**-.03263**	**.00280**	**.02061**	**.00024**
Stddev	.00169	.00017	.00138	.00021	.00378	.03562	.00046	.00068	.00341
%RSD	198.40	.52087	122.29	3.3849	253.30	109.17	16.280	3.3156	1422.1
#1	.00034	.03332	.00015	.00641	-.00118	-.00744	.00312	.02013	.00265
#2	-.00205	.03357	.00211	.00611	.00417	-.05782	.00247	.02110	-.00217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4001.1**	**55081.**	**4282.1**
Stddev	1.5	229.	36.7
%RSD	.03719	.41587	.85702
#1	4000.1	55243.	4256.1
#2	4002.2	54919.	4308.0

Sample Name: 280-90592-A-15-A Acquired: 11/13/2016 20:06:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00089**	**.12037**	**.00258**	**.03521**	**.16993**	**.00008**	**-.00039**	**8.8554**	**.00033**
Stddev	.00023	.00027	.00166	.00008	.00075	.00007	.00244	.0025	.00006
%RSD	25.490	.22104	64.239	.22871	.44270	85.333	619.12	.02851	16.834
#1	.00105	.12056	.00141	.03515	.16939	.00012	.00133	8.8536	.00037
#2	.00073	.12018	.00375	.03527	.17046	.00003	-.00212	8.8572	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.00082**	**-.00010**	**.06562**	**1.0493**	**.00665**	**4.3757**	**.00781**	**-.00068**
Stddev	.00007	.00001	.00003	.00423	.0261	.00073	.0017	.00004	.00002
%RSD	169.21	1.0760	25.091	6.4424	2.4854	11.014	.03807	.50127	3.6493
#1	-.00001	.00082	-.00009	.06861	1.0309	.00613	4.3769	.00779	-.00066
#2	.00009	.00083	-.00012	.06263	1.0677	.00717	4.3745	.00784	-.00069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**43.832**	**.00507**	**.00475**	**.00158**	**4.8283**	**-.00119**	**.00339**	**8.9950**	**19.249**
Stddev	.113	.00038	.00093	.00014	.0094	.00198	.00144	.0356	.076
%RSD	.25734	7.4909	19.509	8.6202	.19420	165.72	42.592	.39537	.39537
#1	43.911	.00480	.00541	.00148	4.8349	-.00259	.00441	8.9699	19.196
#2	43.752	.00533	.00410	.00167	4.8216	.00020	.00237	9.0202	19.303
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00083**	**.07706**	**.00145**	**.00230**	**.00029**	**-.04410**	**-.00024**	**.01032**	**.00189**
Stddev	.00067	.00046	.00216	.00003	.00121	.03334	.00007	.00007	.00156
%RSD	80.116	.59486	149.28	1.1454	418.93	75.593	27.124	.63024	82.501
#1	-.00036	.07674	-.00008	.00232	-.00057	-.02053	-.00029	.01027	.00079
#2	-.00130	.07739	.00298	.00228	.00115	-.06767	-.00019	.01037	.00299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4039.9**	**55633.**	**4313.4**
Stddev	3.8	44.	20.1
%RSD	.09308	.07851	.46626
#1	4042.5	55664.	4299.2
#2	4037.2	55603.	4327.6

Sample Name: 280-90592-A-16-A Acquired: 11/13/2016 20:08:44 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00063**	**.11231**	**.00448**	**.03816**	**.31881**	**-.00012**	**-.00064**	**60.909**	**.00058**
Stddev	.00024	.00047	.00144	.00006	.00004	.00002	.00072	.132	.00018
%RSD	38.289	.41752	32.162	.14414	.01156	12.266	113.37	.21674	31.078
#1	.00080	.11264	.00346	.03812	.31884	-.00013	-.00013	61.003	.00071
#2	.00046	.11198	.00550	.03820	.31879	-.00011	-.00115	60.816	.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00090**	**.00075**	**.00017**	**.88908**	**1.9759**	**.07591**	**25.466**	**.70070**	**.00074**
Stddev	.00002	.00014	.00004	.00446	.0053	.00038	.051	.00002	.00040
%RSD	2.5336	18.670	21.720	.50217	.26854	.49748	.19907	.00294	54.507
#1	.00088	.00084	.00014	.89223	1.9721	.07617	25.430	.70072	.00103
#2	.00091	.00065	.00020	.88592	1.9796	.07564	25.502	.70069	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**108.38**	**.00061**	**.05518**	**.00005**	**2.7782**	**-.00075**	**-.00605**	**17.293**	**37.007**
Stddev	.73	.00047	.00040	.00154	.0019	.00153	.00015	.014	.029
%RSD	.67461	76.479	.72109	3169.3	.06892	203.10	2.4780	.07859	.07859
#1	107.86	.00094	.05490	-.00104	2.7768	.00033	-.00594	17.283	36.986
#2	108.89	.00028	.05546	.00114	2.7795	-.00184	-.00615	17.303	37.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00139**	**.33398**	**-.00062**	**.00218**	**.00203**	**-.00240**	**-.00051**	**.00857**	**-.00100**
Stddev	.00072	.00051	.00183	.00012	.00108	.02524	.00039	.00022	.00001
%RSD	51.979	.15377	293.64	5.7415	53.257	1050.0	76.298	2.5775	1.3548
#1	-.00088	.33361	.00067	.00209	.00127	.01544	-.00079	.00872	-.00099
#2	-.00190	.33434	-.00191	.00226	.00280	-.02025	-.00024	.00841	-.00101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3923.2**	**53772.**	**4247.5**
Stddev	12.1	22.	10.9
%RSD	.30858	.04113	.25673
#1	3914.7	53757.	4239.8
#2	3931.8	53788.	4255.2

Sample Name: 280-90592-A-17-A Acquired: 11/13/2016 20:11:15 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00060**	**.00387**	**.00368**	**.02705**	**.17352**	**-.00002**	**-.00162**	**35.473**	**.00046**
Stddev	.00000	.00018	.00068	.00048	.00092	.00003	.00049	.067	.00021
%RSD	.07307	4.6462	18.498	1.7619	.52924	124.04	30.041	.18966	45.510
#1	.00060	.00375	.00320	.02672	.17287	-.00000	-.00197	35.521	.00031
#2	.00060	.00400	.00416	.02739	.17417	-.00004	-.00128	35.426	.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00011**	**.00022**	**-.00013**	**1.6456**	**1.4135**	**.03819**	**13.258**	**.19267**	**-.00063**
Stddev	.00024	.00018	.00015	.0076	.0360	.00071	.050	.00017	.00014
%RSD	228.11	81.575	119.88	.46063	2.5505	1.8656	.37528	.08895	21.862
#1	-.00006	.00035	-.00023	1.6509	1.3880	.03869	13.223	.19279	-.00072
#2	.00028	.00009	-.00002	1.6402	1.4390	.03769	13.294	.19255	-.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.609**	**.00010**	**.22368**	**.00051**	**1.6111**	**-.00263**	**-.00205**	**19.900**	**42.585**
Stddev	.443	.00055	.00052	.00025	.0051	.00467	.00254	.045	.096
%RSD	.85764	554.36	.23335	48.566	.31547	177.49	123.56	.22599	.22599
#1	51.296	-.00029	.22331	.00068	1.6075	.00067	-.00026	19.931	42.653
#2	51.922	.00049	.22405	.00033	1.6147	-.00594	-.00384	19.868	42.517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00183**	**.18243**	**.00186**	**-.00019**	**-.00144**	**-.04672**	**-.00071**	**.00177**	**.00004**
Stddev	.00003	.00040	.00041	.00003	.00179	.00639	.00044	.00053	.00099
%RSD	1.5952	.22054	22.237	18.229	123.76	13.671	62.479	30.080	2788.9
#1	-.00185	.18271	.00215	-.00021	-.00018	-.04220	-.00040	.00215	-.00067
#2	-.00181	.18214	.00157	-.00016	-.00271	-.05123	-.00103	.00140	.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3998.3**	**55071.**	**4307.2**
Stddev	12.2	177.	25.1
%RSD	.30508	.32207	.58347
#1	4006.9	55196.	4289.4
#2	3989.7	54945.	4324.9

Sample Name: 280-90592-A-18-A Acquired: 11/13/2016 20:13:48 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00106**	**.07101**	**.00320**	**.01276**	**.04944**	**.00004**	**.00003**	**3.0727**	**.00033**
Stddev	.00007	.00094	.00108	.00027	.00104	.00004	.00205	.0487	.00002
%RSD	6.2351	1.3241	33.765	2.1178	2.1117	117.29	7363.9	1.5861	4.6657
#1	.00111	.07035	.00243	.01257	.05018	.00007	-.00142	3.1072	.00034
#2	.00101	.07168	.00396	.01295	.04870	.00001	.00147	3.0383	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00000**	**.00152**	**-.00019**	**.03802**	**1.4468**	**.01052**	**1.5136**	**.00138**	**-.00061**
Stddev	.00013	.00015	.00007	.00173	.0802	.00044	.0017	.00002	.00063
%RSD	4402.1	9.8051	39.345	4.5453	5.5439	4.1794	.11322	1.1312	104.76
#1	-.00010	.00162	-.00024	.03679	1.3901	.01021	1.5124	.00137	-.00016
#2	.00009	.00141	-.00014	.03924	1.5035	.01083	1.5148	.00139	-.00105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**29.101**	**.00055**	**.00542**	**.00038**	**.19653**	**-.00122**	**-.00289**	**12.437**	**26.615**
Stddev	.857	.00017	.00254	.00090	.00145	.00050	.00151	.202	.432
%RSD	2.9444	30.408	46.986	236.49	.73815	41.114	52.301	1.6231	1.6231
#1	29.707	.00067	.00362	-.00026	.19550	-.00087	-.00182	12.580	26.921
#2	28.495	.00043	.00721	.00101	.19756	-.00158	-.00396	12.294	26.310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00158**	**.01841**	**.00237**	**.00187**	**-.00015**	**-.03775**	**-.00016**	**.00538**	**-.00085**
Stddev	.00094	.00034	.00020	.00043	.00181	.01045	.00009	.00035	.00122
%RSD	59.716	1.8222	8.6248	23.195	1182.3	27.683	52.847	6.5842	142.61
#1	-.00225	.01865	.00222	.00157	.00113	-.04514	-.00022	.00563	-.00172
#2	-.00091	.01817	.00251	.00218	-.00143	-.03036	-.00010	.00513	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4071.4**	**56307.**	**4300.5**
Stddev	2.9	163.	32.7
%RSD	.07131	.28871	.75962
#1	4073.5	56192.	4277.4
#2	4069.4	56422.	4323.6

Sample Name: 280-90592-A-19-A Acquired: 11/13/2016 20:16:21 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**.04914**	**.00491**	**.01696**	**.22801**	**-.00012**	**-.00157**	**39.157**	**.00067**
Stddev	.00003	.00031	.00130	.00040	.00028	.00005	.00220	.066	.00003
%RSD	3.6494	.62773	26.454	2.3333	.12476	40.999	140.77	.16785	4.0197
#1	.00068	.04936	.00399	.01724	.22821	-.00009	-.00001	39.203	.00069
#2	.00071	.04892	.00583	.01668	.22781	-.00016	-.00312	39.110	.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00034**	**.00036**	**-.00023**	**.55678**	**1.7297**	**.03259**	**9.7618**	**.15265**	**-.00091**
Stddev	.00023	.00049	.00018	.00039	.0030	.00055	.0202	.00025	.00033
%RSD	67.331	137.88	78.239	.06918	.17152	1.6790	.20678	.16572	36.647
#1	.00018	.00001	-.00036	.55651	1.7276	.03298	9.7761	.15283	-.00067
#2	.00050	.00071	-.00010	.55705	1.7318	.03221	9.7476	.15248	-.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.519**	**.00083**	**.13182**	**.00111**	**1.4001**	**-.00111**	**-.00054**	**21.668**	**46.369**
Stddev	.137	.00028	.00166	.00095	.0033	.00166	.00337	.024	.052
%RSD	.26034	33.538	1.2603	86.163	.23710	149.33	624.69	.11191	.11191
#1	52.422	.00063	.13299	.00178	1.3977	.00006	-.00292	21.651	46.333
#2	52.616	.00103	.13064	.00043	1.4024	-.00228	.00184	21.685	46.406
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00081**	**.15560**	**.00068**	**.00093**	**.00103**	**-.01045**	**-.00073**	**.00564**	**.00014**
Stddev	.00085	.00005	.00025	.00001	.00153	.01328	.00012	.00014	.00121
%RSD	104.47	.03454	36.827	1.2716	149.14	127.05	15.933	2.5176	875.58
#1	-.00141	.15564	.00085	.00094	.00211	-.01985	-.00081	.00574	.00100
#2	-.00021	.15557	.00050	.00092	-.00006	-.00106	-.00065	.00554	-.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3998.8**	**54688.**	**4303.7**
Stddev	3.0	183.	11.0
%RSD	.07486	.33551	.25580
#1	4000.9	54558.	4311.5
#2	3996.7	54817.	4295.9

Sample Name: 280-90592-A-20-A Acquired: 11/13/2016 20:18:53 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350339 6010B

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.01566**	**.00283**	**.00727**	**.19310**	**.00019**	**-.00159**	**8.4262**	**.00018**
Stddev	.00047	.00025	.00118	.00024	.00038	.00001	.00067	.0078	.00014
%RSD	56.437	1.5933	41.821	3.3026	.19638	5.4576	41.960	.09255	82.128
#1	.00117	.01584	.00367	.00710	.19337	.00020	-.00112	8.4207	.00028
#2	.00050	.01549	.00199	.00744	.19283	.00018	-.00206	8.4317	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00015**	**.00099**	**-.00053**	**.00682**	**.66406**	**.00925**	**4.2661**	**.02076**	**-.00050**
Stddev	.00004	.00003	.00019	.00168	.01815	.00037	.0227	.00013	.00006
%RSD	23.365	2.6009	36.696	24.579	2.7331	4.0010	.53294	.61227	12.616
#1	.00013	.00097	-.00039	.00563	.67690	.00951	4.2822	.02085	-.00055
#2	.00018	.00100	-.00067	.00800	.65123	.00899	4.2500	.02067	-.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**47.509**	**.00193**	**.00517**	**.00047**	**.64061**	**-.00132**	**.00086**	**17.431**	**37.302**
Stddev	.047	.00021	.00007	.00008	.00241	.00106	.00048	.111	.237
%RSD	.09865	10.718	1.3678	16.691	.37542	80.026	55.270	.63468	.63468
#1	47.542	.00179	.00522	.00041	.63891	-.00207	.00120	17.509	37.469
#2	47.475	.00208	.00512	.00052	.64231	-.00057	.00052	17.353	37.135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00102**	**.04538**	**.00140**	**.00015**	**-.00156**	**-.02625**	**-.00014**	**.00123**	**-.00015**
Stddev	.00012	.00006	.00075	.00019	.00030	.01226	.00019	.00020	.00263
%RSD	11.548	.14012	53.247	125.46	18.998	46.695	133.47	16.313	1780.0
#1	-.00093	.04533	.00193	.00002	-.00135	-.03492	-.00028	.00137	-.00201
#2	-.00110	.04542	.00087	.00029	-.00177	-.01758	-.00001	.00109	.00171
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4038.4**	**55742.**	**4318.0**
Stddev	1.6	65.	8.9
%RSD	.03875	.11632	.20601
#1	4037.3	55788.	4311.7
#2	4039.5	55696.	4324.3

Sample Name: CCVH-4239353 Acquired: 11/13/2016 20:21:26 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00142**	**49.254**	**.00145**	**.00070**	**.00034**	**.00016**	**.98917**	**-.00048**	**.00051**	**-.00063**	**.00041**	**-.00177**
Stddev	.00007	.174	.00446	.00064	.00039	.00001	.00380	.00196	.00015	.00003	.00013	.00048
%RSD	4.7439	.35290	307.15	91.159	114.15	6.0627	.38399	410.40	30.376	5.2959	30.452	27.118
#1	.00137	49.377	-.00170	.00025	.00062	.00017	.99186	.00091	.00062	-.00065	.00032	-.00143
#2	.00147	49.131	.00461	.00116	.00007	.00016	.98649	-.00186	.00040	-.00061	.00050	-.00211
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.933**	**.08850**	**.00094**	**.04648**	**.00068**	**-.00193**	**244.27**	**.00063**	**.00386**	**.00018**	**4.9711**	**.00502**
Stddev	.051	.02298	.00022	.00059	.00001	.00006	.58	.00023	.00080	.00045	.0051	.00000
%RSD	.10262	25.964	23.711	1.2666	.93096	3.3576	.23662	36.990	20.625	254.42	.10225	.08074
#1	49.897	.10475	.00078	.04606	.00068	-.00188	244.67	.00047	.00330	.00050	4.9675	.00502
#2	49.969	.07226	.00110	.04689	.00069	-.00198	243.86	.00080	.00442	-.00014	4.9747	.00502
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00384**	**-.02664**	**-.05702**	**-.00120**	**.00037**	W **4.7000**	**.01671**	**.00077**	**10.192**	**.01344**	**-.00012**	**.10406**
Stddev	.00062	.01441	.03084	.00049	.00001	.0179	.00067	.00099	.024	.00044	.00025	.00132
%RSD	16.030	54.097	54.097	40.605	1.9710	.37982	4.0273	127.93	.23404	3.2601	207.28	1.2712
#1	-.00340	-.01645	-.03521	-.00155	.00037	4.7126	.01718	.00007	10.175	.01313	-.00030	.10312
#2	-.00427	-.03684	-.07883	-.00086	.00036	4.6874	.01623	.00147	10.209	.01375	.00006	.10499
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3933.1**	**53593.**	**4222.4**
Stddev	10.4	277.	17.2
%RSD	.26326	.51720	.40727
#1	3940.4	53397.	4210.3
#2	3925.8	53789.	4234.6

Sample Name: CCV-4239351 Acquired: 11/13/2016 20:23:56 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49130**	**.49720**	**.96443**	**.50096**	**.49687**	**.48237**	**-.00079**	**4.9869**	**.50167**	**.50650**	**.50783**	**.48264**	**2.4610**
Stddev	.00004	.00962	.00850	.00695	.00141	.00270	.00139	.0292	.00778	.00971	.00872	.00019	.0135
%RSD	.00796	1.9348	.88137	1.3870	.28395	.55962	176.36	.58598	1.5499	1.9170	1.7178	.03957	.54733
#1	.49127	.49040	.95842	.49605	.49588	.48046	.00020	4.9663	.49617	.49963	.50167	.48277	2.4515
#2	.49133	.50400	.97044	.50588	.49787	.48428	-.00177	5.0076	.50717	.51337	.51400	.48250	2.4705
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.667**	**1.0106**	**19.198**	**.47651**	**.50286**	**5.1125**	**.50496**	**.98694**	**1.0193**	**.02019**	**1.0009**	**.97507**	**4.8227**
Stddev	.209	.0028	.013	.00046	.00749	.0471	.00852	.01831	.0158	.00237	.0097	.01018	.0174
%RSD	.42131	.27468	.06996	.09691	1.4892	.92033	1.6876	1.8555	1.5494	11.764	.97100	1.0439	.36158
#1	49.519	1.0086	19.207	.47618	.49757	5.0793	.49893	.97399	1.0082	.01851	.99403	.96787	4.8103
#2	49.815	1.0125	19.188	.47683	.50816	5.1458	.51098	.99989	1.0305	.02186	1.0078	.98226	4.8350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.321**	**1.0150**	**.48133**	**.00896**	**.47358**	**1.0400**	**-.01567**	**.47392**	**.46943**	**.50225**
Stddev	.037	.0140	.00195	.00105	.00043	.0184	.02363	.00003	.00105	.00563
%RSD	.36158	1.3821	.40545	11.766	.09108	1.7721	150.81	.00733	.22441	1.1205
#1	10.294	1.0051	.47995	.00822	.47388	1.0270	.00104	.47395	.47018	.49827
#2	10.347	1.0249	.48271	.00971	.47327	1.0530	-.03238	.47390	.46869	.50623
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3965.8**	**55115.**	**4281.3**
Stddev	64.2	104.	27.6
%RSD	1.6182	.18916	.64440
#1	4011.2	55041.	4300.8
#2	3920.4	55188.	4261.8

Sample Name: CCB Acquired: 11/13/2016 20:26:17 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00092**	**.00105**	**.00219**	**.00058**	**.00007**	**-.00002**	**.00082**	**-.00778**	**.00034**	**.00051**	**.00025**	**-.00081**	**.00115**
Stddev	.00002	.00156	.00013	.00045	.00005	.00007	.00091	.00481	.00027	.00028	.00033	.00000	.00195
%RSD	2.3113	149.64	5.8590	78.296	79.820	347.52	111.13	61.805	79.708	55.598	132.52	.29971	169.46
#1	.00091	-.00006	.00228	.00090	.00010	-.00007	.00017	-.00438	.00053	.00071	.00002	-.00082	.00253
#2	.00094	.00215	.00210	.00026	.00003	.00003	.00146	-.01118	.00015	.00031	.00048	-.00081	-.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.08025**	**.00155**	**.00100**	**.00011**	**.00183**	**.17647**	**-.00005**	**.00017**	**.00225**	**.01585**	**.00043**	**.00109**	**-.00925**
Stddev	.04051	.00120	.00127	.00001	.00005	.01333	.00002	.00009	.00167	.00222	.00057	.00039	.00077
%RSD	50.472	77.298	126.95	7.2712	2.8410	7.5521	50.804	53.477	74.381	13.980	130.66	35.932	8.2986
#1	.10889	.00070	.00190	.00012	.00186	.18589	-.00006	.00024	.00343	.01742	.00003	.00136	-.00980
#2	.05161	.00240	.00010	.00011	.00179	.16704	-.00003	.00011	.00106	.01428	.00083	.00081	-.00871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.01980**	**.00080**	**.00008**	**.00254**	**.00029**	**.00093**	**-.03171**	**-.00032**	**-.00024**	**.00022**
Stddev	.00164	.00115	.00003	.00111	.00025	.00194	.02446	.00027	.00047	.00169
%RSD	8.2986	143.55	39.999	43.791	88.415	208.59	77.149	85.931	194.02	769.78
#1	-.02097	-.00001	.00006	.00332	.00011	-.00044	-.04901	-.00012	-.00057	-.00098
#2	-.01864	.00161	.00011	.00175	.00046	.00230	-.01441	-.00051	.00009	.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4049.1**	**56102.**	**4231.3**
Stddev	.3	84.	2.7
%RSD	.00765	.15042	.06485
#1	4049.3	56042.	4229.4
#2	4048.8	56161.	4233.2

Sample Name: CCVL-4245706 Acquired: 11/13/2016 20:28:52 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01114**	**.10015**	**.01493**	**.09642**	**.01039**	**.00093**	**.10437**	**.19896**	**.00509**	**.01052**	**.00990**	**.01384**
Stddev	.00004	.00002	.00201	.00045	.00005	.00004	.00021	.00245	.00013	.00017	.00006	.00026
%RSD	.35232	.01642	13.486	.46567	.49303	4.3881	.19972	1.2317	2.5906	1.6184	.65325	1.8766
#1	.01117	.10016	.01350	.09674	.01035	.00095	.10452	.19723	.00518	.01064	.00986	.01365
#2	.01112	.10014	.01635	.09611	.01043	.00090	.10423	.20069	.00499	.01040	.00995	.01402
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10205**	**3.0982**	**.02033**	**.20196**	**.00989**	**.01839**	**1.1741**	**.04054**	**2.7636**	**.01033**	**.01026**	**.02003**
Stddev	.00034	.0416	.00006	.00255	.00010	.00043	.0129	.00052	.0119	.00045	.00139	.00173
%RSD	.33154	1.3417	.31283	1.2617	1.0432	2.3297	1.0948	1.2768	.42942	4.3445	13.571	8.6142
#1	.10229	3.1276	.02028	.20016	.00981	.01809	1.1832	.04091	2.7552	.01065	.01125	.01881
#2	.10181	3.0688	.02037	.20376	.00996	.01870	1.1650	.04018	2.7720	.01002	.00928	.02125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01078**	**.48835**	**1.0451**	**.09888**	**.00994**	**.01693**	**.00895**	**.01461**	F **.03087**	**.00887**	**.01830**	**.01470**
Stddev	.00644	.00096	.0021	.00035	.00016	.00065	.00014	.00004	.01396	.00015	.00002	.00035
%RSD	59.748	.19676	.19676	.35757	1.6091	3.8330	1.5582	.26435	45.227	1.7134	.10461	2.4137
#1	.00623	.48767	1.0436	.09863	.01006	.01647	.00905	.01458	.02100	.00898	.01829	.01445
#2	.01534	.48903	1.0465	.09913	.00983	.01739	.00886	.01464	.04075	.00876	.01832	.01495
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4065.3**	**56282.**	**4225.2**
Stddev	7.3	35.	58.3
%RSD	.17863	.06240	1.3805
#1	4070.5	56306.	4184.0
#2	4060.2	56257.	4266.5

Sample Name: MB 280-350304/1-A Acquired: 11/13/2016 20:31:25 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/10 Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00058**	**.00518**	**.00147**	**-.00009**	**-.00012**	**-.00003**	**.00352**	**.01217**	**.00013**
Stddev	.00009	.00038	.00144	.00027	.00026	.00002	.00108	.00705	.00007
%RSD	15.130	7.3108	97.919	290.48	223.47	97.679	30.613	57.933	55.284
#1	.00052	.00492	.00045	.00010	.00007	-.00004	.00428	.01716	.00018
#2	.00064	.00545	.00248	-.00028	-.00030	-.00001	.00276	.00719	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**-.00014**	**-.00075**	**.00700**	**.09302**	**.00092**	**.00312**	**.00017**	**-.00057**
Stddev	.00023	.00012	.00020	.00138	.00259	.00212	.00048	.00006	.00018
%RSD	69.229	81.899	26.814	19.732	2.7832	230.89	15.255	36.514	32.113
#1	.00017	-.00023	-.00089	.00602	.09485	.00241	.00345	.00021	-.00070
#2	.00049	-.00006	-.00061	.00797	.09119	-.00058	.00278	.00012	-.00044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.21246**	**.00056**	**.00079**	**.00169**	**.00756**	**-.00190**	**.00093**	**-.00493**	**-.01055**
Stddev	.01136	.00018	.00083	.00080	.00625	.00149	.00120	.00338	.00723
%RSD	5.3473	31.513	104.48	47.345	82.744	78.144	127.83	68.549	68.549
#1	.20443	.00069	.00138	.00226	.01198	-.00085	.00009	-.00254	-.00543
#2	.22049	.00044	.00021	.00113	.00314	-.00296	.00178	-.00732	-.01566
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00086**	**.00014**	**.00268**	**.00038**	**.00145**	F **-.06392**	**-.00023**	**.00121**	**.00086**
Stddev	.00046	.00005	.00144	.00000	.00049	.01521	.00000	.00001	.00008
%RSD	53.373	37.135	53.588	1.0327	33.762	23.796	2.1298	.46682	8.7702
#1	-.00053	.00017	.00370	.00039	.00180	-.07468	-.00023	.00122	.00091
#2	-.00118	.00010	.00167	.00038	.00111	-.05317	-.00024	.00121	.00080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.06000			
Low Limit						-.06000			

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4209.2**	**58318.**	**4384.0**
Stddev	12.9	23.	27.1
%RSD	.30571	.03876	.61717
#1	4218.3	58334.	4403.1
#2	4200.1	58302.	4364.9

Sample Name: LCS 280-350304/2-A Acquired: 11/13/2016 20:33:59 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05274**	**1.8874**	**1.0118**	**1.0297**	**2.0347**	**.04880**	**2.0470**	**50.722**	**.10637**
Stddev	.00060	.0017	.0076	.0005	.0069	.00016	.0177	.188	.00051
%RSD	1.1379	.08744	.75025	.05215	.34146	.32617	.86411	.37075	.48263
#1	.05232	1.8885	1.0172	1.0301	2.0396	.04869	2.0596	50.855	.10673
#2	.05317	1.8862	1.0064	1.0294	2.0298	.04892	2.0345	50.589	.10601
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49746**	**.20295**	**.24478**	**1.0014**	**51.696**	**1.0202**	**49.896**	**.47689**	**.96076**
Stddev	.00040	.00015	.00011	.0048	.075	.0045	.073	.00083	.00779
%RSD	.07979	.07371	.04309	.48317	.14516	.44354	.14671	.17415	.81125
#1	.49774	.20306	.24471	1.0048	51.749	1.0234	49.844	.47631	.96627
#2	.49718	.20285	.24486	.99795	51.643	1.0170	49.947	.47748	.95524
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.661**	**.49877**	**10.272**	**.50911**	**2.0833**	F **.43315**	**2.0471**	**9.8499**	**21.079**
Stddev	.231	.00024	.002	.00070	.0021	.02010	.0040	.0249	.053
%RSD	.45513	.04798	.02242	.13692	.09984	4.6408	.19554	.25255	.25255
#1	50.498	.49894	10.274	.50862	2.0848	.44736	2.0499	9.8675	21.116
#2	50.824	.49860	10.271	.50960	2.0818	.41893	2.0442	9.8323	21.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	None
High Limit						.55499			
Low Limit						.44000			

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0285**	**.97430**	**.98667**	**.96703**	**2.0631**	**2.0711**	**.48323**	**.48250**	**.53464**
Stddev	.0030	.00007	.00201	.00163	.0010	.0349	.00143	.00019	.00172
%RSD	.14705	.00708	.20335	.16865	.04871	1.6859	.29568	.03980	.32255
#1	2.0306	.97435	.98525	.96588	2.0638	2.0958	.48222	.48236	.53585
#2	2.0264	.97425	.98809	.96819	2.0624	2.0464	.48425	.48263	.53342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4002.3**	**54568.**	**4313.7**
Stddev	3.2	157.	10.2
%RSD	.08112	.28750	.23582
#1	4004.6	54679.	4320.8
#2	4000.0	54458.	4306.5

Sample Name: LCSD 280-350304/3-A Acquired: 11/13/2016 20:36:17 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05279**	**1.8417**	**.99193**	**.99833**	**1.9906**	**.04796**	**1.9997**	**49.575**	**.10348**
Stddev	.00090	.0041	.00451	.00332	.0116	.00041	.0012	.326	.00013
%RSD	1.6987	.22224	.45444	.33291	.58455	.86229	.06056	.65816	.12364
#1	.05216	1.8388	.99512	.99598	1.9988	.04826	2.0005	49.806	.10339
#2	.05343	1.8446	.98875	1.0007	1.9823	.04767	1.9988	49.345	.10358
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48549**	**.19792**	**.23848**	**.97680**	**50.649**	**.99824**	**48.842**	**.46730**	**.94253**
Stddev	.00083	.00048	.00004	.00955	.280	.00773	.077	.00073	.00269
%RSD	.17181	.24238	.01798	.97734	.55211	.77410	.15823	.15549	.28563
#1	.48490	.19758	.23845	.98355	50.846	1.0037	48.788	.46679	.94443
#2	.48608	.19826	.23851	.97005	50.451	.99278	48.897	.46782	.94063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.856**	**.48653**	**10.028**	**.49804**	**2.0114**	F **.43157**	**1.9973**	**9.5771**	**20.495**
Stddev	.019	.00056	.011	.00143	.0045	.01458	.0057	.0423	.091
%RSD	.03844	.11479	.11138	.28655	.22120	3.3773	.28646	.44185	.44185
#1	49.869	.48613	10.020	.49905	2.0145	.44187	1.9933	9.6070	20.559
#2	49.842	.48692	10.036	.49703	2.0083	.42126	2.0014	9.5471	20.431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	None
High Limit						.55499			
Low Limit						.44000			

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9733**	**.95423**	**.96256**	**.94058**	**2.0125**	**2.0465**	**.47521**	**.47099**	**.52271**
Stddev	.0019	.00371	.00030	.00032	.0016	.0271	.00010	.00233	.00059
%RSD	.09845	.38833	.03074	.03355	.08151	1.3230	.02078	.49470	.11227
#1	1.9747	.95685	.96235	.94080	2.0113	2.0656	.47528	.46934	.52312
#2	1.9719	.95161	.96277	.94036	2.0137	2.0274	.47514	.47263	.52229
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3978.4**	**54313.**	**4287.3**
Stddev	1.6	187.	2.6
%RSD	.04091	.34425	.06050
#1	3977.3	54445.	4289.1
#2	3979.6	54181.	4285.5

Sample Name: 280-90184-A-1-B Acquired: 11/13/2016 20:38:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00581**	**2.4160**	W **3.0074**	**.01046**	**1.8919**	**.39281**	**.00010**	W **10.763**	**77.280**
Stddev	.00037	.0011	.0461	.00341	.0002	.00015	.00001	.018	.032
%RSD	6.3881	.04390	1.5342	32.565	.00821	.03792	14.244	.16945	.04191
#1	.00555	2.4152	2.9748	.01287	1.8920	.39270	.00011	10.776	77.257
#2	.00607	2.4167	3.0400	.00805	1.8918	.39292	.00009	10.750	77.302
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit			500.00					2.0000	
Low Limit			3.2000					-.20000	

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **8.5421**	**.00358**	**.50519**	**.22345**	**4.9052**	**58.368**	**.07424**	W **567.97**	**.55521**
Stddev	.0024	.00002	.00043	.00040	.0128	.218	.00048	2.08	.00158
%RSD	.02873	.43344	.08533	.18056	.26030	.37321	.65026	.36647	.28526
#1	8.5404	.00357	.50489	.22317	4.8962	58.214	.07458	566.50	.55409
#2	8.5438	.00359	.50550	.22374	4.9142	58.522	.07390	569.44	.55633
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit	2.0000							500.00	
Low Limit	-.01000							-.40000	

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.4355**	W **1310.8**	**.02160**	F **76.060**	**.24744**	F **3143.6**	**.04996**	**.02880**	**11.493**
Stddev	.0037	2.8	.00025	.065	.00092	23.3	.00300	.00152	.075
%RSD	.25983	.21597	1.1728	.08530	.37064	.74088	6.0086	5.2948	.65505
#1	1.4381	1308.8	.02142	76.015	.24679	3160.1	.04783	.02988	11.440
#2	1.4328	1312.8	.02177	76.106	.24808	3127.1	.05208	.02772	11.547
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		500.00		50.000		200.00			
Low Limit		11.000		-6.0000		-.20000			

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.596**	**.02766**	**.71474**	**.02930**	**.05316**	**-.00082**	**-.02663**	**-.00093**	**2.8671**
Stddev	.161	.00012	.00140	.00032	.00045	.00092	.03693	.00057	.0156
%RSD	.65505	.42370	.19530	1.1084	.85002	111.56	138.67	61.619	.54379
#1	24.482	.02758	.71376	.02907	.05284	-.00147	-.00052	-.00134	2.8561
#2	24.710	.02774	.71573	.02953	.05348	-.00017	-.05275	-.00053	2.8781
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.01005**
Stddev	.00016
%RSD	1.6034
#1	.00994
#2	.01017
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-90184-A-1-B Acquired: 11/13/2016 20:38:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3551.2**	**47515.**	**4146.6**
Stddev	10.1	89.	27.0
%RSD	.28383	.18758	.65173
#1	3544.1	47452.	4165.7
#2	3558.4	47578.	4127.4

Sample Name: 280-90184-A-2-B Acquired: 11/13/2016 20:41:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01274**	**13.743**	**.61639**	**2.9284**	**.44823**	**.01582**	**.13232**	**253.19**	**.09516**
Stddev	.00004	.059	.00496	.0055	.00121	.00002	.00156	.84	.00001
%RSD	.29812	.42624	.80421	.18839	.26907	.11947	1.1760	.33156	.01543
#1	.01277	13.784	.61288	2.9323	.44908	.01581	.13122	253.78	.09515
#2	.01271	13.701	.61989	2.9245	.44737	.01584	.13342	252.59	.09517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03866**	**.28260**	**.62397**	**20.204**	**14.616**	**.24500**	**43.015**	**.91036**	**.26937**
Stddev	.00042	.00084	.00282	.079	.013	.00255	.044	.00264	.00296
%RSD	1.0970	.29685	.45225	.39302	.08995	1.0410	.10285	.28998	1.1007
#1	.03836	.28319	.62597	20.260	14.625	.24680	43.046	.91222	.26727
#2	.03896	.28201	.62197	20.148	14.606	.24320	42.984	.90849	.27147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**115.10**	**.07661**	**2.3606**	**.20467**	**117.78**	**.03160**	**.08835**	**5.4064**	**11.570**
Stddev	.15	.00049	.0009	.00064	.18	.00126	.00117	.0348	.075
%RSD	.12737	.64376	.03752	.31142	.15656	3.9978	1.3240	.64459	.64459
#1	115.20	.07696	2.3612	.20422	117.91	.03250	.08753	5.4311	11.622
#2	114.99	.07626	2.3599	.20513	117.65	.03071	.08918	5.3818	11.517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.60728**	**.87574**	**.05709**	**.20673**	**.07540**	**.18809**	**.05982**	**.97894**	**.03641**
Stddev	.00047	.00193	.00174	.00071	.00138	.03931	.00013	.00023	.00103
%RSD	.07771	.22043	3.0452	.34480	1.8300	20.900	.22547	.02319	2.8394
#1	.60694	.87711	.05832	.20724	.07638	.16030	.05972	.97878	.03714
#2	.60761	.87438	.05586	.20623	.07443	.21589	.05991	.97910	.03568
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3893.9**	**53507.**	**4388.7**
Stddev	10.6	19.	14.9
%RSD	.27235	.03598	.33955
#1	3886.4	53521.	4378.1
#2	3901.4	53494.	4399.2

Sample Name: 280-90184-B-3-B Acquired: 11/13/2016 20:43:37 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01768**	**87.302**	**.45478**	W **28.325**	**3.5306**	**.00246**	**.01027**	F **2391.6**	**.21684**
Stddev	.00115	.013	.00772	.095	.0052	.00006	.00344	19.3	.00062
%RSD	6.4755	.01491	1.6983	.33703	.14718	2.2958	33.460	.80552	.28664
#1	.01849	87.293	.44932	28.257	3.5343	.00250	.01270	2378.0	.21640
#2	.01687	87.311	.46024	28.392	3.5270	.00242	.00784	2405.2	.21728
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit				10.000				1000.0	
Low Limit				-.20000				-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03470**	**1.2311**	**.59802**	**110.12**	F **2384.6**	W **16.195**	**290.14**	**9.0785**	**1.3893**
Stddev	.00046	.0013	.00003	.32	82.6	.022	1.76	.0496	.0031
%RSD	1.3193	.10648	.00423	.29232	3.4653	.13864	.60604	.54655	.22364
#1	.03502	1.2321	.59804	109.89	2443.0	16.211	291.38	9.1136	1.3915
#2	.03437	1.2302	.59800	110.35	2326.2	16.179	288.89	9.0435	1.3871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Warn	Chk Pass	Chk Pass	Chk Pass
High Limit					500.00	2.0000			
Low Limit					-6.0000	-.02000			

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **4944.1**	**.26534**	W **26.856**	**3.4023**	F **897.96**	**.19926**	**.07419**	**33.908**	**72.563**
Stddev	.6	.00053	.039	.0066	.67	.00230	.00284	.024	.052
%RSD	.01306	.20148	.14591	.19264	.07412	1.1546	3.8301	.07211	.07211
#1	4944.6	.26572	26.829	3.4069	897.49	.19764	.07218	33.925	72.600
#2	4943.6	.26497	26.884	3.3977	898.43	.20089	.07620	33.890	72.526
Check ?	Chk Warn	Chk Pass	Chk Warn	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00		20.000		200.00				
Low Limit	11.000		-6.0000		-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25026**	F **24.443**	**-.01440**	**1.4099**	**-.00296**	**1.9703**	**.13586**	**7.7575**	**.08842**
Stddev	.00369	.164	.00212	.0033	.00142	.0431	.00012	.0026	.00304
%RSD	1.4732	.66970	14.697	.23543	48.102	2.1872	.09018	.03366	3.4406
#1	.25287	24.327	-.01290	1.4122	-.00195	1.9399	.13577	7.7594	.08627
#2	.24765	24.559	-.01589	1.4076	-.00397	2.0008	.13594	7.7557	.09057
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		20.000							
Low Limit		-.02000							

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**2985.6**	**40547.**	**3927.9**
Stddev	4.6	17.	11.6
%RSD	.15440	.04108	.29566
#1	2982.4	40558.	3936.1
#2	2988.9	40535.	3919.7

Sample Name: 280-90184-A-4-B Acquired: 11/13/2016 20:46:32 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00292**	**32.766**	**.53057**	**3.3558**	**.92813**	**.00145**	**.00832**	**402.09**	**.01696**
Stddev	.00025	.194	.00029	.0066	.00079	.00012	.00056	4.23	.00036
%RSD	8.5009	.59186	.05452	.19589	.08520	7.9899	6.7775	1.0527	2.1202
#1	.00310	32.904	.53077	3.3605	.92869	.00153	.00792	405.08	.01721
#2	.00275	32.629	.53036	3.3512	.92757	.00136	.00871	399.09	.01670
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02151**	**.11404**	**.55590**	**112.72**	**67.088**	**.17528**	**92.173**	**2.3106**	**.75714**
Stddev	.00025	.00020	.00045	.07	.646	.00169	.136	.0007	.00154
%RSD	1.1839	.17221	.08096	.06640	.96298	.96197	.14761	.03170	.20405
#1	.02169	.11390	.55558	112.77	67.545	.17647	92.269	2.3101	.75823
#2	.02133	.11417	.55621	112.67	66.631	.17408	92.076	2.3111	.75605
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1973.0**	**.07679**	**9.1657**	**.09463**	F **672.21**	**.00152**	**.09957**	W **54.517**	**116.67**
Stddev	5.5	.00037	.0011	.00036	1.02	.00140	.00126	.132	.28
%RSD	.28121	.48391	.01165	.38479	.15222	92.057	1.2608	.24255	.24255
#1	1976.9	.07705	9.1665	.09488	672.93	.00053	.10046	54.610	116.87
#2	1969.0	.07652	9.1649	.09437	671.49	.00251	.09868	54.423	116.47
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit	500.00				200.00			50.000	
Low Limit	11.000				-.20000			-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03332**	**1.5997**	**-.00498**	**.36317**	**.00119**	**.42138**	**.07704**	**.66083**	**.01784**
Stddev	.00037	.0011	.00089	.00007	.00111	.03292	.00068	.00502	.00056
%RSD	1.1045	.06606	17.952	.01926	92.827	7.8114	.88594	.75949	3.1610
#1	.03358	1.6004	-.00561	.36312	.00041	.44466	.07656	.66438	.01744
#2	.03306	1.5989	-.00434	.36322	.00198	.39811	.07753	.65728	.01823
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3603.1**	**48931.**	**4373.1**
Stddev	6.1	68.	14.2
%RSD	.17011	.13934	.32505
#1	3607.4	48979.	4363.0
#2	3598.7	48882.	4383.1

Sample Name: CCVH-4239353 Acquired: 11/13/2016 20:49:05 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00162**	**48.716**	**.00366**	**.04321**	**-.00005**	**.00022**	**.98814**	**.02439**	**.00058**	**-.00040**	**.00047**	**-.00141**
Stddev	.00030	.085	.00242	.00353	.00027	.00004	.00062	.00188	.00006	.00014	.00031	.00014
%RSD	18.598	.17402	65.918	8.1637	520.54	17.964	.06241	7.7125	10.441	35.961	65.197	9.7344
#1	.00141	48.656	.00196	.04571	.00014	.00025	.98858	.02572	.00062	-.00030	.00025	-.00132
#2	.00183	48.776	.00537	.04072	-.00025	.00019	.98771	.02306	.00054	-.00050	.00068	-.00151
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.614**	**1.4988**	**.00229**	**.05231**	**.00085**	**.00831**	**241.93**	**.00055**	**.01071**	**.00031**	W **5.4325**	**.00533**
Stddev	.217	.0510	.00052	.00321	.00004	.00275	.77	.00025	.00008	.00097	.0212	.00214
%RSD	.43697	3.4050	22.482	6.1292	4.7423	33.066	.31983	45.075	.74492	309.97	.38978	40.155
#1	49.767	1.5349	.00193	.05004	.00088	.00637	241.39	.00038	.01077	-.00037	5.4175	.00684
#2	49.461	1.4627	.00266	.05458	.00082	.01026	242.48	.00073	.01065	.00100	5.4474	.00381
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Warn	None
Value											5.0000	
Range											5.0000%	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**.07040**	**.15066**	**-.00036**	**.00067**	W **4.6865**	**.01689**	**.00207**	**10.161**	**.01367**	**.00044**	**.10265**
Stddev	.00181	.00325	.00695	.00003	.00003	.0012	.00022	.00105	.021	.00050	.00038	.00096
%RSD	2627.4	4.6132	4.6132	7.2950	4.9793	.02635	1.3310	50.610	.20567	3.6433	86.595	.93713
#1	.00135	.06811	.14575	-.00034	.00070	4.6857	.01673	.00281	10.176	.01332	.00072	.10197
#2	-.00121	.07270	.15558	-.00038	.00065	4.6874	.01705	.00133	10.146	.01403	.00017	.10333
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3901.6**	**53412.**	**4243.8**
Stddev	4.5	165.	1.2
%RSD	.11512	.30886	.02833
#1	3898.4	53295.	4242.9
#2	3904.8	53529.	4244.6

Sample Name: CCV-4239351 Acquired: 11/13/2016 20:51:35 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48955**	**.48679**	**.95375**	**.52284**	**.49980**	**.48143**	**.00112**	**5.2654**	**.49527**	**.49976**	**.50196**	**.48034**
Stddev	.00047	.00073	.00490	.00050	.00041	.00042	.00137	.0592	.00052	.00044	.00075	.00075
%RSD	.09615	.14930	.51391	.09603	.08109	.08721	121.66	1.1237	.10532	.08904	.14906	.15570
#1	.48921	.48731	.95029	.52319	.49951	.48113	.00209	5.2236	.49490	.49944	.50249	.48087
#2	.48988	.48628	.95722	.52248	.50009	.48172	.00016	5.3073	.49564	.50007	.50144	.47982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.4807**	**50.604**	**1.0122**	**19.147**	**.47498**	**.50163**	F **6.3597**	**.49858**	**.97279**	**1.0075**	**.45148**	**.98822**
Stddev	.0080	.046	.0007	.036	.00072	.00111	.0741	.00035	.00660	.0001	.01014	.00242
%RSD	.32068	.09062	.07246	.18978	.15058	.22063	1.1645	.06924	.67850	.01143	2.2455	.24446
#1	2.4751	50.637	1.0127	19.122	.47549	.50242	6.3073	.49833	.96812	1.0074	.44431	.98993
#2	2.4863	50.572	1.0117	19.173	.47448	.50085	6.4120	.49882	.97746	1.0076	.45864	.98651
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							5.0000					
Range							10.490%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.96029**	**5.0040**	**10.709**	**1.0020**	**.48537**	**.00909**	**.47157**	**1.0219**	**.00046**	**.47441**	**.46812**	**.50566**
Stddev	.00809	.0121	.026	.0035	.00011	.00008	.00109	.0004	.01292	.00192	.00044	.00015
%RSD	.84221	.24115	.24115	.34894	.02354	.91900	.23027	.04374	2782.3	.40416	.09369	.02959
#1	.95457	5.0126	10.727	.99950	.48545	.00915	.47234	1.0216	-.00867	.47576	.46843	.50577
#2	.96601	4.9955	10.690	1.0044	.48529	.00903	.47080	1.0222	.00960	.47305	.46781	.50556
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4016.3**	**55176.**	**4260.8**
Stddev	1.0	30.	8.7
%RSD	.02546	.05427	.20316
#1	4015.5	55198.	4254.7
#2	4017.0	55155.	4267.0

Sample Name: CCB Acquired: 11/13/2016 20:53:56 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00073**	**.00036**	**.00303**	W **.02112**	**-.00008**	**.00000**	**.00106**	**.00218**	**.00024**	**.00027**	**.00022**	**-.00099**
Stddev	.00010	.00019	.00325	.00017	.00009	.00012	.00077	.00394	.00004	.00020	.00021	.00026
%RSD	13.151	52.521	107.49	.79610	112.78	76579.	72.504	180.26	14.888	73.902	95.570	26.343
#1	.00079	.00049	.00533	.02124	-.00014	.00008	.00052	.00497	.00021	.00042	.00007	-.00118
#2	.00066	.00023	.00073	.02100	-.00002	-.00008	.00161	-.00060	.00026	.00013	.00037	-.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.01500								
Low Limit				-.01500								

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00219**	**.80329**	**.00075**	**.00029**	**.00003**	**.00357**	F **.69926**	**.00016**	**.00206**	**.00078**	F **.41618**	**.00185**
Stddev	.00277	.05214	.00095	.00000	.00003	.00109	.01327	.00019	.00033	.00070	.00048	.00242
%RSD	126.73	6.4906	125.55	.81969	91.598	30.615	1.8972	114.20	16.031	89.519	.11566	130.32
#1	.00023	.84015	.00142	.00029	.00001	.00279	.68988	.00030	.00229	.00029	.41584	.00015
#2	.00415	.76642	.00008	.00029	.00005	.00434	.70864	.00003	.00182	.00128	.41652	.00356
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit							.50000				.10000	
Low Limit							-.50000				-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00285**	**.05785**	**.12381**	**-.00006**	**.00024**	**.00210**	**.00001**	**.00217**	**-.02392**	**.00004**	**-.00009**	**.00172**
Stddev	.00313	.00030	.00064	.00048	.00001	.00057	.00030	.00006	.04521	.00040	.00035	.00219
%RSD	109.73	.52077	.52077	817.88	4.1104	26.920	3231.3	2.8403	189.05	1065.6	369.72	127.02
#1	.00064	.05807	.12426	.00028	.00023	.00250	-.00020	.00213	-.05589	-.00025	.00015	.00018
#2	.00507	.05764	.12335	-.00040	.00024	.00170	.00022	.00222	.00806	.00032	-.00034	.00327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4082.1**	**56977.**	**4330.5**
Stddev	3.6	335.	5.2
%RSD	.08715	.58707	.12000
#1	4084.6	56740.	4334.2
#2	4079.6	57213.	4326.8

Sample Name: CCVL-4245706 Acquired: 11/13/2016 20:56:31 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01056**	**.09888**	**.01543**	**.11396**	**.00988**	**.00089**	**.10456**	**.19545**	**.00510**	**.01034**	**.01023**	**.01353**
Stddev	.00033	.00072	.00245	.00034	.00022	.00012	.00064	.00970	.00001	.00007	.00010	.00036
%RSD	3.0784	.72877	15.886	.29448	2.2680	13.854	.61153	4.9653	.19118	.70822	1.0173	2.6426
#1	.01079	.09837	.01716	.11419	.01004	.00080	.10411	.20231	.00511	.01039	.01015	.01328
#2	.01033	.09939	.01370	.11372	.00972	.00098	.10501	.18859	.00509	.01029	.01030	.01378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10282**	**3.6981**	**.02207**	**.19415**	**.00976**	**.01964**	F **1.6076**	**.04080**	**2.7537**	**.01074**	**.36988**	**.01940**
Stddev	.00514	.0498	.00062	.00190	.00005	.00000	.0188	.00044	.0029	.00016	.01249	.00076
%RSD	4.9982	1.3471	2.8045	.97615	.50630	.02320	1.1714	1.0706	.10560	1.5309	3.3780	3.9055
#1	.09918	3.7333	.02163	.19549	.00972	.01964	1.6210	.04110	2.7558	.01062	.37872	.01886
#2	.10645	3.6629	.02251	.19281	.00979	.01964	1.5943	.04049	2.7517	.01085	.36105	.01994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							1.0000					
Range							30.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01434**	**.53478**	**1.1444**	**.09863**	**.00976**	**.01739**	**.00911**	**.01467**	F **.01021**	**.00936**	**.01788**	**.01418**
Stddev	.00147	.00808	.0173	.00200	.00002	.00112	.00034	.00293	.00124	.00025	.00046	.00058
%RSD	10.279	1.5109	1.5109	2.0267	.19179	6.4145	3.7085	19.942	12.154	2.6657	2.5722	4.0587
#1	.01329	.52906	1.1322	.09722	.00975	.01818	.00887	.01674	.01108	.00954	.01756	.01459
#2	.01538	.54049	1.1566	.10005	.00977	.01660	.00935	.01260	.00933	.00918	.01821	.01377
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4107.7**	**57211.**	**4352.2**
Stddev	.4	106.	.9
%RSD	.01021	.18469	.01980
#1	4108.0	57285.	4351.6
#2	4107.4	57136.	4352.8

Sample Name: 280-90184-A-5-B Acquired: 11/13/2016 20:59:04 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00254**	**15.010**	**.55078**	W **12.858**	**.78914**	**.00129**	**.00284**	W **870.00**	**.05518**
Stddev	.00038	.052	.00196	.002	.00043	.00009	.00107	8.74	.00006
%RSD	15.034	.34599	.35518	.01483	.05405	7.3047	37.648	1.0047	.10744
#1	.00227	14.973	.54939	12.857	.78944	.00123	.00360	876.18	.05522
#2	.00280	15.046	.55216	12.860	.78884	.00136	.00208	863.82	.05514
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit				10.000				500.00	
Low Limit				-.20000				-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02265**	**.08456**	**.77783**	**81.319**	**99.790**	**.20582**	**223.75**	**9.3298**	**.51712**
Stddev	.00048	.00039	.00313	.034	.202	.00016	1.81	.0089	.00216
%RSD	2.1030	.46694	.40241	.04137	.20257	.07795	.81028	.09492	.41726
#1	.02299	.08484	.77562	81.343	99.647	.20593	225.03	9.3360	.51865
#2	.02232	.08428	.78004	81.295	99.933	.20570	222.46	9.3235	.51559
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **1545.2**	**.40788**	W **26.065**	**.05210**	F **445.71**	**-.00078**	**.02996**	**47.306**	**101.24**
Stddev	.4	.00044	.010	.00049	.50	.00136	.00088	.050	.11
%RSD	.02767	.10842	.03684	.94890	.11173	173.47	2.9480	.10602	.10602
#1	1544.9	.40819	26.058	.05175	445.36	.00018	.03058	47.271	101.16
#2	1545.5	.40756	26.072	.05245	446.07	-.00174	.02933	47.342	101.31
Check ?	Chk Warn	Chk Pass	Chk Warn	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00		20.000		200.00				
Low Limit	11.000		-6.0000		-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01438**	**3.6570**	**-.00731**	**.23336**	**-.00006**	**.38222**	**.04713**	**1.1629**	**.00983**
Stddev	.00008	.0006	.00167	.00163	.00216	.01385	.00077	.0062	.00176
%RSD	.56997	.01704	22.801	.70043	3780.3	3.6229	1.6259	.53692	17.901
#1	.01444	3.6566	-.00849	.23220	-.00158	.39201	.04658	1.1585	.00858
#2	.01433	3.6575	-.00613	.23452	.00147	.37243	.04767	1.1674	.01107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3507.7**	**48086.**	**4261.3**
Stddev	3.8	202.	14.7
%RSD	.10880	.42013	.34587
#1	3510.4	48229.	4271.7
#2	3505.0	47944.	4250.9

Sample Name: 280-90184-A-6-B Acquired: 11/13/2016 21:01:50 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00359**	**23.378**	**.58364**	**7.5845**	**1.7685**	**.00130**	**-.00134**	W **790.73**	**.03522**
Stddev	.00005	.037	.00085	.0019	.0026	.00004	.00295	3.86	.00003
%RSD	1.4753	.15757	.14516	.02561	.14870	3.3017	220.00	.48877	.09569
#1	.00356	23.404	.58304	7.5859	1.7704	.00133	.00074	793.46	.03520
#2	.00363	23.351	.58424	7.5831	1.7666	.00127	-.00342	787.99	.03525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								500.00	
Low Limit								-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01762**	**.21172**	**1.0465**	**192.48**	**37.746**	**.30642**	**188.33**	**5.2888**	**1.2404**
Stddev	.00044	.00087	.0005	.23	.052	.00140	1.26	.0002	.0078
%RSD	2.4851	.41074	.04626	.11835	.13768	.45583	.66865	.00414	.63095
#1	.01731	.21233	1.0468	192.64	37.709	.30741	187.44	5.2889	1.2460
#2	.01793	.21110	1.0462	192.31	37.782	.30543	189.22	5.2886	1.2349
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **981.40**	**.30458**	**13.669**	**.10997**	F **923.82**	**-.00028**	**.06245**	W **61.340**	**131.27**
Stddev	1.54	.00067	.018	.00077	2.42	.00015	.00548	.033	.07
%RSD	.15677	.21835	.13091	.69794	.26248	53.958	8.7794	.05406	.05406
#1	982.48	.30505	13.682	.10943	925.53	-.00039	.05858	61.316	131.22
#2	980.31	.30411	13.656	.11052	922.10	-.00017	.06633	61.363	131.32
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit	500.00				200.00			50.000	
Low Limit	11.000				-.20000			-1.0000	

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.17356**	**3.6970**	**-.01434**	**.47060**	**-.00273**	**.76147**	**.08597**	**5.1535**	**.02852**
Stddev	.00013	.0041	.00012	.00003	.00035	.02025	.00017	.0026	.00366
%RSD	.07759	.11066	.83151	.00672	12.719	2.6590	.20263	.04989	12.842
#1	.17346	3.6999	-.01442	.47062	-.00297	.74715	.08609	5.1517	.03111
#2	.17365	3.6941	-.01425	.47058	-.00248	.77578	.08584	5.1553	.02593
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3547.0**	**48221.**	**4184.3**
Stddev	18.0	1.	17.0
%RSD	.50670	.00269	.40532
#1	3534.3	48222.	4196.3
#2	3559.7	48220.	4172.3

Sample Name: 280-90184-A-7-B Acquired: 11/13/2016 21:04:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00204**	**7.9016**	**.10423**	W **12.049**	**.68830**	**.00041**	**.00099**	W **543.04**	**.01038**
Stddev	.00011	.0555	.00335	.119	.00188	.00009	.00176	.09	.00012
%RSD	5.4831	.70219	3.2158	.98576	.27256	21.768	179.01	.01749	1.2046
#1	.00212	7.8623	.10186	12.132	.68698	.00034	-.00026	543.10	.01046
#2	.00196	7.9408	.10660	11.965	.68963	.00047	.00223	542.97	.01029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit				10.000				500.00	
Low Limit				-.20000				-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01116**	**.09465**	**.58089**	**78.606**	**49.651**	**.15578**	**160.84**	**4.2664**	**.38606**
Stddev	.00026	.00036	.00115	.097	.272	.00013	.16	.0581	.00031
%RSD	2.3751	.38456	.19878	.12384	.54740	.08279	.09639	1.3611	.08139
#1	.01097	.09439	.58008	78.675	49.459	.15587	160.73	4.2254	.38628
#2	.01134	.09491	.58171	78.537	49.843	.15569	160.95	4.3075	.38584
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **787.02**	**.08683**	**15.873**	**.06182**	F **874.24**	**.00220**	**.03701**	**27.136**	**58.072**
Stddev	.72	.00101	.144	.00113	10.18	.00190	.00324	.007	.014
%RSD	.09204	1.1669	.90435	1.8342	1.1648	86.457	8.7576	.02486	.02486
#1	786.51	.08612	15.974	.06262	881.44	.00354	.03930	27.131	58.061
#2	787.53	.08755	15.771	.06102	867.04	.00085	.03472	27.141	58.082
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **2.6394**	**3.0768**	**-.00491**	**.20369**	**.00183**	**.30508**	**.03208**	**4.5146**	**.01455**
Stddev	.0009	.0045	.00236	.00074	.00098	.04700	.00007	.0216	.00161
%RSD	.03422	.14510	48.019	.36366	53.410	15.406	.22039	.47931	11.048
#1	2.6401	3.0736	-.00657	.20316	.00114	.33831	.03203	4.4993	.01341
#2	2.6388	3.0799	-.00324	.20421	.00252	.27185	.03213	4.5299	.01569
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3539.9**	**49285.**	**4303.7**
Stddev	45.1	214.	75.6
%RSD	1.2736	.43459	1.7559
#1	3571.7	49437.	4357.1
#2	3508.0	49134.	4250.2

Sample Name: 280-90184-A-8-B Acquired: 11/13/2016 21:07:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00150**	**16.489**	**.18842**	W **11.262**	**.94188**	**.00117**	**.00361**	W **818.55**	**.00958**
Stddev	.00029	.119	.00347	.075	.00148	.00006	.00404	1.03	.00115
%RSD	19.224	.72403	1.8413	.66755	.15714	4.8364	111.88	.12631	12.029
#1	.00171	16.573	.19087	11.209	.94293	.00113	.00647	819.28	.01039
#2	.00130	16.405	.18597	11.315	.94083	.00121	.00075	817.82	.00876
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit				10.000				500.00	
Low Limit				-.20000				-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02374**	**.15112**	**.63437**	**129.37**	**48.753**	**.18332**	**210.06**	**2.9612**	**.23866**
Stddev	.00009	.00111	.00543	.32	.257	.00062	1.55	.0141	.00125
%RSD	.36031	.73149	.85664	.24617	.52654	.34020	.74014	.47656	.52450
#1	.02380	.15034	.63052	129.59	48.935	.18287	211.16	2.9712	.23955
#2	.02368	.15190	.63821	129.14	48.572	.18376	208.96	2.9512	.23778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **702.82**	**.10167**	**14.307**	**.06358**	F **811.88**	**.00056**	**.11768**	**40.363**	**86.376**
Stddev	2.63	.00022	.080	.00186	4.88	.00035	.00190	.055	.117
%RSD	.37437	.21704	.55863	2.9233	.60065	62.991	1.6141	.13565	.13565
#1	704.68	.10182	14.251	.06489	808.43	.00080	.11902	40.401	86.459
#2	700.96	.10151	14.364	.06226	815.33	.00031	.11633	40.324	86.293
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05661**	**3.1961**	**-.00880**	**.24459**	**.00179**	**.54595**	**.07165**	**.75077**	**.02833**
Stddev	.00218	.0056	.00049	.00083	.00017	.00230	.00089	.00996	.00150
%RSD	3.8521	.17386	5.5154	.34011	9.6665	.42113	1.2470	1.3265	5.2924
#1	.05816	3.2001	-.00914	.24518	.00167	.54758	.07228	.75781	.02939
#2	.05507	3.1922	-.00846	.24400	.00191	.54433	.07102	.74373	.02727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3672.8**	**50604.**	**4143.3**
Stddev	3.6	739.	29.9
%RSD	.09885	1.4595	.72232
#1	3675.4	50082.	4122.1
#2	3670.2	51126.	4164.5

Sample Name: 280-90184-A-9-B Acquired: 11/13/2016 21:09:53 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00669**	**39.190**	**.23011**	**7.8716**	**1.8128**	**.00142**	**-.00039**	W **583.13**	**.01509**
Stddev	.00025	.108	.00297	.0104	.0041	.00001	.00223	5.55	.00005
%RSD	3.7563	.27653	1.2914	.13239	.22429	1.0099	571.38	.95211	.33536
#1	.00651	39.113	.23221	7.8790	1.8099	.00143	-.00196	579.21	.01512
#2	.00686	39.267	.22801	7.8642	1.8157	.00141	.00119	587.06	.01505
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								500.00	
Low Limit								-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02621**	**.36930**	**.45860**	**144.61**	**91.076**	**.47792**	**263.73**	**3.2017**	**.57183**
Stddev	.00008	.00063	.00025	.83	.294	.00348	1.03	.0010	.00275
%RSD	.31708	.17067	.05459	.57285	.32295	.72751	.38971	.02975	.48072
#1	.02615	.36886	.45842	144.02	90.868	.47546	263.00	3.2024	.57377
#2	.02627	.36975	.45878	145.20	91.284	.48038	264.46	3.2011	.56989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **896.90**	**.21429**	**10.610**	**.26795**	F **1119.4**	**.02986**	**.20087**	**41.606**	**89.037**
Stddev	2.23	.00051	.009	.00174	1.8	.00048	.00373	.137	.293
%RSD	.24862	.23878	.08274	.65119	.16453	1.5932	1.8582	.32945	.32945
#1	895.32	.21392	10.616	.26918	1120.7	.03019	.20351	41.509	88.830
#2	898.47	.21465	10.603	.26672	1118.1	.02952	.19823	41.703	89.245
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.52182**	**5.6076**	**-.00867**	**.67363**	**-.00138**	**.59061**	**.13066**	**1.2631**	**.04403**
Stddev	.00086	.0097	.00227	.00041	.00244	.03800	.00053	.0044	.00259
%RSD	.16476	.17209	26.195	.06148	176.31	6.4346	.40230	.35064	5.8896
#1	.52121	5.6144	-.00706	.67334	.00034	.56374	.13028	1.2662	.04587
#2	.52243	5.6008	-.01027	.67393	-.00311	.61749	.13103	1.2599	.04220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3605.0**	**49640.**	**4355.1**
Stddev	13.1	169.	24.1
%RSD	.36398	.34102	.55375
#1	3614.3	49760.	4372.2
#2	3595.8	49521.	4338.1

Sample Name: 280-90184-A-10-B Acquired: 11/13/2016 21:12:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00173**	**19.493**	**.19291**	W **22.567**	**.66051**	**.00147**	**.00834**	F **1375.4**	**.04711**
Stddev	.00002	.001	.00139	.013	.00155	.00015	.00119	12.1	.00002
%RSD	1.0271	.00437	.72275	.05593	.23447	10.074	14.246	.88089	.03555
#1	.00174	19.493	.19390	22.558	.66161	.00137	.00750	1384.0	.04712
#2	.00172	19.492	.19192	22.576	.65942	.00158	.00918	1366.9	.04709
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit				10.000				1000.0	
Low Limit				-.20000				-.40000	

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01808**	**.11306**	**.37392**	**72.165**	W **167.69**	**.29889**	**167.20**	**5.6708**	**.14470**
Stddev	.00034	.00054	.00071	.255	.21	.00052	.22	.0044	.00006
%RSD	1.8631	.47841	.18937	.35296	.12543	.17433	.13335	.07740	.04092
#1	.01785	.11268	.37342	72.345	167.84	.29926	167.36	5.6677	.14466
#2	.01832	.11344	.37442	71.985	167.54	.29852	167.04	5.6739	.14474
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					100.00				
Low Limit					-6.0000				

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **803.23**	**.11158**	**12.072**	**.04003**	F **502.51**	**.01774**	**.07872**	**30.807**	**65.927**
Stddev	2.29	.00061	.006	.00108	.31	.00227	.00307	.043	.092
%RSD	.28564	.55106	.04994	2.6896	.06135	12.792	3.8941	.14015	.14015
#1	804.85	.11201	12.076	.03927	502.73	.01614	.08089	30.776	65.861
#2	801.60	.11114	12.068	.04079	502.29	.01935	.07655	30.837	65.992
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01036**	**5.2353**	**-.01009**	**.26856**	**.00019**	**.42846**	**.08549**	**2.3145**	**.00454**
Stddev	.00036	.0085	.00004	.00054	.00187	.00201	.00032	.0033	.00002
%RSD	3.4579	.16292	.41164	.20175	974.27	.46985	.37073	.14288	.38133
#1	.01010	5.2413	-.01006	.26817	-.00113	.42704	.08527	2.3169	.00452
#2	.01061	5.2292	-.01012	.26894	.00152	.42988	.08571	2.3122	.00455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3555.5**	**48845.**	**4388.1**
Stddev	6.0	122.	8.1
%RSD	.16900	.24970	.18552
#1	3559.8	48931.	4393.8
#2	3551.3	48759.	4382.3

Sample Name: 280-90184-A-11-B Acquired: 11/13/2016 21:15:13 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01197**	**13.754**	**.08641**	**9.5193**	**.37725**	**.00130**	**.00703**	**466.87**	**.01662**
Stddev	.00020	.071	.00013	.0267	.00150	.00004	.00239	8.31	.00011
%RSD	1.6732	.51910	.14571	.28101	.39802	3.3009	34.065	1.7789	.67202
#1	.01211	13.804	.08650	9.5382	.37831	.00127	.00534	472.74	.01670
#2	.01183	13.703	.08633	9.5004	.37618	.00133	.00872	460.99	.01654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01204**	**.20192**	**.47719**	**64.016**	**57.541**	**.13778**	**94.975**	**4.4186**	**.41201**
Stddev	.00002	.00060	.00238	.376	.265	.00158	.552	.0104	.00217
%RSD	.19659	.29893	.49837	.58725	.46031	1.1447	.58156	.23628	.52652
#1	.01202	.20234	.47551	64.282	57.728	.13667	95.366	4.4112	.41355
#2	.01206	.20149	.47887	63.750	57.354	.13890	94.584	4.4260	.41048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **557.74**	**.07326**	**6.4263**	**.03348**	F **706.46**	**.02621**	**.06237**	**25.325**	**54.196**
Stddev	2.99	.00039	.0223	.00242	2.75	.00055	.00555	.142	.305
%RSD	.53534	.53632	.34713	7.2350	.38994	2.1011	8.8923	.56192	.56192
#1	559.85	.07354	6.4421	.03520	708.40	.02660	.05845	25.426	54.411
#2	555.63	.07299	6.4106	.03177	704.51	.02582	.06629	25.225	53.981
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	500.00				200.00				
Low Limit	11.000				-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W **15.708**	**2.2586**	**-.00303**	**.19914**	**.00065**	**.27308**	**.03936**	**.65203**	**.02169**
Stddev	.061	.0110	.00108	.00041	.00041	.03106	.00066	.00510	.00083
%RSD	.39038	.48772	35.545	.20768	62.626	11.373	1.6840	.78254	3.8348
#1	15.752	2.2664	-.00227	.19943	.00094	.25112	.03889	.65564	.02228
#2	15.665	2.2508	-.00379	.19885	.00036	.29504	.03983	.64842	.02110
Check ?	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	2.0000								
Low Limit	-.20000								

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3813.5**	**52448.**	**4373.7**
Stddev	.1	566.	45.1
%RSD	.00221	1.0795	1.0307
#1	3813.5	52047.	4341.9
#2	3813.6	52848.	4405.6

Sample Name: 90184-A-11-B SD@5 Acquired: 11/13/2016 21:17:52 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Elem	Ag3280	Al1670	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Line	328.068 {103}	167.079 {502}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00293**	W **2.5506**	W **2.9551**	**.02140**	**2.1639**	**.08130**	**.00028**	**.00199**	**101.96**
Stddev	.00021	.0050	.0084	.00038	.0037	.00007	.00003	.00418	.36
%RSD	7.0362	.19549	.28555	1.7910	.17243	.08831	9.3243	209.43	.34983
#1	.00278	2.5470	2.9610	.02113	2.1666	.08135	.00026	.00495	102.21
#2	.00308	2.5541	2.9491	.02167	2.1613	.08124	.00029	-.00096	101.71
Check ?	Chk Pass	Chk Warn	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.5000	500.00						
Low Limit		-.20000	3.2000						

Elem	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Line	228.802 {447}	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00397**	**.00262**	**.04403**	**.10255**	**13.649**	**12.200**	**.02969**	**20.684**	**.98122**
Stddev	.00003	.00004	.00027	.00057	.051	.091	.00111	.072	.00050
%RSD	.68362	1.5645	.60911	.55563	.37077	.74415	3.7520	.34942	.05086
#1	.00399	.00259	.04384	.10295	13.684	12.264	.02890	20.633	.98087
#2	.00395	.00265	.04422	.10215	13.613	12.136	.03048	20.735	.98157
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	202.030 {467}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09573**	**118.90**	**.01620**	**1.4751**	**.00759**	**150.84**	**.00439**	**.01283**	**5.2370**
Stddev	.00148	1.11	.00008	.0059	.00106	.05	.00522	.00413	.0348
%RSD	1.5504	.93321	.50694	.40091	13.915	.03221	118.75	32.175	.66424
#1	.09468	119.69	.01626	1.4709	.00833	150.81	.00070	.00991	5.2616
#2	.09678	118.12	.01615	1.4793	.00684	150.88	.00808	.01575	5.2124
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.207**	W **4.3101**	**.48287**	**.00080**	**.04342**	**-.00022**	**.01845**	**.00796**	**.14156**
Stddev	.074	.0052	.00157	.00084	.00034	.00087	.02260	.00050	.00198
%RSD	.66424	.12164	.32536	104.72	.77721	397.00	122.47	6.2315	1.4004
#1	11.260	4.3064	.48399	.00021	.04366	.00039	.00247	.00831	.14016
#2	11.155	4.3138	.48176	.00140	.04319	-.00083	.03443	.00761	.14297
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.0000							
Low Limit		-.20000							

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00318**
Stddev	.00121
%RSD	38.127
#1	.00232
#2	.00403
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 90184-A-11-B SD@5 Acquired: 11/13/2016 21:17:52 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350304 6010B Waste

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4009.9**	**55484.**	**4575.8**
Stddev	1.1	272.	46.0
%RSD	.02671	.49031	1.0054
#1	4010.6	55677.	4543.2
#2	4009.1	55292.	4608.3

Sample Name: CCVH-4239353 Acquired: 11/13/2016 21:20:20 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00152**	**49.079**	**-.00215**	**.04252**	**-.00021**	**.00014**	**1.0158**	**.01057**	**.00070**	**-.00028**	**.00020**	**-.00129**
Stddev	.00015	.018	.00126	.00310	.00013	.00008	.0045	.01314	.00007	.00016	.00014	.00040
%RSD	9.7113	.03574	58.515	7.2952	61.087	55.663	.44729	124.30	9.9764	57.025	69.445	31.339
#1	.00162	49.092	-.00304	.04472	-.00031	.00008	1.0190	.01986	.00075	-.00017	.00030	-.00100
#2	.00141	49.067	-.00126	.04033	-.00012	.00019	1.0126	.00128	.00065	-.00039	.00010	-.00158
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.638**	**.73920**	**.00128**	**.04341**	**.00072**	**.00133**	**241.89**	**.00032**	**.00600**	**.00073**	W **5.4400**	**.00155**
Stddev	.307	.05441	.00237	.00190	.00002	.00129	.86	.00051	.00170	.00119	.0053	.00008
%RSD	.61766	7.3611	185.23	4.3798	2.9616	96.712	.35688	157.47	28.308	163.50	.09811	5.0102
#1	49.855	.77768	-.00040	.04475	.00074	.00042	242.50	-.00004	.00480	.00157	5.4363	.00160
#2	49.421	.70072	.00296	.04206	.00070	.00224	241.28	.00068	.00720	-.00011	5.4438	.00149
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Warn	None
Value											5.0000	
Range											5.0000%	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00320**	**-.01583**	**-.03388**	**.00703**	**.00047**	W **4.6982**	**.01698**	**.00051**	**10.252**	**.01361**	**.00029**	**.10419**
Stddev	.00089	.00199	.00425	.00122	.00014	.0085	.00034	.00043	.047	.00031	.00030	.00321
%RSD	27.887	12.551	12.551	17.414	29.102	.18135	2.0298	83.676	.45804	2.3122	101.22	3.0783
#1	-.00257	-.01724	-.03688	.00616	.00056	4.7042	.01674	.00021	10.285	.01383	.00051	.10192
#2	-.00384	-.01443	-.03087	.00790	.00037	4.6922	.01722	.00082	10.219	.01339	.00008	.10646
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4034.6**	**55109.**	**4441.6**
Stddev	15.7	228.	23.9
%RSD	.38908	.41348	.53828
#1	4023.5	54948.	4424.7
#2	4045.7	55270.	4458.5

Sample Name: CCV-4239351 Acquired: 11/13/2016 21:22:50 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49291**	**.48048**	**.96317**	**.53424**	**.50063**	**.47837**	**-.00103**	**4.9255**	**.50204**	**.49982**	**.50166**	**.48403**	**2.4253**
Stddev	.00004	.00042	.00039	.00190	.00031	.00221	.00074	.0195	.00078	.00052	.00015	.00025	.0042
%RSD	.00778	.08701	.03999	.35549	.06149	.46167	72.120	.39522	.15536	.10493	.03063	.05112	.17462
#1	.49293	.48018	.96344	.53290	.50041	.47681	-.00050	4.9117	.50149	.50019	.50177	.48420	2.4223
#2	.49288	.48077	.96289	.53558	.50085	.47993	-.00155	4.9393	.50259	.49945	.50155	.48385	2.4283
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.662**	**1.0109**	**18.825**	**.46832**	**.50148**	**5.2834**	**.49811**	**.98039**	**1.0106**	**.32560**	**1.0157**	**.98783**	**4.7707**
Stddev	.157	.0046	.035	.00019	.00136	.0161	.00072	.00509	.0037	.00905	.0019	.00124	.0066
%RSD	.31665	.45971	.18692	.04149	.27090	.30456	.14455	.51868	.36210	2.7796	.18335	.12546	.13803
#1	49.550	1.0076	18.800	.46818	.50244	5.2720	.49760	.97680	1.0080	.31920	1.0170	.98695	4.7753
#2	49.773	1.0142	18.850	.46845	.50052	5.2947	.49862	.98399	1.0132	.33200	1.0144	.98870	4.7660
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.209**	**1.0078**	**.47985**	**.01038**	**.46543**	**1.0439**	**-.02560**	**.46802**	**.45070**	**.50567**
Stddev	.014	.0016	.00104	.00111	.00090	.0020	.00643	.00137	.00042	.00080
%RSD	.13803	.15476	.21757	10.715	.19243	.19406	25.128	.29229	.09367	.15796
#1	10.219	1.0089	.47911	.00960	.46480	1.0424	-.02105	.46705	.45100	.50510
#2	10.199	1.0067	.48058	.01117	.46606	1.0453	-.03014	.46899	.45040	.50623
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4171.1**	**58117.**	**4631.3**
Stddev	8.8	72.	32.2
%RSD	.21098	.12303	.69525
#1	4177.3	58168.	4654.1
#2	4164.9	58066.	4608.6

Sample Name: CCB Acquired: 11/13/2016 21:25:11 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**.00183**	**.00201**	W **.02342**	**-.00011**	**-.00010**	**.00052**	**-.00197**	**.00044**	**.00050**	**-.00000**	**-.00084**
Stddev	.00026	.00004	.00233	.00010	.00015	.00011	.00316	.00592	.00002	.00003	.00019	.00009
%RSD	30.657	2.3544	116.00	.44234	143.19	110.18	608.86	300.03	5.2950	5.4085	11101.	10.632
#1	.00104	.00186	.00365	.02334	.00000	-.00002	.00276	.00221	.00046	.00051	.00013	-.00077
#2	.00067	.00180	.00036	.02349	-.00021	-.00017	-.00172	-.00616	.00043	.00048	-.00014	-.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.01500								
Low Limit				-.01500								

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01040**	**.51118**	**.00218**	**.02368**	**.00077**	**.00289**	W **.43868**	**-.00007**	**.00126**	**.00092**	F **.28539**	**.00272**
Stddev	.00088	.05842	.00022	.03434	.00103	.00076	.01720	.00013	.00033	.00095	.00242	.00003
%RSD	8.5001	11.429	10.020	145.03	133.42	26.288	3.9217	179.26	26.271	103.56	.84837	1.2749
#1	.00977	.55250	.00202	.04796	.00150	.00236	.45085	-.00016	.00150	.00159	.28368	.00275
#2	.01102	.46987	.00233	-.00060	.00004	.00343	.42652	.00002	.00103	.00025	.28710	.00270
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit							.35000				.10000	
Low Limit							-.35000				-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00410**	**-.00191**	**-.00410**	**.00235**	**.00013**	**.00210**	**.00019**	**.00074**	**-.02254**	**-.00000**	**.00002**	**-.00042**
Stddev	.00360	.00511	.01094	.00094	.00012	.00148	.00011	.00007	.03986	.00032	.00003	.00183
%RSD	87.867	267.25	267.25	40.192	93.661	70.467	58.411	8.7447	176.85	19217.	124.58	437.94
#1	.00665	.00170	.00364	.00168	.00022	.00314	.00011	.00079	-.05073	.00022	.00005	-.00172
#2	.00155	-.00553	-.01183	.00302	.00004	.00105	.00027	.00070	.00565	-.00023	.00000	.00088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4196.8**	**58993.**	**4525.9**
Stddev	10.9	172.	16.9
%RSD	.25908	.29100	.37443
#1	4189.1	58871.	4537.9
#2	4204.4	59114.	4513.9

Sample Name: CCVL-4245706 Acquired: 11/13/2016 21:27:46 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01095**	**.09805**	**.01531**	**.11658**	**.00992**	**.00091**	**.10947**	**.19445**	**.00525**	**.01018**	**.01006**	**.01364**
Stddev	.00012	.00101	.00087	.00042	.00005	.00009	.00379	.00163	.00029	.00001	.00004	.00008
%RSD	1.0624	1.0257	5.6842	.35851	.47803	9.6121	3.4614	.83795	5.4378	.10444	.41431	.55597
#1	.01103	.09876	.01470	.11628	.00995	.00084	.11215	.19560	.00545	.01017	.01009	.01359
#2	.01087	.09734	.01593	.11687	.00988	.00097	.10680	.19330	.00505	.01019	.01003	.01370
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09869**	**3.4516**	**.02216**	**.19294**	**.00963**	**.01969**	F **1.3379**	**.03999**	**2.7698**	**.01042**	**.25699**	**.01775**
Stddev	.00007	.0139	.00067	.00264	.00012	.00054	.0002	.00017	.0066	.00079	.00308	.00004
%RSD	.07507	.40382	3.0128	1.3700	1.2285	2.7306	.01203	.42340	.24025	7.5634	1.1986	.21734
#1	.09874	3.4418	.02169	.19107	.00955	.01931	1.3377	.04011	2.7745	.00987	.25481	.01772
#2	.09863	3.4615	.02263	.19481	.00972	.02007	1.3380	.03987	2.7650	.01098	.25917	.01778
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value							1.0000					
Range							30.000%					

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01548**	**.46515**	**.99541**	**.09995**	**.00982**	**.01611**	**.00906**	**.01610**	F **.00867**	**.00915**	**.01748**	**.01617**
Stddev	.00104	.01795	.03841	.00003	.00010	.00107	.00028	.00053	.01357	.00006	.00021	.00131
%RSD	6.7260	3.8591	3.8591	.02848	.97224	6.6598	3.1076	3.3211	156.51	.63024	1.1743	8.1173
#1	.01474	.47784	1.0226	.09997	.00989	.01687	.00886	.01647	.01827	.00911	.01733	.01710
#2	.01621	.45245	.96825	.09993	.00975	.01535	.00926	.01572	-.00093	.00919	.01762	.01525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4258.4**	**59661.**	**4622.9**
Stddev	20.3	141.	13.8
%RSD	.47715	.23683	.29957
#1	4244.0	59761.	4613.1
#2	4272.7	59561.	4632.7

Sample Name: MB 280-350692/1-B Acquired: 11/13/2016 21:30:19 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350701 200.7 FG

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00105**	**.00433**	**.00165**	**.01412**	**.00005**	**-.00007**	**.00447**	**.01251**	**.00021**
Stddev	.00001	.00050	.00207	.00075	.00008	.00007	.00192	.00446	.00009
%RSD	1.1857	11.528	125.61	5.3355	165.58	105.47	42.817	35.677	41.602
#1	.00106	.00398	.00018	.01465	.00010	-.00012	.00312	.01567	.00015
#2	.00104	.00468	.00312	.01359	-.00001	-.00002	.00583	.00936	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00033**	**.00017**	**-.00068**	W **.08836**	**.39744**	**.00046**	**.00341**	**.00022**	**.00015**
Stddev	.00027	.00026	.00011	.00480	.03419	.00023	.00161	.00004	.00037
%RSD	82.468	156.87	16.645	5.4338	8.6018	48.910	47.245	20.330	240.61
#1	.00014	-.00002	-.00076	.09176	.42162	.00030	.00455	.00019	-.00011
#2	.00052	.00035	-.00060	.08497	.37327	.00062	.00227	.00025	.00041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.05000					
Low Limit				-.05000					

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.34285**	**-.00002**	**.00114**	**.00072**	F **.21933**	**-.00096**	**.00148**	**.00353**	**.00756**
Stddev	.00083	.00010	.00149	.00130	.00395	.00111	.00027	.01586	.03393
%RSD	.24146	462.49	130.98	181.40	1.8031	116.00	18.454	448.57	448.57
#1	.34344	.00005	.00219	-.00020	.21653	-.00174	.00129	.01475	.03156
#2	.34227	-.00010	.00008	.00163	.22213	-.00017	.00168	-.00768	-.01643
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None
High Limit					.10000				
Low Limit					-.10000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00055**	**.00023**	**.00120**	**.00025**	**.00104**	W **-.05392**	**.00009**	**.00147**	**-.00260**
Stddev	.00101	.00008	.00085	.00013	.00023	.02968	.00021	.00026	.00046
%RSD	183.85	36.932	71.111	50.251	22.438	55.051	239.22	17.471	17.564
#1	-.00016	.00017	.00060	.00034	.00120	-.03293	.00024	.00165	-.00228
#2	.00126	.00028	.00180	.00016	.00087	-.07491	-.00006	.00129	-.00293
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
High Limit						.05000			
Low Limit						-.05000			

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4358.4**	**61331.**	**4753.9**
Stddev	2.1	166.	13.9
%RSD	.04768	.27020	.29187
#1	4356.9	61214.	4744.1
#2	4359.8	61448.	4763.7

Sample Name: LCS 280-350692/2-B Acquired: 11/13/2016 21:32:54 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05586**	**1.9034**	**1.0726**	F **1.1355**	**2.1287**	**.05067**	**2.2339**	**51.761**	F **.11195**
Stddev	.00021	.0029	.0029	.0002	.0076	.00019	.0045	.130	.00014
%RSD	.37172	.15272	.27459	.01942	.35732	.37997	.20015	.25112	.12591
#1	.05600	1.9055	1.0747	1.1354	2.1341	.05080	2.2371	51.852	.11185
#2	.05571	1.9014	1.0705	1.1357	2.1234	.05053	2.2307	51.669	.11205
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail
High Limit				1.1050					.11100
Low Limit				.86000					.08800

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51559**	**.20931**	**.25616**	**1.0324**	**53.172**	**1.0618**	**50.683**	**.48678**	**1.0186**
Stddev	.00036	.00024	.00049	.0003	.082	.0018	.068	.00051	.0037
%RSD	.06930	.11295	.19069	.02530	.15400	.17260	.13382	.10523	.36022
#1	.51534	.20915	.25650	1.0322	53.230	1.0631	50.731	.48714	1.0212
#2	.51585	.20948	.25581	1.0326	53.114	1.0605	50.635	.48642	1.0160
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**52.264**	**.51470**	**10.827**	**.52658**	**2.4822**	W **.55079**	**2.2118**	**9.9579**	**21.310**
Stddev	.061	.00010	.007	.00010	.0032	.00327	.0002	.0620	.133
%RSD	.11660	.01909	.06567	.01901	.13089	.59432	.00919	.62232	.62232
#1	52.307	.51463	10.832	.52665	2.4845	.55310	2.2120	9.9141	21.216
#2	52.221	.51477	10.822	.52650	2.4799	.54847	2.2117	10.002	21.404
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Warn	Chk Pass	Chk Pass	None
High Limit						.54000			
Low Limit						.44000			

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.1134**	**1.0152**	**1.0098**	**.99017**	**2.1453**	**2.1676**	**.49713**	**.47784**	**.55367**
Stddev	.0004	.0008	.0077	.00026	.0106	.0165	.00057	.00136	.00144
%RSD	.01762	.08201	.76127	.02590	.49250	.76292	.11401	.28422	.25978
#1	2.1131	1.0158	1.0152	.99035	2.1527	2.1793	.49753	.47880	.55469
#2	2.1136	1.0146	1.0043	.98999	2.1378	2.1559	.49673	.47688	.55266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4119.5**	**57247.**	**4661.4**
Stddev	.7	109.	5.9
%RSD	.01641	.18968	.12653
#1	4120.0	57170.	4657.2
#2	4119.0	57324.	4665.5

Sample Name: 90283-E-3-B @2 Acquired: 11/13/2016 21:35:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00079**	**.00920**	**.00290**	**.11539**	**.02393**	**-.00012**	**.00540**	**17.196**	**.00048**
Stddev	.00010	.00006	.00048	.00022	.00027	.00001	.00313	.050	.00001
%RSD	13.067	.66199	16.515	.18932	1.1394	6.7217	57.960	.28984	1.9638
#1	.00087	.00916	.00324	.11554	.02412	-.00011	.00762	17.160	.00049
#2	.00072	.00925	.00256	.11523	.02374	-.00013	.00319	17.231	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00039**	**.00044**	**.00022**	**.01703**	**8.7608**	**.00498**	**23.492**	**.00074**	**.00629**
Stddev	.00010	.00027	.00012	.00021	.0338	.00063	.009	.00004	.00139
%RSD	24.992	61.384	53.712	1.2291	.38634	12.626	.03867	5.7505	22.026
#1	.00032	.00025	.00030	.01688	8.7369	.00543	23.486	.00077	.00531
#2	.00045	.00063	.00014	.01718	8.7847	.00454	23.499	.00071	.00727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**201.04**	**.00131**	**.00913**	**.00245**	**22.728**	**-.00179**	**.00458**	**.93980**	**2.0112**
Stddev	1.12	.00002	.00058	.00106	.030	.00192	.00026	.01597	.0342
%RSD	.55553	1.4254	6.3109	43.372	.12983	106.82	5.5903	1.6990	1.6990
#1	200.25	.00133	.00873	.00320	22.749	-.00315	.00476	.92851	1.9870
#2	201.83	.00130	.00954	.00170	22.707	-.00044	.00440	.95109	2.0353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00030**	**.17415**	**.00076**	**.00051**	**.00741**	**-.01700**	**.00010**	**.00379**	**.00282**
Stddev	.00058	.00098	.00184	.00002	.00175	.04983	.00010	.00008	.00001
%RSD	190.59	.56137	242.19	4.7181	23.598	293.06	100.17	2.1506	.44960
#1	-.00011	.17346	.00206	.00049	.00617	-.05224	.00016	.00373	.00283
#2	.00071	.17485	-.00054	.00053	.00864	.01823	.00003	.00384	.00281
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4041.7**	**55621.**	**4580.3**
Stddev	4.0	41.	12.6
%RSD	.09854	.07460	.27495
#1	4038.9	55650.	4571.4
#2	4044.6	55591.	4589.2

Sample Name: 90283-E-3-B SD@10 Acquired: 11/13/2016 21:37:44 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00117**	**.00223**	**.00324**	**.03198**	**.00494**	**-.00003**	**.00206**	**3.5720**	**.00018**
Stddev	.00038	.00066	.00233	.00009	.00032	.00001	.00117	.0115	.00001
%RSD	32.567	29.565	71.945	.26585	6.5330	33.346	56.734	.32069	4.0275
#1	.00090	.00270	.00159	.03204	.00517	-.00002	.00123	3.5801	.00018
#2	.00144	.00177	.00489	.03192	.00471	-.00003	.00289	3.5639	.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00035**	**.00014**	**-.00075**	**.00495**	**2.0265**	**.00233**	**4.8732**	**.00022**	**.00111**
Stddev	.00020	.00008	.00023	.00019	.0269	.00151	.0171	.00002	.00083
%RSD	57.185	55.035	29.973	3.9092	1.3276	64.954	.35063	10.942	74.061
#1	.00049	.00009	-.00059	.00509	2.0074	.00339	4.8852	.00024	.00053
#2	.00021	.00020	-.00091	.00481	2.0455	.00126	4.8611	.00020	.00170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.503**	**.00025**	**.00164**	**.00200**	**4.6137**	**.00073**	**-.00008**	**.18377**	**.39327**
Stddev	.165	.00019	.00142	.00012	.0115	.00237	.00019	.01562	.03343
%RSD	.38734	74.876	86.980	6.1784	.24969	324.08	224.66	8.4998	8.4998
#1	42.387	.00012	.00264	.00209	4.6219	-.00094	.00005	.17273	.36964
#2	42.619	.00038	.00063	.00192	4.6056	.00241	-.00022	.19482	.41691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00073**	**.03617**	**.00181**	**.00004**	**.00112**	**-.04352**	**.00050**	**.00061**	**.00015**
Stddev	.00070	.00004	.00073	.00005	.00093	.00825	.00009	.00007	.00211
%RSD	95.924	.11952	40.344	117.52	82.626	18.952	18.053	11.412	1428.2
#1	-.00023	.03614	.00233	.00001	.00047	-.04935	.00056	.00056	-.00135
#2	-.00122	.03620	.00130	.00008	.00178	-.03769	.00043	.00066	.00164
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4181.4**	**58523.**	**4633.9**
Stddev	15.0	15.	14.5
%RSD	.35857	.02594	.31209
#1	4170.8	58533.	4623.7
#2	4192.0	58512.	4644.2

Sample Name: 90283-E-3-C MS @2 Acquired: 11/13/2016 21:40:17 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02792**	**.94855**	**.52920**	**.64715**	**1.0701**	**.02510**	**1.0689**	**43.076**	**.05454**
Stddev	.00056	.00399	.00096	.00139	.0043	.00026	.0051	.178	.00021
%RSD	2.0108	.42041	.18176	.21411	.40651	1.0410	.47355	.41396	.38593
#1	.02752	.94573	.52988	.64617	1.0671	.02492	1.0653	42.950	.05439
#2	.02832	.95137	.52852	.64813	1.0732	.02529	1.0725	43.202	.05469
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25346**	**.10347**	**.12572**	**.51171**	**35.385**	**.53393**	**48.484**	**.24150**	**.50611**
Stddev	.00076	.00023	.00019	.00268	.092	.00337	.057	.00034	.00055
%RSD	.29878	.22201	.14997	.52283	.26013	.63149	.11798	.14063	.10943
#1	.25293	.10363	.12585	.51360	35.320	.53155	48.444	.24126	.50650
#2	.25400	.10331	.12558	.50982	35.450	.53632	48.524	.24174	.50572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**231.08**	**.25338**	**5.3902**	**.25542**	**24.313**	**.26248**	**1.0567**	**5.9076**	**12.642**
Stddev	.55	.00017	.0251	.00194	.095	.00026	.0019	.0173	.037
%RSD	.23870	.06673	.46518	.76073	.39150	.09761	.17604	.29355	.29355
#1	230.69	.25349	5.3725	.25405	24.246	.26230	1.0580	5.8953	12.616
#2	231.47	.25326	5.4079	.25679	24.381	.26266	1.0554	5.9198	12.668
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0323**	**.67641**	**.50152**	**.49271**	**1.0049**	**1.0333**	**.24745**	**.24128**	**.27477**
Stddev	.0020	.00184	.00381	.00028	.0014	.0328	.00047	.00117	.00017
%RSD	.19620	.27207	.75926	.05700	.13863	3.1775	.19195	.48374	.06291
#1	1.0309	.67510	.49882	.49251	1.0059	1.0565	.24712	.24046	.27465
#2	1.0337	.67771	.50421	.49291	1.0040	1.0101	.24779	.24211	.27489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3976.1**	**54665.**	**4535.6**
Stddev	.3	228.	9.6
%RSD	.00693	.41761	.21161
#1	3975.9	54826.	4542.4
#2	3976.3	54503.	4528.8

Sample Name: 90283-E-3-D MSD @2 Acquired: 11/13/2016 21:42:37 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02777**	**.94504**	**.52919**	**.65084**	**1.0608**	**.02511**	**1.0730**	**43.062**	**.05477**
Stddev	.00019	.00130	.00308	.00129	.0024	.00004	.0009	.023	.00024
%RSD	.68159	.13791	.58112	.19804	.22568	.15878	.08684	.05439	.44175
#1	.02790	.94596	.52702	.64992	1.0591	.02508	1.0724	43.046	.05460
#2	.02763	.94411	.53137	.65175	1.0625	.02514	1.0737	43.079	.05494
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.25254**	**.10253**	**.12488**	**.50531**	**35.294**	**.53111**	**48.520**	**.24067**	**.51064**
Stddev	.00003	.00022	.00021	.00685	.004	.00015	.029	.00023	.00047
%RSD	.01212	.21096	.16773	1.3554	.00994	.02736	.06021	.09723	.09266
#1	.25252	.10268	.12473	.50046	35.296	.53101	48.500	.24050	.51030
#2	.25256	.10237	.12503	.51015	35.291	.53121	48.541	.24083	.51097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**233.56**	**.25352**	**5.3941**	**.25289**	**24.681**	**.26943**	**1.0632**	**5.8987**	**12.623**
Stddev	.07	.00002	.0029	.00212	.075	.00311	.0047	.0177	.038
%RSD	.02835	.00875	.05470	.83820	.30437	1.1548	.44407	.30024	.30024
#1	233.52	.25350	5.3920	.25139	24.628	.26723	1.0599	5.8861	12.596
#2	233.61	.25353	5.3962	.25439	24.734	.27163	1.0666	5.9112	12.650
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0304**	**.67736**	**.50019**	**.49328**	**1.0077**	**1.0636**	**.24861**	**.23885**	**.27395**
Stddev	.0040	.00125	.00114	.00053	.0002	.0229	.00021	.00004	.00129
%RSD	.39142	.18380	.22854	.10694	.01639	2.1535	.08550	.01565	.47257
#1	1.0275	.67648	.50100	.49365	1.0079	1.0798	.24876	.23882	.27304
#2	1.0332	.67824	.49938	.49291	1.0076	1.0474	.24846	.23887	.27487
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3973.7**	**54756.**	**4539.2**
Stddev	1.7	162.	12.9
%RSD	.04398	.29524	.28313
#1	3972.5	54870.	4530.1
#2	3975.0	54642.	4548.3

Sample Name: 90283-E-3-B PDS @2 Acquired: 11/13/2016 21:44:57 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05078**	**.91044**	**.20691**	**.21420**	**.12328**	**.04771**	**.00079**	**35.996**	**.05165**
Stddev	.00014	.00076	.00006	.00001	.00039	.00023	.00065	.018	.00005
%RSD	.27942	.08326	.02799	.00314	.31935	.49241	81.944	.05018	.09363
#1	.05088	.90990	.20695	.21420	.12300	.04754	.00033	35.983	.05162
#2	.05068	.91097	.20687	.21421	.12356	.04787	.00124	36.009	.05169
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04809**	**.04947**	**.04863**	**.97692**	**28.603**	**.10639**	**41.371**	**.04713**	**.05197**
Stddev	.00011	.00039	.00031	.00184	.017	.00264	.175	.00011	.00054
%RSD	.23854	.78717	.64279	.18870	.06059	2.4832	.42221	.23583	1.0404
#1	.04801	.04920	.04885	.97822	28.590	.10826	41.248	.04705	.05159
#2	.04817	.04975	.04841	.97562	28.615	.10452	41.495	.04721	.05235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**216.29**	**.04936**	**2.0648**	**.09883**	**22.377**	**.09976**	**.20534**	**5.7088**	**12.217**
Stddev	.25	.00040	.0054	.00017	.019	.00028	.00494	.0041	.009
%RSD	.11604	.80765	.26134	.17293	.08657	.27922	2.4044	.07162	.07162
#1	216.11	.04964	2.0686	.09871	22.391	.09996	.20185	5.7117	12.223
#2	216.46	.04908	2.0609	.09895	22.363	.09956	.20883	5.7059	12.211
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10012**	**.21802**	**.19043**	**.04829**	**.19903**	**.49952**	**.04786**	**.18361**	**.05700**
Stddev	.00172	.00059	.00154	.00046	.00027	.02303	.00014	.00051	.00012
%RSD	1.7161	.27248	.80945	.94700	.13605	4.6106	.28375	.27645	.21040
#1	.10134	.21760	.18934	.04796	.19884	.51581	.04776	.18326	.05691
#2	.09891	.21844	.19152	.04861	.19922	.48324	.04795	.18397	.05708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3987.5**	**54651.**	**4575.7**
Stddev	12.2	441.	15.4
%RSD	.30599	.80610	.33574
#1	3996.1	54962.	4586.6
#2	3978.9	54339.	4564.8

Sample Name: 90283-E-4-B @2 Acquired: 11/13/2016 21:47:23 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350701 200.7 FG 2x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00080**	**.00895**	**.00634**	W **27.563**	**.02696**	**.00017**	**.00128**	**310.58**	**.00113**
Stddev	.00035	.00029	.00031	.009	.00017	.00003	.00201	.59	.00005
%RSD	43.384	3.2825	4.9618	.03441	.64630	20.401	156.83	.18893	4.6125
#1	.00056	.00916	.00612	27.557	.02709	.00014	-.00014	310.17	.00116
#2	.00105	.00874	.00657	27.570	.02684	.00019	.00271	311.00	.00109
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				10.000					
Low Limit				-.20000					

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00029**	**.00096**	**.00022**	**.00659**	**7.0293**	**.02376**	**62.317**	**.00021**	**.01585**
Stddev	.00012	.00031	.00031	.00084	.0598	.00164	.148	.00002	.00040
%RSD	42.245	32.353	139.40	12.695	.85092	6.9196	.23783	10.614	2.5028
#1	.00021	.00074	.00000	.00600	6.9870	.02493	62.212	.00022	.01557
#2	.00038	.00118	.00045	.00718	7.0716	.02260	62.421	.00019	.01613
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**54.679**	**.01141**	**.00883**	**.00040**	F **330.12**	**.00120**	**1.5907**	**9.5702**	**20.480**
Stddev	.278	.00035	.00382	.00066	.44	.00189	.0051	.0046	.010
%RSD	.50763	3.0582	43.191	164.21	.13442	156.93	.32335	.04807	.04807
#1	54.483	.01117	.01153	.00087	329.81	-.00013	1.5944	9.5735	20.487
#2	54.875	.01166	.00614	-.00007	330.44	.00253	1.5871	9.5670	20.473
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					200.00				
Low Limit					-.20000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00139**	**.57126**	**.00119**	**.00019**	**.00428**	**.04329**	**.00794**	**.00524**	**.00080**
Stddev	.00002	.00038	.00192	.00015	.00222	.00043	.00004	.00018	.00314
%RSD	1.1353	.06678	161.52	77.598	51.897	.98998	.54420	3.4809	392.61
#1	-.00138	.57153	.00255	.00009	.00271	.04359	.00797	.00537	-.00142
#2	-.00140	.57099	-.00017	.00030	.00586	.04299	.00791	.00511	.00302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3860.0**	**53832.**	**4402.2**
Stddev	25.6	53.	15.2
%RSD	.66283	.09922	.34615
#1	3878.1	53870.	4413.0
#2	3841.9	53795.	4391.5

Sample Name: CCVH-4239353 Acquired: 11/13/2016 21:49:54 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00201**	**48.693**	**-.00204**	**.04909**	**.00054**	**.00028**	**.99901**	**.00756**	**.00074**	**-.00048**	**.00059**	**-.00164**
Stddev	.00001	.042	.00448	.00483	.00007	.00002	.00008	.00851	.00005	.00005	.00003	.00040
%RSD	.33373	.08529	218.93	9.8357	13.606	5.9922	.00775	112.48	6.4280	10.884	4.7619	24.252
#1	.00201	48.663	.00112	.05251	.00049	.00027	.99906	.01358	.00071	-.00045	.00057	-.00136
#2	.00202	48.722	-.00521	.04568	.00060	.00029	.99895	.00155	.00077	-.00052	.00061	-.00192
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.356**	**.41759**	**.00145**	**.04436**	**.00072**	**-.00125**	**241.71**	**.00037**	**.00376**	**.00204**	**5.1965**	**.00190**
Stddev	.141	.00232	.00015	.00194	.00001	.00031	.12	.00016	.00146	.00081	.0134	.00315
%RSD	.28470	.55651	10.645	4.3681	.98885	24.390	.04785	43.313	38.900	39.852	.25797	165.73
#1	49.456	.41595	.00156	.04299	.00072	-.00147	241.79	.00026	.00272	.00261	5.2060	.00413
#2	49.257	.41924	.00134	.04573	.00071	-.00104	241.63	.00049	.00479	.00146	5.1871	-.00033
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00313**	**-.03642**	**-.07794**	**.00011**	**.00042**	W **4.6775**	**.01670**	**-.00051**	**10.210**	**.01358**	**.00067**	**.10228**
Stddev	.00056	.00424	.00908	.00071	.00000	.0006	.00022	.00160	.050	.00047	.00007	.00030
%RSD	17.916	11.644	11.644	625.05	.77782	.01166	1.3068	313.70	.48497	3.4618	10.774	.29436
#1	-.00353	-.03342	-.07152	.00061	.00042	4.6771	.01655	.00062	10.175	.01391	.00072	.10207
#2	-.00273	-.03942	-.08436	-.00039	.00042	4.6779	.01686	-.00164	10.245	.01325	.00062	.10249
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3930.4**	**53971.**	**4316.1**
Stddev	9.0	32.	10.5
%RSD	.22987	.05902	.24278
#1	3936.8	53993.	4323.5
#2	3924.0	53948.	4308.7

Sample Name: CCV-4239351 Acquired: 11/13/2016 21:52:24 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49771**	**.49536**	**.97149**	**.53220**	**.50532**	**.48775**	**-.00239**	**5.0172**	**.50397**	**.50502**	**.50587**	**.48833**	**2.4731**
Stddev	.00092	.00290	.00567	.00273	.00233	.00083	.00024	.0095	.00109	.00078	.00000	.00018	.0040
%RSD	.18388	.58535	.58403	.51289	.46023	.16951	9.9997	.18853	.21591	.15514	.00025	.03721	.16103
#1	.49835	.49331	.97551	.53413	.50696	.48833	-.00255	5.0239	.50474	.50558	.50587	.48846	2.4759
#2	.49706	.49741	.96748	.53027	.50367	.48716	-.00222	5.0105	.50320	.50447	.50587	.48820	2.4703
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.352**	**1.0265**	**19.377**	**.47957**	**.50289**	**5.2654**	**.50378**	**.98790**	**1.0233**	**.15927**	**1.0132**	**.99050**	**4.8795**
Stddev	.156	.0020	.061	.00094	.00182	.0313	.00042	.00229	.0001	.00413	.0045	.00892	.0250
%RSD	.30898	.19225	.31694	.19624	.36134	.59425	.08294	.23228	.01145	2.5916	.44185	.90103	.51271
#1	50.462	1.0279	19.421	.48023	.50418	5.2875	.50408	.98952	1.0234	.15635	1.0164	.99682	4.8972
#2	50.242	1.0251	19.334	.47890	.50161	5.2433	.50349	.98627	1.0233	.16219	1.0101	.98419	4.8618
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.442**	**1.0153**	**.48766**	**.00977**	**.47656**	**1.0438**	**-.01231**	**.47882**	**.47009**	**.50904**
Stddev	.054	.0049	.00090	.00041	.00119	.0015	.03008	.00030	.00195	.00174
%RSD	.51271	.48366	.18509	4.2262	.25000	.14476	244.39	.06240	.41441	.34157
#1	10.480	1.0188	.48830	.01007	.47740	1.0448	-.03358	.47903	.47147	.51027
#2	10.404	1.0119	.48702	.00948	.47572	1.0427	.00896	.47861	.46871	.50781
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4027.2**	**55287.**	**4301.9**
Stddev	19.2	102.	.0
%RSD	.47756	.18528	.00079
#1	4040.8	55214.	4301.9
#2	4013.6	55359.	4301.8

Sample Name: CCB Acquired: 11/13/2016 21:54:44 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00071**	**.00146**	**.00387**	W **.02161**	**.00017**	**-.00004**	**.00091**	**-.00416**	**.00021**	**.00022**	**-.00003**	**-.00123**
Stddev	.00025	.00254	.00065	.00009	.00043	.00004	.00187	.00396	.00001	.00000	.00016	.00025
%RSD	35.188	174.21	16.716	.41970	255.72	88.937	205.50	95.175	6.7685	1.5690	590.65	20.169
#1	.00089	-.00034	.00341	.02154	-.00013	-.00002	-.00041	-.00136	.00022	.00022	-.00014	-.00141
#2	.00053	.00326	.00433	.02167	.00047	-.00007	.00223	-.00696	.00020	.00022	.00009	-.00106
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				.01500								
Low Limit				-.01500								

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00066**	**.32393**	**.00129**	**-.00059**	**.00007**	**.00202**	**.29456**	**.00017**	**.00120**	**.00034**	F **.14261**	**.00157**
Stddev	.00202	.01406	.00100	.00007	.00005	.00077	.00190	.00002	.00133	.00026	.00575	.00184
%RSD	306.01	4.3392	77.594	12.436	73.619	38.261	.64512	11.370	110.95	77.426	4.0340	117.13
#1	.00077	.31399	.00200	-.00064	.00011	.00147	.29322	.00015	.00026	.00052	.13854	.00288
#2	-.00208	.33387	.00058	-.00053	.00003	.00256	.29590	.00018	.00214	.00015	.14667	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit											.10000	
Low Limit											-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00205**	**-.02903**	**-.06212**	**.00064**	**.00005**	**.00232**	**-.00015**	**.00218**	**-.03031**	**.00010**	**-.00053**	**-.00051**
Stddev	.00042	.00112	.00240	.00070	.00004	.00269	.00015	.00027	.00043	.00011	.00006	.00052
%RSD	20.245	3.8632	3.8632	109.13	74.092	115.87	98.534	12.383	1.4271	106.02	11.243	101.49
#1	.00235	-.02823	-.06042	.00015	.00008	.00042	-.00005	.00199	-.03062	.00018	-.00057	-.00088
#2	.00176	-.02982	-.06381	.00114	.00003	.00422	-.00025	.00238	-.03001	.00003	-.00049	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4064.5**	**56335.**	**4225.3**
Stddev	29.1	215.	10.2
%RSD	.71638	.38239	.24075
#1	4044.0	56183.	4232.5
#2	4085.1	56487.	4218.1

Sample Name: CCVL-4245706 Acquired: 11/13/2016 21:57:20 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01112**	**.09844**	**.01677**	**.11337**	**.00992**	**.00088**	**.10554**	**.20161**	**.00526**	**.01030**	**.01010**	**.01334**
Stddev	.00001	.00028	.00332	.00006	.00001	.00008	.00374	.00446	.00017	.00021	.00012	.00003
%RSD	.09627	.28282	19.789	.04873	.10504	9.1452	3.5428	2.2131	3.2469	2.0219	1.1809	.23533
#1	.01111	.09825	.01442	.11333	.00993	.00094	.10289	.20476	.00514	.01045	.01002	.01332
#2	.01112	.09864	.01911	.11341	.00992	.00082	.10818	.19845	.00538	.01015	.01019	.01337
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09699**	**3.2089**	**.02116**	**.19962**	**.00967**	**.01908**	**1.2236**	**.04034**	**2.8039**	**.01056**	**.12350**	**.01830**
Stddev	.00141	.0108	.00106	.00211	.00002	.00017	.0064	.00006	.0058	.00062	.00086	.00105
%RSD	1.4548	.33779	5.0221	1.0571	.16173	.87508	.52411	.14095	.20701	5.8747	.69932	5.7440
#1	.09599	3.2012	.02191	.20112	.00968	.01920	1.2282	.04030	2.7998	.01099	.12289	.01756
#2	.09799	3.2166	.02041	.19813	.00966	.01896	1.2191	.04038	2.8080	.01012	.12411	.01904
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01184**	**.45972**	**.98381**	**.10015**	**.00975**	**.01732**	**.00895**	**.01570**	F **.00744**	**.00924**	**.01826**	**.01549**
Stddev	.00296	.01792	.03835	.00007	.00001	.00229	.00053	.00006	.01676	.00017	.00012	.00054
%RSD	24.959	3.8982	3.8982	.07076	.15190	13.219	5.9109	.40370	225.34	1.8787	.64687	3.5098
#1	.00975	.44705	.95669	.10010	.00974	.01894	.00858	.01575	-.00441	.00936	.01818	.01587
#2	.01393	.47240	1.0109	.10020	.00976	.01570	.00932	.01566	.01929	.00912	.01834	.01510
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4130.4**	**57497.**	**4341.4**
Stddev	9.1	95.	2.6
%RSD	.22071	.16524	.06026
#1	4124.0	57564.	4339.6
#2	4136.9	57430.	4343.3

Sample Name: 280-90723-A-27-A @5 Acquired: 11/13/2016 21:59:53 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350721 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00095**	**38.245**	**.02005**	**.03492**	**.37759**	**.00149**	**.00190**	**35.030**	**.00060**
Stddev	.00062	.057	.00232	.00018	.00057	.00013	.00092	.116	.00016
%RSD	64.882	.15020	11.567	.51897	.14983	8.7476	48.145	.33058	25.897
#1	.00139	38.286	.02169	.03504	.37719	.00158	.00255	34.948	.00071
#2	.00051	38.205	.01841	.03479	.37799	.00140	.00125	35.111	.00049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01645**	**.04851**	**.10895**	**96.983**	**3.1458**	**.02204**	**6.9787**	**.88689**	**.00207**
Stddev	.00011	.00045	.00018	.071	.0529	.00102	.0111	.00135	.00008
%RSD	.69678	.93037	.16254	.07344	1.6799	4.6420	.15935	.15217	3.6631
#1	.01637	.04819	.10882	97.033	3.1832	.02277	6.9709	.88593	.00201
#2	.01653	.04883	.10907	96.932	3.1084	.02132	6.9866	.88784	.00212
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.57855**	**.06198**	**.33187**	**6.0145**	**.66975**	**.50842**	**-.00119**	**.48398**	**1.0357**
Stddev	.00011	.00007	.00078	.0011	.00887	.00099	.00099	.00401	.0086
%RSD	.01832	.10784	.23484	.01792	1.3242	.19460	83.607	.82755	.82755
#1	.57847	.06193	.33132	6.0138	.66348	.50912	-.00189	.48115	1.0297
#2	.57862	.06203	.33242	6.0153	.67603	.50772	-.00049	.48682	1.0418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00342**	**.11805**	**.00406**	**.20965**	**.00045**	**.27939**	**.06424**	**.10872**	**.02650**
Stddev	.00111	.00006	.00161	.00120	.00084	.00961	.00033	.00069	.00216
%RSD	32.462	.05397	39.805	.57374	185.60	3.4392	.52143	.63321	8.1468
#1	.00421	.11800	.00291	.20880	-.00014	.28618	.06448	.10823	.02802
#2	.00264	.11809	.00520	.21050	.00105	.27260	.06400	.10921	.02497
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4132.0**	**56978.**	**4444.5**
Stddev	2.6	278.	11.6
%RSD	.06172	.48705	.26107
#1	4133.8	56782.	4436.3
#2	4130.2	57174.	4452.7

Sample Name: 280-90723-A-29-A @10 Acquired: 11/13/2016 22:02:21 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350721 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00108**	**18.466**	**.01057**	**.01399**	**.18864**	**.00065**	**.00292**	**8.1575**	**.00036**
Stddev	.00065	.018	.00092	.00071	.00103	.00012	.00090	.0352	.00005
%RSD	60.017	.09579	8.6816	5.1090	.54718	17.763	30.817	.43141	14.537
#1	.00153	18.479	.00992	.01449	.18791	.00074	.00228	8.1326	.00032
#2	.00062	18.454	.01122	.01348	.18937	.00057	.00355	8.1824	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00596**	**.01735**	**.02666**	**16.099**	**1.6601**	**.00969**	**2.7254**	**.24312**	**-.00001**
Stddev	.00029	.00027	.00021	.041	.0288	.00273	.0014	.00011	.00014
%RSD	4.8813	1.5701	.80447	.25251	1.7356	28.179	.05197	.04468	1445.9
#1	.00616	.01754	.02681	16.070	1.6805	.01163	2.7244	.24319	.00009
#2	.00575	.01715	.02651	16.128	1.6397	.00776	2.7264	.24304	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.29832**	**.01584**	**.13432**	**8.3965**	**.23079**	**.14922**	**-.00251**	**.20309**	**.43462**
Stddev	.00106	.00024	.00185	.0043	.00135	.00132	.00332	.02034	.04352
%RSD	.35434	1.4849	1.3770	.05080	.58639	.88779	132.31	10.015	10.015
#1	.29757	.01600	.13301	8.3935	.22983	.14828	-.00485	.18871	.40384
#2	.29906	.01567	.13563	8.3995	.23175	.15016	-.00016	.21747	.46539
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00186**	**.03717**	**.00772**	**.10697**	**.00047**	**.00555**	**.02708**	**.17875**	**.01073**
Stddev	.00105	.00003	.00045	.00027	.00081	.01399	.00043	.00189	.00042
%RSD	56.830	.08401	5.7673	.24972	171.25	251.86	1.5823	1.0573	3.9122
#1	.00260	.03715	.00741	.10716	-.00010	-.00434	.02739	.17741	.01044
#2	.00111	.03719	.00804	.10678	.00104	.01545	.02678	.18008	.01103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4156.0**	**57404.**	**4405.1**
Stddev	10.0	47.	13.7
%RSD	.23964	.08258	.31192
#1	4163.1	57370.	4395.4
#2	4149.0	57437.	4414.9

Sample Name: 280-90723-A-1-A @2 Acquired: 11/13/2016 22:04:51 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350720 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00048**	**98.423**	**.03203**	**.01749**	**1.1026**	**.00452**	**-.00005**	**26.094**	**.00187**
Stddev	.00018	.137	.00030	.00027	.0033	.00003	.00098	.032	.00007
%RSD	36.474	.13963	.94749	1.5319	.30178	.72155	1938.3	.12313	3.9978
#1	.00036	98.520	.03182	.01768	1.1050	.00454	.00064	26.072	.00192
#2	.00061	98.326	.03224	.01731	1.1003	.00449	-.00075	26.117	.00182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03025**	**.09788**	**.10510**	**86.378**	**9.0386**	**.05647**	**13.346**	**1.5565**	**-.00008**
Stddev	.00007	.00022	.00013	.179	.1024	.00035	.012	.0009	.00010
%RSD	.22023	.22899	.12472	.20726	1.1326	.62326	.09354	.05607	119.29
#1	.03020	.09772	.10500	86.505	9.1110	.05622	13.355	1.5559	-.00015
#2	.03030	.09804	.10519	86.252	8.9662	.05672	13.337	1.5571	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.47161**	**.07449**	**1.4418**	**6.7237**	**1.0235**	**.00206**	**.00058**	**.71407**	**1.5281**
Stddev	.00475	.00005	.0016	.0094	.0077	.00179	.00323	.00331	.0071
%RSD	1.0076	.06389	.10805	.13997	.75262	86.639	560.50	.46358	.46358
#1	.47497	.07445	1.4407	6.7170	1.0180	.00333	-.00171	.71173	1.5231
#2	.46825	.07452	1.4429	6.7304	1.0289	.00080	.00286	.71641	1.5331
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00848**	**.16964**	**.02936**	**.30152**	**.00031**	**.23828**	**.13113**	**.44185**	**.04345**
Stddev	.00077	.00035	.00064	.00005	.00104	.00602	.00029	.00159	.00070
%RSD	9.0980	.20505	2.1889	.01563	332.50	2.5280	.22081	.36034	1.6031
#1	.00903	.16989	.02981	.30155	.00105	.23402	.13092	.44297	.04296
#2	.00794	.16940	.02890	.30149	-.00042	.24254	.13133	.44072	.04394
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4341.5**	**58992.**	**4719.0**
Stddev	5.6	81.	3.3
%RSD	.13000	.13803	.07068
#1	4337.5	59049.	4716.6
#2	4345.5	58934.	4721.3

Sample Name: 280-90723-A-5-A @2 Acquired: 11/13/2016 22:07:17 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350720 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00043**	**107.59**	**.04700**	**.01940**	**1.1359**	**.00447**	**.00282**	**38.286**	**.00229**
Stddev	.00040	.05	.00098	.00029	.0019	.00011	.00058	.107	.00004
%RSD	91.245	.04979	2.0834	1.4989	.17030	2.5093	20.717	.28005	1.5494
#1	.00071	107.63	.04769	.01919	1.1373	.00454	.00241	38.361	.00232
#2	.00015	107.56	.04630	.01960	1.1346	.00439	.00323	38.210	.00227
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.04190**	**.10761**	**.09928**	**99.150**	**11.557**	**.05943**	**13.482**	**2.3306**	**-.00021**
Stddev	.00020	.00002	.00024	.000	.040	.00116	.019	.0012	.00014
%RSD	.48310	.01560	.24094	.00039	.35036	1.9503	.13774	.05113	64.723
#1	.04204	.10762	.09944	99.151	11.528	.06025	13.469	2.3314	-.00031
#2	.04176	.10760	.09911	99.150	11.585	.05861	13.495	2.3297	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.45630**	**.08090**	**1.7320**	**7.5520**	**1.1893**	**-.00055**	**-.00098**	**.99372**	**2.1266**
Stddev	.01011	.00051	.0010	.0237	.0058	.00105	.00165	.01097	.0235
%RSD	2.2154	.63323	.05858	.31372	.48627	190.46	168.66	1.1041	1.1041
#1	.46345	.08126	1.7327	7.5687	1.1934	.00019	.00019	1.0015	2.1432
#2	.44915	.08054	1.7313	7.5352	1.1852	-.00129	-.00215	.98596	2.1099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00789**	**.24707**	**.03092**	**.34127**	**.00221**	**.29053**	**.16727**	**.50085**	**.05231**
Stddev	.00090	.00026	.00141	.00026	.00050	.04746	.00059	.00116	.00235
%RSD	11.458	.10664	4.5660	.07617	22.775	16.336	.35200	.23142	4.4933
#1	.00725	.24726	.03192	.34145	.00257	.25697	.16769	.50167	.05397
#2	.00853	.24689	.02992	.34108	.00186	.32409	.16686	.50003	.05065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4295.5**	**58754.**	**4687.7**
Stddev	4.1	62.	13.3
%RSD	.09616	.10545	.28317
#1	4298.4	58797.	4697.1
#2	4292.6	58710.	4678.3

Sample Name: 280-90723-A-9-A @5 Acquired: 11/13/2016 22:09:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350720 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00084**	**39.941**	**.01495**	**.01061**	**.47680**	**.00192**	**.00223**	**10.746**	**.00099**
Stddev	.00020	.153	.00170	.00014	.00003	.00009	.00091	.000	.00008
%RSD	24.491	.38209	11.375	1.3037	.00550	4.7131	40.949	.00348	8.1634
#1	.00069	39.833	.01375	.01071	.47678	.00199	.00288	10.746	.00094
#2	.00098	40.049	.01615	.01052	.47682	.00186	.00159	10.746	.00105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01369**	**.03964**	**.04361**	**35.316**	**3.6961**	**.02384**	**5.4667**	**.86486**	**-.00037**
Stddev	.00008	.00013	.00001	.035	.0070	.00004	.0107	.00111	.00017
%RSD	.57342	.32550	.01695	.09956	.19057	.17839	.19541	.12825	44.573
#1	.01375	.03973	.04360	35.291	3.6912	.02387	5.4591	.86408	-.00049
#2	.01364	.03955	.04361	35.341	3.7011	.02381	5.4742	.86565	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.26917**	**.03218**	**.54966**	**6.2773**	**.46917**	**.00018**	**-.00328**	**.23067**	**.49363**
Stddev	.00140	.00039	.00195	.0133	.00728	.00367	.00098	.00608	.01302
%RSD	.52061	1.2025	.35416	.21169	1.5525	2071.3	29.953	2.6374	2.6374
#1	.26818	.03245	.55104	6.2679	.47432	-.00242	-.00258	.23497	.50284
#2	.27016	.03190	.54829	6.2867	.46402	.00277	-.00397	.22637	.48442
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00363**	**.07122**	**.01438**	**.11200**	**.00019**	**.08712**	**.05403**	**.17519**	**.01849**
Stddev	.00014	.00005	.00014	.00067	.00055	.00808	.00057	.00094	.00058
%RSD	3.7278	.06835	1.0016	.59504	286.91	9.2709	1.0459	.53658	3.1580
#1	.00372	.07118	.01449	.11152	-.00020	.08141	.05443	.17452	.01808
#2	.00353	.07125	.01428	.11247	.00058	.09283	.05363	.17585	.01890
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4225.5**	**57883.**	**4528.1**
Stddev	3.6	31.	12.6
%RSD	.08595	.05373	.27814
#1	4228.1	57861.	4537.0
#2	4223.0	57905.	4519.2

Sample Name: 280-90723-A-17-A @5 Acquired: 11/13/2016 22:12:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350720 6010B Q5 soil

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00093**	**26.846**	**.01266**	**.04643**	**.20873**	**.00101**	**-.00102**	**44.435**	**.00056**
Stddev	.00025	.074	.00083	.00007	.00006	.00009	.00179	.072	.00001
%RSD	26.656	.27530	6.5331	.15357	.03094	8.8433	175.25	.16306	1.5798
#1	.00111	26.794	.01325	.04638	.20877	.00107	.00024	44.384	.00055
#2	.00076	26.898	.01208	.04648	.20868	.00094	-.00228	44.486	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00909**	**.02935**	**.03018**	**19.783**	**2.8281**	**.01310**	**4.7791**	**.44767**	**.00004**
Stddev	.00034	.00033	.00002	.058	.0209	.00115	.0010	.00080	.00018
%RSD	3.7876	1.1147	.07288	.29275	.74055	8.7560	.01981	.17900	492.55
#1	.00885	.02911	.03019	19.742	2.8133	.01229	4.7784	.44824	-.00009
#2	.00934	.02958	.03016	19.824	2.8429	.01392	4.7798	.44711	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.3905**	**.03222**	**.28937**	**4.7762**	**.39320**	**.10866**	**-.00478**	**.40632**	**.86953**
Stddev	.0223	.00027	.00306	.0120	.00094	.00150	.00043	.01487	.03182
%RSD	1.6017	.83151	1.0586	.25175	.23810	1.3784	9.0264	3.6597	3.6597
#1	1.4062	.03203	.28721	4.7677	.39254	.10760	-.00448	.41684	.89204
#2	1.3747	.03241	.29154	4.7847	.39387	.10972	-.00509	.39581	.84703
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00225**	**.09638**	**.00882**	**.23964**	**.00052**	**.01084**	**.04951**	**.11533**	**.01713**
Stddev	.00103	.00001	.00008	.00115	.00078	.00193	.00025	.00012	.00058
%RSD	45.721	.00902	.91959	.48162	150.25	17.814	.51002	.10516	3.3794
#1	.00298	.09637	.00888	.24046	.00107	.00947	.04934	.11525	.01672
#2	.00152	.09639	.00877	.23882	-.00003	.01220	.04969	.11542	.01754
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4156.1**	**56970.**	**4476.0**
Stddev	.1	182.	4.6
%RSD	.00173	.31972	.10376
#1	4156.0	56842.	4472.7
#2	4156.1	57099.	4479.3

Sample Name: 280-90622-B-8-A @5 Acquired: 11/13/2016 22:14:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/11 Custom ID2: Custom ID3:
Comment: 350716 6010C Q5

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00004**	**.80738**	**.03587**	**.01953**	**.08004**	**.00007**	**.00125**	**35.959**	**.00095**
Stddev	.00005	.00419	.00062	.00069	.00074	.00005	.00083	.058	.00020
%RSD	113.00	.51847	1.7372	3.5199	.92372	70.136	66.881	.16088	21.095
#1	.00008	.80442	.03631	.01904	.07952	.00004	.00066	36.000	.00110
#2	.00001	.81034	.03543	.02001	.08057	.00011	.00183	35.918	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	271.441 {124}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00531**	**.01395**	**.00022**	**182.16**	**1.9402**	**.00169**	**1.3224**	**.26998**	**-.00067**
Stddev	.00012	.00040	.00020	.23	.0280	.00074	.0004	.00050	.00028
%RSD	2.3540	2.8364	90.969	.12804	1.4409	43.750	.02749	.18631	42.029
#1	.00540	.01367	.00008	182.33	1.9599	.00116	1.3222	.26963	-.00087
#2	.00522	.01423	.00036	182.00	1.9204	.00221	1.3227	.27034	-.00047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.2800**	**-.00107**	**.03849**	**.00492**	**1.0930**	**-.00178**	**-.00178**	**1.0031**	**2.1467**
Stddev	.0120	.00021	.00027	.00153	.0056	.00128	.00294	.0153	.0327
%RSD	.22646	19.350	.69621	31.033	.51730	72.214	165.20	1.5232	1.5232
#1	5.2716	-.00122	.03830	.00384	1.0970	-.00087	-.00386	1.0139	2.1698
#2	5.2885	-.00093	.03868	.00600	1.0890	-.00269	.00030	.99234	2.1236
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00044**	**.46958**	**-.01448**	**.00953**	**.00056**	**.60387**	**.00858**	**.02241**	**.00297**
Stddev	.00001	.00055	.00006	.00009	.00010	.00544	.00005	.00030	.00103
%RSD	3.2750	.11637	.43025	.93165	18.453	.90104	.53117	1.3392	34.759
#1	.00046	.46920	-.01444	.00960	.00063	.60772	.00855	.02219	.00370
#2	.00043	.46997	-.01453	.00947	.00048	.60002	.00861	.02262	.00224
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4287.8**	**59703.**	**4640.1**
Stddev	14.9	69.	15.0
%RSD	.34826	.11482	.32389
#1	4298.4	59752.	4629.5
#2	4277.3	59655.	4650.7

Sample Name: CCVH-4239353 Acquired: 11/13/2016 22:17:13 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00189**	**48.336**	**-.00003**	**.00708**	**.00040**	**.00011**	**.99260**	**.00267**	**.00048**	**-.00031**	**.00029**	**-.00151**
Stddev	.00023	.087	.00124	.00000	.00017	.00008	.00237	.00139	.00020	.00009	.00024	.00002
%RSD	12.109	.17955	3699.9	.06287	43.633	74.208	.23909	52.146	41.926	29.753	83.864	1.3934
#1	.00173	48.275	-.00091	.00708	.00052	.00016	.99428	.00169	.00062	-.00037	.00046	-.00150
#2	.00205	48.397	.00084	.00708	.00027	.00005	.99092	.00366	.00033	-.00024	.00012	-.00153
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.114**	**.20160**	**.00216**	**.04268**	**.00093**	**-.00159**	**239.18**	**.00046**	**.00548**	**.00060**	**5.1013**	**.00118**
Stddev	.221	.02979	.00088	.00283	.00004	.00052	.86	.00039	.00028	.00019	.0164	.00166
%RSD	.44953	14.775	40.532	6.6348	4.2906	32.458	.35840	84.603	5.0859	31.041	.32105	141.00
#1	48.958	.18054	.00154	.04469	.00096	-.00122	238.57	.00073	.00568	.00047	5.1129	.00235
#2	49.271	.22266	.00278	.04068	.00091	-.00195	239.78	.00018	.00529	.00073	5.0898	.00000
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00671**	**-.02976**	**-.06368**	**.00040**	**.00046**	W **4.6383**	**.01659**	**-.00016**	**10.017**	**.01321**	**.00035**	**.10016**
Stddev	.00072	.00029	.00061	.00094	.00013	.0089	.00001	.00045	.059	.00029	.00039	.00029
%RSD	10.723	.95904	.95904	234.94	29.003	.19285	.06680	276.72	.58508	2.1579	112.51	.29179
#1	-.00620	-.02996	-.06412	-.00027	.00037	4.6447	.01660	.00015	10.058	.01301	.00062	.10037
#2	-.00722	-.02956	-.06325	.00107	.00055	4.6320	.01658	-.00048	9.9755	.01342	.00007	.09996
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3961.2**	**54016.**	**4260.3**
Stddev	.3	141.	6.9
%RSD	.00680	.26146	.16194
#1	3961.4	53916.	4265.2
#2	3961.0	54116.	4255.4

Sample Name: CCV-4239351 Acquired: 11/13/2016 22:19:43 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49190**	**.48760**	**.96328**	**.50596**	**.49687**	**.47986**	**.00014**	**4.9548**	**.49929**	**.49976**	**.50032**	**.48515**	**2.4500**
Stddev	.00028	.00373	.00406	.00047	.00077	.00096	.00079	.0036	.00077	.00026	.00089	.00154	.0122
%RSD	.05723	.76528	.42184	.09302	.15537	.19940	561.17	.07226	.15488	.05236	.17780	.31818	.49703
#1	.49210	.49024	.96616	.50629	.49632	.47918	-.00042	4.9573	.49983	.49957	.49970	.48624	2.4414
#2	.49171	.48496	.96041	.50562	.49741	.48054	.00070	4.9522	.49874	.49994	.50095	.48406	2.4586
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.335**	**1.0033**	**18.982**	**.47187**	**.49719**	**5.0147**	**.49796**	**.98015**	**1.0116**	**.09338**	**1.0046**	**.98410**	**4.7323**
Stddev	.199	.0042	.014	.00006	.00053	.0047	.00005	.00392	.0015	.00168	.0024	.00357	.0095
%RSD	.40387	.41829	.07373	.01255	.10678	.09380	.00947	.40006	.14484	1.7949	.23481	.36281	.19999
#1	49.194	1.0004	18.972	.47191	.49757	5.0180	.49799	.97738	1.0105	.09219	1.0063	.98663	4.7256
#2	49.475	1.0063	18.992	.47182	.49682	5.0113	.49793	.98293	1.0126	.09456	1.0030	.98158	4.7390
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.127**	**1.0020**	**.48097**	**.00883**	**.46872**	**1.0364**	**-.00850**	**.47002**	**.45827**	**.50351**
Stddev	.020	.0034	.00163	.00036	.00062	.0051	.01573	.00084	.00291	.00020
%RSD	.19999	.33623	.33959	4.0341	.13320	.49004	184.96	.17976	.63476	.04043
#1	10.113	.99963	.47982	.00858	.46916	1.0400	.00262	.46943	.45621	.50365
#2	10.141	1.0044	.48213	.00908	.46827	1.0328	-.01963	.47062	.46032	.50336
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4116.1**	**57055.**	**4499.2**
Stddev	13.9	13.	3.6
%RSD	.33869	.02284	.08040
#1	4126.0	57046.	4501.8
#2	4106.3	57065.	4496.7

Sample Name: CCB Acquired: 11/13/2016 22:22:04 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00118**	**.00195**	**.00049**	**.00500**	**-.00016**	**-.00000**	**.00047**	**.00048**	**.00030**	**.00044**	**.00015**	**-.00119**
Stddev	.00014	.00054	.00478	.00022	.00006	.00002	.00101	.00192	.00003	.00004	.00011	.00010
%RSD	12.063	27.851	983.84	4.3597	35.627	403.68	216.27	395.44	10.361	8.6907	75.751	8.6287
#1	.00128	.00233	-.00289	.00515	-.00020	-.00002	-.00025	-.00087	.00032	.00047	.00007	-.00111
#2	.00108	.00156	.00386	.00484	-.00012	.00001	.00118	.00184	.00027	.00041	.00023	-.00126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00520**	**.17165**	**.00158**	**-.00111**	**.00012**	**.00179**	**.15230**	**.00004**	**.00016**	**.00180**	W **.08157**	**.00291**
Stddev	.00028	.01679	.00001	.00057	.00001	.00062	.00216	.00005	.00211	.00018	.00216	.00009
%RSD	5.4230	9.7808	.53108	51.055	6.0019	34.612	1.4213	144.48	1327.7	9.9933	2.6418	3.1868
#1	.00500	.18352	.00157	-.00071	.00012	.00135	.15383	-.00000	-.00133	.00193	.08310	.00297
#2	.00539	.15978	.00159	-.00151	.00013	.00223	.15077	.00008	.00165	.00167	.08005	.00284
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit											.05000	
Low Limit											-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00360**	**.01221**	**.02612**	**-.00041**	**.00016**	**.00238**	**.00002**	**.00146**	**-.05953**	**.00011**	**-.00045**	**.00002**
Stddev	.00059	.02421	.05181	.00099	.00008	.00088	.00012	.00013	.00207	.00042	.00039	.00096
%RSD	16.377	198.34	198.34	240.32	49.138	36.949	755.12	8.7778	3.4829	371.91	85.343	4706.0
#1	.00402	.02932	.06275	-.00111	.00022	.00300	-.00007	.00155	-.05806	-.00018	-.00072	-.00066
#2	.00318	-.00491	-.01051	.00029	.00011	.00176	.00010	.00137	-.06099	.00041	-.00018	.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4148.6**	**57784.**	**4394.3**
Stddev	2.9	63.	7.6
%RSD	.07003	.10985	.17376
#1	4150.7	57739.	4388.9
#2	4146.6	57828.	4399.7

Sample Name: CCVL-4245706 Acquired: 11/13/2016 22:24:39 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01043**	**.09983**	**.01880**	**.10221**	**.01007**	**.00086**	**.10735**	**.19031**	**.00524**	**.01035**	**.01029**	**.01392**
Stddev	.00005	.00025	.00227	.00066	.00021	.00006	.00196	.00882	.00011	.00015	.00009	.00017
%RSD	.44838	.25392	12.082	.64685	2.1086	7.0025	1.8250	4.6353	2.1150	1.4961	.88715	1.2220
#1	.01040	.09965	.02041	.10268	.00992	.00081	.10874	.18407	.00532	.01046	.01022	.01404
#2	.01047	.10001	.01720	.10174	.01022	.00090	.10597	.19655	.00516	.01025	.01035	.01380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10007**	**3.1502**	**.02108**	**.19819**	**.00973**	**.01866**	**1.1081**	**.03956**	**2.7845**	**.01027**	**.07286**	**.02040**
Stddev	.00091	.0023	.00085	.00265	.00002	.00029	.0103	.00041	.0006	.00013	.00368	.00218
%RSD	.91123	.07290	4.0183	1.3391	.15459	1.5425	.93009	1.0317	.02134	1.2566	5.0513	10.687
#1	.09942	3.1518	.02168	.19631	.00974	.01845	1.1008	.03985	2.7841	.01018	.07026	.02195
#2	.10071	3.1486	.02048	.20007	.00972	.01886	1.1154	.03927	2.7849	.01036	.07546	.01886
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01262**	**.46650**	**.99831**	**.09806**	**.00983**	**.01584**	**.00938**	**.01386**	F **.00983**	**.00917**	**.01794**	**.01560**
Stddev	.00025	.00588	.01258	.00041	.00001	.00076	.00006	.00041	.02422	.00014	.00102	.00164
%RSD	1.9881	1.2602	1.2602	.41571	.08899	4.7747	.62669	2.9543	246.50	1.5405	5.6707	10.484
#1	.01280	.47066	1.0072	.09835	.00982	.01638	.00942	.01415	.02695	.00907	.01722	.01676
#2	.01244	.46234	.98941	.09777	.00984	.01531	.00934	.01357	-.00730	.00927	.01866	.01445
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4180.4**	**57743.**	**4421.1**
Stddev	5.6	305.	36.1
%RSD	.13468	.52882	.81719
#1	4176.4	57959.	4446.7
#2	4184.4	57528.	4395.6

Sample Name: LB3 280-350104/1-B Acquired: 11/13/2016 22:27:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: 11/8 Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**.01108**	**.00218**	**.02374**	**.00034**	**-.00007**	**-.00212**	W **.13498**	**.00040**
Stddev	.00032	.00008	.00075	.00087	.00004	.00006	.00088	.00124	.00014
%RSD	37.333	.74382	34.557	3.6804	11.107	84.732	41.530	.91506	33.631
#1	.00063	.01114	.00271	.02312	.00031	-.00003	-.00274	.13585	.00031
#2	.00108	.01102	.00164	.02436	.00037	-.00011	-.00149	.13411	.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit								.10000	
Low Limit								-.10000	

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00021**	**.00019**	**-.00008**	**.02432**	**.16811**	**.00185**	**.03146**	**.00042**	**-.00017**
Stddev	.00000	.00001	.00014	.00036	.03265	.00060	.00075	.00003	.00007
%RSD	1.2289	4.3524	175.59	1.4665	19.419	32.545	2.3749	7.0032	42.306
#1	.00021	.00018	.00002	.02407	.19119	.00228	.03199	.00044	-.00012
#2	.00021	.00020	-.00018	.02457	.14502	.00143	.03094	.00040	-.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **3.4279**	**-.00003**	**.00070**	F **.01221**	W **.08317**	**.00019**	**.00051**	**.13154**	**.28149**
Stddev	.0007	.00009	.00105	.00136	.00032	.00074	.00286	.01003	.02146
%RSD	.01968	338.02	148.51	11.126	.38697	384.18	560.16	7.6222	7.6222
#1	3.4274	-.00009	.00144	.01317	.08294	.00072	-.00151	.12445	.26632
#2	3.4284	.00004	-.00004	.01125	.08340	-.00033	.00253	.13863	.29666
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Warn	Chk Pass	Chk Pass	Chk Pass	None
High Limit	1.0000			.00900	.05000				
Low Limit	-1.0000			-.00300	-.05000				

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00029**	**.00028**	**.00402**	**-.00000**	**-.00119**	W **-.05334**	**-.00019**	**.00059**	**-.00123**
Stddev	.00020	.00003	.00045	.00007	.00152	.00110	.00009	.00014	.00049
%RSD	68.705	12.222	11.169	59461.	128.11	2.0575	48.703	23.462	40.023
#1	-.00015	.00030	.00434	-.00005	-.00227	-.05411	-.00013	.00069	-.00088
#2	-.00043	.00025	.00371	.00005	-.00011	-.05256	-.00026	.00049	-.00158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
High Limit						.05000			
Low Limit						-.05000			

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4199.1**	**58525.**	**4456.5**
Stddev	4.7	186.	13.0
%RSD	.11277	.31852	.29231
#1	4195.8	58657.	4465.7
#2	4202.5	58393.	4447.3

Sample Name: LCS 280-350104/2-B Acquired: 11/13/2016 22:29:47 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1.0458**	F **1.8427**	F **3.9431**	F **1.0273**	F **11.989**	F **.04857**	**2.0627**	F **49.515**	F **1.1159**
Stddev	.0009	.0070	.0008	.0051	.169	.00024	.0072	.152	.0031
%RSD	.08843	.37761	.01938	.49847	1.4137	.49175	.34740	.30692	.27800
#1	1.0451	1.8377	3.9437	1.0237	12.109	.04874	2.0576	49.623	1.1137
#2	1.0464	1.8476	3.9426	1.0309	11.869	.04840	2.0677	49.408	1.1181
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail
High Limit	.25200	.43200	.95200	.22000	2.6400	.01120		11.000	.26400
Low Limit	.16800	.34400	.71200	.17800	2.1360	.00800		8.9000	.17600

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.48731**	F **5.1770**	F **2.2133**	F **.97869**	F **50.268**	F **1.0107**	F **47.482**	F **.46564**	F **.97262**
Stddev	.00043	.0011	.0067	.00809	.146	.0072	.025	.00048	.00184
%RSD	.08909	.02135	.30309	.82617	.28991	.71609	.05247	.10277	.18920
#1	.48762	5.1777	2.2085	.98441	50.371	1.0158	47.500	.46598	.97392
#2	.48700	5.1762	2.2180	.97297	50.165	1.0056	47.464	.46530	.97132
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
High Limit	.11000	.25200	.54000	.22800	11.000	.22800	11.300	.11000	.22000
Low Limit	.08900	.16800	.36000	.17600	8.9000	.17800	9.2000	.09000	.18000

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **53.054**	F **.48679**	F **9.9391**	F **5.4901**	**2.0747**	F **.51595**	F **2.9620**	F **9.7979**	F **20.967**
Stddev	.117	.00043	.0359	.0032	.0142	.00206	.0159	.0237	.051
%RSD	.22112	.08904	.36143	.05793	.68291	.40012	.53656	.24157	.24157
#1	52.971	.48710	9.9137	5.4879	2.0647	.51449	2.9508	9.8146	21.003
#2	53.137	.48648	9.9645	5.4924	2.0848	.51741	2.9733	9.7811	20.932
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
High Limit	11.200	.11100	2.2200	1.1550		.10800	.72000	2.3000	4.9220
Low Limit	9.1000	.08900	1.8200	.99000		.08800	.52200	1.8800	4.0200

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1.9826**	F **.96614**	**.96359**	F **.94983**	F **1.9954**	F **2.0720**	F **.47555**	F **2.2978**	F **.52397**
Stddev	.0003	.00354	.00497	.00173	.0040	.0427	.00064	.0047	.00024
%RSD	.01357	.36661	.51628	.18201	.20138	2.0626	.13512	.20494	.04527
#1	1.9824	.96864	.96711	.95105	1.9926	2.0417	.47510	2.3012	.52414
#2	1.9828	.96363	.96008	.94861	1.9982	2.1022	.47600	2.2945	.52381
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
High Limit	.45200	.22000		.27000	.43200	.46400	.11200	1.0000	.12500
Low Limit	.34000	.18200		.18000	.35200	.34000	.08800	.40000	.07500

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3964.7**	**54662.**	**4377.4**
Stddev	3.3	310.	23.8
%RSD	.08325	.56663	.54454
#1	3967.0	54881.	4360.6
#2	3962.3	54443.	4394.3

Sample Name: 280-89493-A-1-E Acquired: 11/13/2016 22:32:10 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	309.271 {109}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**6.6849**	**.00851**	**.10294**	**.03202**	**.00027**	**-.00324**	**6.1513**	**.00051**
Stddev	.00032	.0147	.00128	.00064	.00012	.00002	.00307	.0110	.00005
%RSD	37.857	.22042	15.055	.61886	.37437	7.2385	94.743	.17934	9.6805
#1	.00063	6.6953	.00760	.10339	.03211	.00026	-.00107	6.1435	.00055
#2	.00109	6.6745	.00941	.10249	.03194	.00029	-.00541	6.1591	.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00128**	**.00539**	**.02138**	**5.7004**	**3.2616**	**.00627**	**2.0034**	**.04246**	**.00369**
Stddev	.00009	.00010	.00029	.0077	.0191	.00017	.0015	.00016	.00129
%RSD	7.1240	1.9377	1.3381	.13497	.58576	2.7302	.07603	.37976	34.959
#1	.00122	.00532	.02159	5.6950	3.2751	.00639	2.0023	.04258	.00277
#2	.00135	.00546	.02118	5.7059	3.2481	.00615	2.0045	.04235	.00460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.649**	**.00406**	**.18438**	**.13989**	**.43633**	**.01496**	**.00202**	**16.583**	**35.489**
Stddev	.042	.00013	.00088	.00014	.00392	.00150	.00131	.014	.029
%RSD	.30472	3.3079	.47881	.09776	.89755	9.9979	65.051	.08312	.08312
#1	13.620	.00396	.18500	.13999	.43910	.01602	.00109	16.574	35.468
#2	13.679	.00415	.18375	.13979	.43356	.01390	.00295	16.593	35.509
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00053**	**.06176**	**.00399**	**.04735**	**.00374**	**-.02726**	**.01435**	**.02094**	**.00502**
Stddev	.00169	.00004	.00162	.00018	.00082	.02205	.00017	.00097	.00021
%RSD	315.47	.05990	40.518	.37138	22.072	80.859	1.1952	4.6345	4.1772
#1	-.00066	.06179	.00284	.04723	.00315	-.01168	.01423	.02163	.00488
#2	.00173	.06173	.00513	.04748	.00432	-.04285	.01447	.02026	.00517
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4164.6**	**57648.**	**4464.0**
Stddev	.1	22.	.3
%RSD	.00151	.03790	.00734
#1	4164.6	57663.	4463.8
#2	4164.7	57632.	4464.3

Sample Name: 280-89493-A-2-D Acquired: 11/13/2016 22:34:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.04477**	**.01499**	**.09118**	**.01008**	**-.00003**	**-.00168**	**39.639**	**.00117**
Stddev	.00022	.00014	.00067	.00003	.00005	.00002	.00029	.046	.00009
%RSD	26.862	.30936	4.4681	.03370	.50757	88.963	16.966	.11532	7.9672
#1	.00068	.04467	.01546	.09120	.01011	-.00004	-.00188	39.606	.00110
#2	.00099	.04487	.01451	.09116	.01004	-.00001	-.00148	39.671	.00123
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00019**	**.00058**	**.02170**	**.04390**	**6.0103**	**.01519**	**7.1234**	**.11910**	**.00467**
Stddev	.00010	.00006	.00023	.00075	.0092	.00144	.0279	.00024	.00029
%RSD	50.876	10.687	1.0387	1.7095	.15281	9.4579	.39106	.19766	6.1802
#1	.00012	.00054	.02154	.04443	6.0038	.01417	7.1037	.11893	.00446
#2	.00026	.00062	.02186	.04336	6.0168	.01620	7.1431	.11926	.00487
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Line	589.592 { 57}	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.1415**	W **10.107**	**.00591**	F **53.269**	**.00373**	**4.8389**	**.02259**	**.00050**	**9.6684**
Stddev	.0100	.111	.00019	.053	.00069	.0100	.00200	.00218	.0642
%RSD	.10968	1.0982	3.2847	.09863	18.635	.20573	8.8612	434.94	.66376
#1	9.1345	10.185	.00605	53.306	.00323	4.8459	.02401	-.00104	9.7138
#2	9.1486	10.028	.00577	53.232	.00422	4.8318	.02118	.00205	9.6231
Check ?	Chk Pass	Chk Warn	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		500.00		50.000					
Low Limit		11.000		-6.0000					

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062
Line	288.158 {117}2	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**20.690**	**.00009**	**.23604**	**.00121**	**.00129**	**.00025**	**-.03682**	**.04969**	**.01299**
Stddev	.137	.00088	.00044	.00068	.00022	.00099	.00175	.00028	.00031
%RSD	.66376	993.12	.18576	55.960	17.197	398.74	4.7550	.55886	2.3863
#1	20.788	-.00053	.23573	.00073	.00114	-.00045	-.03806	.04989	.01277
#2	20.593	.00071	.23635	.00169	.00145	.00095	-.03558	.04950	.01321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zr3391
Line	339.198 { 99}
Units	ppm
Avg	**.00142**
Stddev	.00020
%RSD	13.809
#1	.00128
#2	.00156
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: 280-89493-A-2-D Acquired: 11/13/2016 22:34:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4126.1**	**57451.**	**4518.2**
Stddev	.2	214.	18.5
%RSD	.00510	.37230	.41046
#1	4125.9	57602.	4505.1
#2	4126.2	57300.	4531.3

Sample Name: 280-89493-A-3-D Acquired: 11/13/2016 22:37:11 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00098**	**.01828**	**.01482**	**.06130**	**.00320**	**-.00006**	**-.00522**	**60.816**	**.00224**
Stddev	.00007	.00013	.00374	.00080	.00008	.00012	.00025	.183	.00010
%RSD	7.5690	.71281	25.220	1.3036	2.5646	205.03	4.7535	.30044	4.4274
#1	.00103	.01837	.01747	.06074	.00326	.00003	-.00539	60.687	.00217
#2	.00093	.01819	.01218	.06187	.00314	-.00014	-.00504	60.945	.00231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00209**	**.00050**	**.01128**	**.04044**	**7.1111**	**.02337**	**10.722**	**.35605**	**.00592**
Stddev	.00019	.00005	.00019	.00223	.0220	.00040	.014	.00132	.00051
%RSD	9.2854	10.361	1.6931	5.5122	.30946	1.7114	.12933	.37000	8.6520
#1	.00195	.00053	.01142	.03886	7.0955	.02365	10.731	.35698	.00556
#2	.00223	.00046	.01115	.04202	7.1267	.02308	10.712	.35512	.00629
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.4672**	**.01358**	F **86.685**	**.00077**	**8.1546**	**.01576**	**.00068**	**13.741**	**29.406**
Stddev	.0121	.00039	.064	.00027	.0231	.00310	.00326	.054	.115
%RSD	.18662	2.8473	.07345	35.088	.28279	19.678	479.63	.39050	.39050
#1	6.4587	.01331	86.731	.00058	8.1709	.01357	.00298	13.703	29.324
#2	6.4758	.01386	86.640	.00096	8.1383	.01795	-.00162	13.779	29.487
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			50.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00058**	**.24208**	**.00140**	**.00028**	**-.00114**	**-.04178**	**.07083**	**.00606**	**-.00036**
Stddev	.00159	.00034	.00017	.00041	.00285	.01746	.00000	.00024	.00242
%RSD	273.14	.13955	11.799	142.77	250.43	41.781	.00304	3.9929	674.73
#1	-.00171	.24184	.00152	.00057	.00088	-.02944	.07083	.00589	-.00207
#2	.00054	.24232	.00129	-.00000	-.00315	-.05413	.07084	.00624	.00135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4079.5**	**56384.**	**4415.4**
Stddev	.4	130.	14.2
%RSD	.00930	.23118	.32199
#1	4079.3	56292.	4425.4
#2	4079.8	56477.	4405.3

Sample Name: 280-89493-A-4-D Acquired: 11/13/2016 22:39:40 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00059**	**1.6033**	**.00636**	**.05977**	**.01118**	**-.00003**	**-.00102**	**3.3270**	**.00063**
Stddev	.00040	.0008	.00277	.00043	.00010	.00004	.00176	.0073	.00005
%RSD	68.056	.04921	43.577	.71323	.89387	124.66	172.14	.22075	8.2316
#1	.00087	1.6039	.00832	.05947	.01111	-.00005	.00022	3.3322	.00059
#2	.00030	1.6028	.00440	.06007	.01125	-.00000	-.00227	3.3218	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00080**	**.00196**	**.18379**	**1.4604**	**1.5416**	**.00292**	**.84162**	**.01968**	**.00051**
Stddev	.00020	.00028	.00002	.0047	.0321	.00206	.00306	.00006	.00023
%RSD	25.215	14.536	.01107	.32536	2.0802	70.480	.36379	.29282	44.506
#1	.00066	.00216	.18378	1.4570	1.5189	.00438	.83945	.01964	.00067
#2	.00094	.00175	.18381	1.4637	1.5642	.00147	.84378	.01972	.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.233**	**.00102**	**.17969**	**1.7324**	**.27220**	**.45335**	**.00219**	**5.2341**	**11.201**
Stddev	.081	.00054	.01847	.0003	.00019	.00048	.00418	.0073	.016
%RSD	.53477	52.470	10.279	.01896	.07070	.10680	190.48	.13942	.13942
#1	15.291	.00140	.19276	1.7322	.27207	.45300	.00515	5.2393	11.212
#2	15.176	.00064	.16663	1.7327	.27234	.45369	-.00076	5.2289	11.190
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00250**	**.02647**	**.00083**	**.02009**	**.00010**	**.01824**	**.00327**	**.04638**	**.00343**
Stddev	.00019	.00018	.00040	.00005	.00188	.02890	.00026	.00015	.00130
%RSD	7.4016	.68413	48.216	.26007	1864.5	158.46	7.9325	.32561	37.782
#1	.00263	.02660	.00055	.02006	-.00123	.03867	.00308	.04649	.00252
#2	.00237	.02634	.00111	.02013	.00143	-.00220	.00345	.04627	.00435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4150.9**	**57590.**	**4379.0**
Stddev	6.5	22.	6.0
%RSD	.15774	.03878	.13687
#1	4146.3	57605.	4383.3
#2	4155.5	57574.	4374.8

Sample Name: 280-89493-A-5-D Acquired: 11/13/2016 22:42:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00111**	**.01895**	**.03508**	**.05128**	**.00433**	**-.00010**	**.00005**	**29.291**	**.00100**
Stddev	.00014	.00005	.00255	.00019	.00005	.00007	.00274	.016	.00014
%RSD	12.905	.24685	7.2782	.37423	1.0539	69.301	5176.9	.05589	13.624
#1	.00121	.01891	.03327	.05142	.00436	-.00015	-.00188	29.279	.00091
#2	.00101	.01898	.03688	.05115	.00430	-.00005	.00199	29.303	.00110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00086**	**.00009**	**.04285**	**.01198**	**2.8573**	**.01048**	**4.6394**	**.07223**	**.00180**
Stddev	.00008	.00020	.00002	.00167	.0062	.00122	.0099	.00005	.00046
%RSD	9.6828	229.63	.04933	13.916	.21784	11.672	.21337	.07285	25.504
#1	.00080	-.00005	.04283	.01315	2.8617	.00961	4.6324	.07220	.00147
#2	.00092	.00022	.04286	.01080	2.8529	.01134	4.6464	.07227	.00212
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.3408**	**.01489**	W **35.798**	**.00784**	**4.0139**	**.56618**	**-.00066**	**7.0598**	**15.108**
Stddev	.0191	.00002	.074	.00038	.0163	.00105	.00464	.0429	.092
%RSD	.25990	.12098	.20600	4.8191	.40666	.18610	703.89	.60744	.60744
#1	7.3543	.01490	35.850	.00758	4.0255	.56543	-.00394	7.0901	15.173
#2	7.3273	.01487	35.746	.00811	4.0024	.56692	.00262	7.0294	15.043
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			20.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00052**	**.10556**	**.00147**	**.00034**	**-.00013**	**-.04710**	**.04433**	**.01808**	**.00054**
Stddev	.00040	.00008	.00034	.00044	.00167	.00972	.00049	.00044	.00029
%RSD	76.110	.07846	23.282	129.14	1298.6	20.645	1.0998	2.4267	52.774
#1	-.00080	.10550	.00123	.00003	-.00131	-.05398	.04468	.01839	.00034
#2	-.00024	.10561	.00171	.00066	.00105	-.04023	.04399	.01777	.00075
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4127.4**	**57534.**	**4434.7**
Stddev	7.2	97.	7.4
%RSD	.17503	.16868	.16726
#1	4122.3	57602.	4429.5
#2	4132.5	57465.	4440.0

Sample Name: 280-89493-A-6-D Acquired: 11/13/2016 22:44:42 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00116**	**.01565**	**.03824**	**.04337**	**.00353**	**.00002**	**-.00495**	**59.279**	**.00217**
Stddev	.00038	.00041	.00383	.00012	.00067	.00009	.00053	.173	.00014
%RSD	32.854	2.6390	10.004	.26535	18.902	563.33	10.693	.29188	6.2880
#1	.00089	.01595	.03553	.04345	.00400	-.00005	-.00458	59.402	.00208
#2	.00143	.01536	.04094	.04329	.00306	.00008	-.00533	59.157	.00227
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00379**	**.00024**	**.09857**	**.00984**	**3.2443**	**.01732**	**7.9669**	**.21475**	**.00378**
Stddev	.00001	.00006	.00022	.00160	.0310	.00198	.0063	.00010	.00003
%RSD	.23237	23.680	.21947	16.287	.95516	11.438	.07975	.04480	.75017
#1	.00379	.00020	.09841	.01097	3.2662	.01872	7.9714	.21469	.00380
#2	.00380	.00028	.09872	.00871	3.2224	.01592	7.9625	.21482	.00376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.6770**	**.04674**	F **77.532**	**.00576**	**7.3920**	**.44790**	**-.00225**	**10.181**	**21.786**
Stddev	.0138	.00007	.118	.00149	.0053	.00155	.00008	.024	.050
%RSD	.20734	.14750	.15205	25.937	.07195	.34583	3.5145	.23095	.23095
#1	6.6868	.04679	77.449	.00681	7.3883	.44680	-.00219	10.164	21.751
#2	6.6672	.04669	77.616	.00470	7.3958	.44899	-.00230	10.197	21.822
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			50.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00038**	**.13227**	**.00092**	**.00053**	**.00031**	**-.04380**	**.08739**	**.03374**	**-.00060**
Stddev	.00082	.00016	.00075	.00015	.00261	.00809	.00014	.00008	.00091
%RSD	215.29	.11907	81.375	28.228	835.53	18.478	.16122	.23902	151.76
#1	.00096	.13238	.00039	.00064	-.00153	-.04952	.08729	.03368	.00004
#2	-.00020	.13216	.00146	.00043	.00216	-.03808	.08749	.03380	-.00125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4079.1**	**56524.**	**4401.4**
Stddev	4.6	209.	15.4
%RSD	.11309	.36947	.34987
#1	4082.3	56671.	4412.3
#2	4075.8	56376.	4390.5

Sample Name: 280-89493-A-7-D Acquired: 11/13/2016 22:47:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00089**	**2.1294**	**.00839**	**.05974**	**.01359**	**.00015**	**-.00167**	**4.0194**	**.00057**
Stddev	.00069	.0081	.00078	.00084	.00030	.00015	.00054	.0137	.00003
%RSD	77.754	.37952	9.3375	1.4034	2.1938	97.274	32.668	.34131	4.8418
#1	.00137	2.1351	.00783	.06033	.01380	.00005	-.00128	4.0097	.00055
#2	.00040	2.1236	.00894	.05914	.01338	.00026	-.00205	4.0291	.00058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00049**	**.00290**	**.19415**	**1.7623**	**1.5881**	**.00415**	**1.0723**	**.01568**	**.00041**
Stddev	.00006	.00021	.00075	.0014	.0068	.00206	.0070	.00001	.00002
%RSD	11.696	7.2985	.38870	.07657	.42795	49.689	.65374	.07032	4.5521
#1	.00053	.00275	.19362	1.7614	1.5929	.00269	1.0673	.01567	.00040
#2	.00045	.00305	.19469	1.7633	1.5833	.00560	1.0772	.01568	.00042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.474**	**.00149**	**.37495**	**1.9419**	**.37560**	**.67264**	**.00122**	**6.0746**	**13.000**
Stddev	.166	.00009	.00335	.0008	.00130	.01205	.00151	.0045	.010
%RSD	1.0747	5.9694	.89344	.04292	.34539	1.7910	123.82	.07425	.07425
#1	15.357	.00143	.37732	1.9425	.37468	.68116	.00228	6.0714	12.993
#2	15.592	.00156	.37258	1.9413	.37652	.66413	.00015	6.0778	13.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00194**	**.02909**	**.00174**	**.02366**	**.00099**	**-.01152**	**.00520**	**.04485**	**.00093**
Stddev	.00001	.00000	.00140	.00040	.00012	.00929	.00008	.00008	.00009
%RSD	.37603	.01016	80.476	1.7056	12.172	80.584	1.4736	.18623	9.7706
#1	.00194	.02909	.00273	.02395	.00091	-.01809	.00514	.04479	.00100
#2	.00195	.02908	.00075	.02337	.00108	-.00496	.00525	.04491	.00087
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4120.5**	**57568.**	**4449.6**
Stddev	51.3	213.	6.1
%RSD	1.2452	.37066	.13644
#1	4156.8	57719.	4453.9
#2	4084.2	57417.	4445.3

Sample Name: 280-89493-A-8-D Acquired: 11/13/2016 22:49:43 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00083**	**.04220**	**.07205**	**.05938**	**.00449**	**.00000**	**-.00143**	**31.822**	**.00117**
Stddev	.00047	.00050	.00075	.00055	.00028	.00013	.00010	.001	.00009
%RSD	56.620	1.1917	1.0426	.93074	6.2503	4115.6	6.9509	.00461	7.4267
#1	.00050	.04256	.07258	.05899	.00469	-.00009	-.00136	31.823	.00123
#2	.00116	.04185	.07152	.05977	.00430	.00009	-.00150	31.821	.00111
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00156**	**.00017**	**.05348**	**.02910**	**3.1938**	**.00927**	**5.4333**	**.09870**	**.00269**
Stddev	.00032	.00015	.00006	.00104	.0340	.00123	.0011	.00010	.00034
%RSD	20.540	86.637	.10293	3.5591	1.0661	13.319	.02012	.10421	12.639
#1	.00133	.00028	.05351	.02983	3.2178	.01014	5.4325	.09863	.00245
#2	.00178	.00007	.05344	.02837	3.1697	.00840	5.4341	.09877	.00293
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.4157**	**.01644**	W **38.301**	**.02206**	**4.8294**	**.71342**	**.00182**	**8.2999**	**17.762**
Stddev	.0207	.00034	.037	.00056	.0210	.00419	.00001	.0385	.082
%RSD	.32311	2.0582	.09713	2.5431	.43569	.58790	.33046	.46364	.46364
#1	6.4304	.01620	38.275	.02245	4.8145	.71046	.00182	8.3271	17.820
#2	6.4011	.01668	38.328	.02166	4.8443	.71639	.00182	8.2727	17.704
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			20.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00077**	**.10259**	**.00137**	**.00053**	**-.00138**	**-.02957**	**.04464**	**.01107**	**-.00100**
Stddev	.00042	.00016	.00138	.00030	.00051	.01307	.00063	.00006	.00013
%RSD	55.033	.15928	100.28	55.401	36.765	44.196	1.4004	.57502	13.486
#1	-.00047	.10270	.00235	.00074	-.00102	-.02033	.04420	.01111	-.00110
#2	-.00107	.10247	.00040	.00032	-.00174	-.03881	.04508	.01102	-.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4053.2**	**56021.**	**4308.8**
Stddev	9.6	258.	1.2
%RSD	.23593	.46116	.02822
#1	4046.4	55838.	4309.7
#2	4059.9	56203.	4308.0

Sample Name: CCVH-4239353 Acquired: 11/13/2016 22:52:13 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00220**	**48.569**	**-.00049**	**.00387**	**-.00007**	**.00021**	**.97378**	**-.00108**	**.00071**	**-.00034**	**.00025**	**-.00130**
Stddev	.00105	.334	.00206	.00031	.00015	.00001	.00177	.00029	.00003	.00030	.00031	.00005
%RSD	47.604	.68862	415.95	8.0642	210.84	4.3833	.18194	26.390	4.8085	88.819	127.01	4.2242
#1	.00295	48.806	-.00195	.00409	-.00018	.00020	.97503	-.00088	.00074	-.00013	.00047	-.00134
#2	.00146	48.333	.00096	.00365	.00004	.00021	.97253	-.00128	.00069	-.00056	.00003	-.00126
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.276**	**.19222**	**.00273**	**.04283**	**.00072**	**-.00171**	**241.14**	**.00076**	**.00559**	**-.00065**	**4.9934**	**.00600**
Stddev	.076	.02550	.00327	.00190	.00003	.00046	.57	.00009	.00072	.00129	.0049	.00220
%RSD	.15330	13.267	119.63	4.4427	3.5871	27.030	.23695	11.295	12.852	198.52	.09782	36.593
#1	49.222	.17419	.00042	.04148	.00070	-.00138	241.54	.00070	.00508	-.00156	4.9900	.00756
#2	49.329	.21025	.00505	.04417	.00074	-.00204	240.73	.00082	.00610	.00026	4.9969	.00445
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00623**	**-.01949**	**-.04171**	**-.00036**	**.00039**	W **4.6705**	**.01641**	**.00098**	**10.033**	**.01312**	**.00025**	**.10359**
Stddev	.00051	.00559	.01196	.00016	.00011	.0079	.00005	.00058	.001	.00066	.00019	.00138
%RSD	8.1110	28.681	28.681	42.700	26.795	.16880	.31373	59.455	.01341	5.0057	73.447	1.3361
#1	-.00587	-.02345	-.05017	-.00047	.00032	4.6761	.01645	.00057	10.032	.01359	.00012	.10457
#2	-.00659	-.01554	-.03325	-.00025	.00047	4.6649	.01637	.00140	10.034	.01266	.00038	.10261
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3901.7**	**53584.**	**4247.8**
Stddev	17.5	311.	14.4
%RSD	.44763	.57965	.33982
#1	3914.1	53364.	4237.6
#2	3889.4	53803.	4258.0

Sample Name: CCV-4239351 Acquired: 11/13/2016 22:54:42 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48721**	**.49002**	**.94501**	**.49408**	**.49683**	**.47968**	**-.00202**	**5.0112**	**.49122**	**.49786**	**.49921**	**.47432**	**2.4481**
Stddev	.00098	.00367	.00158	.00058	.00190	.00008	.00018	.0101	.00019	.00011	.00022	.00035	.0111
%RSD	.20100	.74816	.16733	.11791	.38256	.01696	8.6555	.20183	.03865	.02208	.04444	.07317	.45355
#1	.48652	.49262	.94613	.49367	.49817	.47974	-.00190	5.0040	.49109	.49778	.49905	.47408	2.4403
#2	.48790	.48743	.94389	.49449	.49548	.47963	-.00215	5.0184	.49136	.49794	.49937	.47457	2.4560
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.845**	**1.0167**	**19.228**	**.47380**	**.49450**	**5.0642**	**.49709**	**.97337**	**1.0035**	**.06850**	**.98001**	**.95023**	**4.8335**
Stddev	.122	.0025	.084	.00120	.00007	.0569	.00035	.00255	.0011	.00016	.00572	.00393	.0030
%RSD	.24536	.24241	.43933	.25365	.01407	1.1234	.06956	.26150	.10741	.22717	.58326	.41406	.06209
#1	49.932	1.0185	19.168	.47295	.49455	5.1044	.49685	.97157	1.0028	.06861	.97597	.94745	4.8314
#2	49.759	1.0150	19.288	.47465	.49445	5.0240	.49734	.97517	1.0043	.06839	.98406	.95302	4.8356
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.344**	**1.0002**	**.47859**	**.00911**	**.46734**	**1.0190**	**-.01454**	**.47190**	**.46972**	**.50402**
Stddev	.006	.0022	.00224	.00014	.00096	.0004	.01544	.00106	.00037	.00227
%RSD	.06209	.21551	.46763	1.5027	.20489	.03454	106.18	.22492	.07818	.45026
#1	10.339	.99864	.48017	.00901	.46666	1.0188	-.02546	.47115	.46946	.50241
#2	10.348	1.0017	.47700	.00921	.46802	1.0193	-.00362	.47265	.46998	.50562
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3989.1**	**54320.**	**4146.8**
Stddev	4.9	38.	28.8
%RSD	.12327	.06980	.69504
#1	3992.6	54347.	4126.4
#2	3985.6	54293.	4167.2

Sample Name: CCB Acquired: 11/13/2016 22:57:03 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00139**	**-.00016**	**.00247**	**.00366**	**.00033**	**-.00008**	**.00057**	**-.00375**	**.00019**	**.00044**	**.00047**	**-.00095**
Stddev	.00040	.00044	.00712	.00004	.00024	.00014	.00193	.00329	.00034	.00010	.00019	.00015
%RSD	28.507	280.10	288.34	1.1978	74.783	179.32	339.76	87.893	177.48	23.803	39.915	15.694
#1	.00167	-.00047	-.00257	.00369	.00050	-.00018	.00193	-.00142	-.00005	.00037	.00034	-.00106
#2	.00111	.00016	.00750	.00363	.00015	.00002	-.00079	-.00608	.00043	.00051	.00060	-.00085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00205**	**.14933**	**.00184**	**-.00275**	**.00004**	**.00160**	**.13493**	**.00012**	**-.00039**	**.00171**	W **.05188**	**.00212**
Stddev	.00091	.02794	.00100	.00097	.00008	.00069	.00770	.00006	.00049	.00083	.00007	.00127
%RSD	44.122	18.708	54.615	35.332	196.06	43.168	5.7081	51.587	125.93	48.765	.13878	60.146
#1	.00141	.12958	.00254	-.00206	-.00002	.00111	.14038	.00007	-.00004	.00112	.05183	.00302
#2	.00269	.16909	.00113	-.00344	.00010	.00208	.12948	.00016	-.00073	.00230	.05193	.00122
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass
High Limit											.05000	
Low Limit											-.20000	

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00153**	**-.01804**	**-.03862**	**.00124**	**.00014**	**.00144**	**.00004**	**.00133**	**-.02229**	**.00000**	**-.00033**	**.00017**
Stddev	.00093	.01815	.03885	.00085	.00003	.00146	.00008	.00078	.01466	.00010	.00040	.00081
%RSD	60.700	100.61	100.61	68.367	23.273	101.31	182.29	58.776	65.750	2182.9	123.13	464.52
#1	.00087	-.00521	-.01114	.00064	.00016	.00247	-.00001	.00188	-.03265	-.00006	-.00061	.00074
#2	.00219	-.03088	-.06609	.00184	.00012	.00041	.00010	.00078	-.01193	.00007	-.00004	-.00040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit												
Low Limit												

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4037.7**	**55709.**	**4149.7**
Stddev	6.3	28.	9.2
%RSD	.15515	.05105	.22235
#1	4033.2	55729.	4156.2
#2	4042.1	55689.	4143.1

Sample Name: CCVL-4245706 Acquired: 11/13/2016 22:59:39 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01053**	**.09932**	**.01628**	**.10045**	**.00991**	**.00085**	**.10199**	**.19630**	**.00505**	**.01041**	**.01000**	**.01329**
Stddev	.00036	.00028	.00245	.00046	.00000	.00008	.00144	.00328	.00018	.00011	.00021	.00023
%RSD	3.4125	.27794	15.025	.46016	.02584	9.4943	1.4073	1.6732	3.5047	1.0186	2.0795	1.7150
#1	.01078	.09951	.01801	.10012	.00991	.00079	.10098	.19862	.00517	.01048	.00986	.01313
#2	.01028	.09912	.01455	.10078	.00991	.00091	.10301	.19398	.00492	.01033	.01015	.01345
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.09881**	**3.1366**	**.02026**	**.19934**	**.00960**	**.01872**	**1.0928**	**.04010**	**2.7669**	**.01053**	**.04224**	**.02110**
Stddev	.00089	.0231	.00071	.00462	.00003	.00006	.0015	.00040	.0031	.00125	.00442	.00061
%RSD	.89910	.73613	3.4906	2.3162	.26780	.34250	.13843	1.0030	.11249	11.846	10.454	2.8950
#1	.09944	3.1530	.01976	.19607	.00958	.01868	1.0917	.03982	2.7647	.00965	.03912	.02153
#2	.09819	3.1203	.02076	.20260	.00961	.01877	1.0939	.04039	2.7691	.01141	.04536	.02066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01054**	**.46430**	**.99361**	**.09777**	**.00962**	**.01525**	**.00916**	**.01656**	F **.03801**	**.00891**	**.01811**	**.01649**
Stddev	.00031	.01767	.03782	.00000	.00000	.00127	.00046	.00016	.00140	.00054	.00018	.00071
%RSD	2.9870	3.8062	3.8062	.00090	.05027	8.3474	5.0630	.98151	3.6914	6.1001	1.0084	4.3185
#1	.01077	.47680	1.0204	.09777	.00962	.01615	.00883	.01644	.03900	.00930	.01799	.01599
#2	.01032	.45181	.96687	.09777	.00963	.01435	.00948	.01667	.03701	.00853	.01824	.01699
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									.06000			
Range									-30.000%			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4103.8**	**56420.**	**4201.9**
Stddev	3.4	134.	13.9
%RSD	.08182	.23674	.33084
#1	4106.2	56325.	4211.8
#2	4101.5	56514.	4192.1

Sample Name: 280-89493-A-9-D Acquired: 11/13/2016 23:02:12 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00101**	**.01320**	**.05486**	**.04627**	**.00279**	**-.00008**	**-.00132**	**62.339**	**.00227**
Stddev	.00027	.00001	.00158	.00078	.00003	.00014	.00030	.160	.00008
%RSD	26.996	.09181	2.8790	1.6798	1.2029	174.18	22.891	.25635	3.4686
#1	.00081	.01321	.05598	.04682	.00281	.00002	-.00153	62.226	.00232
#2	.00120	.01319	.05374	.04572	.00277	-.00017	-.00110	62.452	.00221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00474**	**.00039**	**.10575**	**.01646**	**3.5966**	**.01716**	**9.2389**	**.26643**	**.00538**
Stddev	.00026	.00001	.00059	.00256	.0034	.00107	.0261	.00059	.00061
%RSD	5.5798	2.9678	.55479	15.526	.09303	6.2207	.28295	.22183	11.421
#1	.00492	.00040	.10534	.01827	3.5990	.01791	9.2204	.26602	.00494
#2	.00455	.00038	.10617	.01465	3.5943	.01640	9.2574	.26685	.00581
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.3586**	**.05207**	F **82.429**	**.00673**	**8.2960**	**.54278**	**-.00123**	**11.651**	**24.934**
Stddev	.0227	.00015	.029	.00047	.0087	.00102	.00202	.004	.010
%RSD	.30917	.28604	.03577	6.9759	.10467	.18868	164.30	.03821	.03821
#1	7.3425	.05217	82.408	.00640	8.3021	.54351	-.00266	11.654	24.941
#2	7.3746	.05196	82.450	.00706	8.2899	.54206	.00020	11.648	24.927
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			50.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00075**	**.13257**	**.00036**	**.00013**	**-.00072**	**-.01636**	**.06515**	**.02568**	**.00231**
Stddev	.00120	.00027	.00026	.00008	.00078	.01705	.00081	.00048	.00055
%RSD	159.67	.20126	71.007	62.424	108.50	104.25	1.2460	1.8626	23.831
#1	-.00160	.13276	.00018	.00007	-.00017	-.00430	.06573	.02602	.00192
#2	.00010	.13238	.00054	.00019	-.00127	-.02842	.06458	.02534	.00270
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3991.8**	**55137.**	**4233.9**
Stddev	4.1	74.	20.6
%RSD	.10358	.13373	.48713
#1	3988.9	55190.	4219.3
#2	3994.8	55085.	4248.5

Sample Name: 280-89493-A-9-D SD@5 Acquired: 11/13/2016 23:04:41 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00030**	**.00276**	**.01422**	**.01150**	**.00051**	**.00001**	**.00087**	**12.707**	**.00069**
Stddev	.00020	.00028	.00284	.00043	.00020	.00006	.00159	.020	.00011
%RSD	68.052	9.9993	19.985	3.7058	40.059	450.47	183.40	.15663	16.051
#1	.00044	.00257	.01221	.01180	.00037	-.00003	.00199	12.721	.00061
#2	.00016	.00296	.01622	.01120	.00066	.00006	-.00026	12.693	.00076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00119**	**.00001**	**.02071**	**.00503**	**.81085**	**.00497**	**1.9389**	**.05507**	**.00081**
Stddev	.00010	.00006	.00032	.00132	.05496	.00246	.0023	.00007	.00010
%RSD	8.6370	434.37	1.5397	26.172	6.7780	49.519	.11728	.13221	12.076
#1	.00112	.00006	.02049	.00410	.77198	.00323	1.9373	.05512	.00074
#2	.00127	-.00003	.02094	.00596	.84971	.00670	1.9405	.05502	.00088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.5917**	**.01085**	**17.152**	**.00313**	**1.6784**	**.10820**	**-.00072**	**2.3273**	**4.9804**
Stddev	.0049	.00022	.058	.00020	.0044	.00078	.00139	.0268	.0575
%RSD	.30776	1.9820	.33554	6.2915	.26314	.71987	193.52	1.1538	1.1538
#1	1.5882	.01070	17.193	.00327	1.6815	.10765	.00026	2.3463	5.0211
#2	1.5951	.01101	17.111	.00299	1.6753	.10875	-.00170	2.3083	4.9398
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00067**	**.02705**	**.00156**	**-.00014**	**.00167**	**-.01820**	**.01338**	**.00509**	**-.00075**
Stddev	.00003	.00010	.00094	.00027	.00288	.00308	.00039	.00000	.00158
%RSD	4.5040	.36798	60.209	198.08	172.89	16.933	2.8840	.07899	209.95
#1	-.00069	.02712	.00223	.00006	-.00037	-.01602	.01311	.00509	-.00187
#2	-.00065	.02698	.00090	-.00033	.00371	-.02038	.01366	.00509	.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**4065.5**	**55933.**	**4240.5**
Stddev	2.4	56.	11.4
%RSD	.05991	.09933	.26773
#1	4063.8	55893.	4248.6
#2	4067.2	55972.	4232.5

Sample Name: 280-89493-A-9-E MS Acquired: 11/13/2016 23:07:14 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1.0418**	**1.8256**	**3.9541**	**1.0289**	**11.938**	**.04898**	W **2.0295**	**110.83**	**1.1089**
Stddev	.0023	.0017	.0002	.0010	.027	.00002	.0032	.36	.0001
%RSD	.21692	.09444	.00451	.09950	.22544	.03511	.15855	.32547	.00808
#1	1.0434	1.8268	3.9543	1.0282	11.957	.04899	2.0318	111.09	1.1090
#2	1.0402	1.8244	3.9540	1.0296	11.919	.04897	2.0272	110.58	1.1088
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit	1.0000						2.0000		
Low Limit	-.02000						-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49365**	**5.1541**	**2.3125**	**.98635**	**53.991**	**1.0350**	**57.163**	**.72730**	**.96626**
Stddev	.00026	.0013	.0034	.01096	.108	.0006	.127	.00033	.00120
%RSD	.05276	.02445	.14595	1.1111	.19960	.06225	.22232	.04569	.12468
#1	.49384	5.1532	2.3101	.97860	54.067	1.0354	57.252	.72753	.96711
#2	.49347	5.1549	2.3149	.99410	53.915	1.0345	57.073	.72706	.96541
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**56.919**	**.53642**	F **93.792**	**5.4321**	**10.487**	**1.0465**	**2.9043**	**21.253**	**45.482**
Stddev	.207	.00095	.054	.0021	.021	.0020	.0006	.076	.162
%RSD	.36398	.17687	.05791	.03916	.19859	.19209	.02236	.35539	.35539
#1	57.065	.53575	93.754	5.4305	10.472	1.0451	2.9038	21.200	45.368
#2	56.772	.53709	93.831	5.4336	10.502	1.0479	2.9048	21.307	45.596
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			50.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9612**	**1.0948**	**.96758**	**.95315**	**1.9486**	**2.0590**	**.53841**	**2.3535**	**.52789**
Stddev	.0003	.0008	.00039	.00070	.0012	.0155	.00017	.0048	.00341
%RSD	.01612	.07559	.04031	.07383	.06208	.75259	.03086	.20371	.64552
#1	1.9610	1.0953	.96731	.95265	1.9478	2.0480	.53852	2.3569	.52548
#2	1.9614	1.0942	.96786	.95364	1.9495	2.0699	.53829	2.3502	.53030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3866.4**	**53003.**	**4202.0**
Stddev	2.1	171.	6.6
%RSD	.05304	.32204	.15661
#1	3867.8	53123.	4197.4
#2	3864.9	52882.	4206.7

Sample Name: 280-89493-A-9-F MSD Acquired: 11/13/2016 23:09:34 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: 350315 6010B (Pb)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **1.0547**	**1.8452**	**4.0030**	**1.0434**	W **12.134**	**.04957**	W **2.0619**	**112.19**	**1.1227**
Stddev	.0010	.0026	.0037	.0011	.059	.00035	.0012	.47	.0008
%RSD	.08999	.13974	.09238	.10140	.48367	.70147	.05950	.41991	.06743
#1	1.0540	1.8470	4.0004	1.0441	12.175	.04982	2.0628	112.53	1.1232
#2	1.0554	1.8434	4.0056	1.0426	12.092	.04933	2.0610	111.86	1.1222
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Warn	Chk Pass	Chk Pass
High Limit	1.0000				12.000		2.0000		
Low Limit	-.02000				-.02000		-.20000		

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50160**	**5.2301**	**2.3376**	**1.0067**	**54.992**	**1.0526**	**58.142**	**.73923**	**.98469**
Stddev	.00016	.0055	.0061	.0037	.359	.0047	.054	.00128	.00184
%RSD	.03146	.10564	.26068	.36721	.65287	.44717	.09285	.17326	.18707
#1	.50171	5.2340	2.3333	1.0093	55.246	1.0559	58.104	.73832	.98599
#2	.50149	5.2262	2.3419	1.0040	54.738	1.0492	58.180	.74013	.98338
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	818.326 { 41}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**58.233**	**.54618**	F **95.006**	**5.5037**	**10.661**	**1.0617**	**2.9460**	**21.588**	**46.199**
Stddev	.004	.00024	.133	.0010	.013	.0003	.0022	.199	.425
%RSD	.00708	.04464	.14035	.01824	.12570	.03033	.07619	.91985	.91985
#1	58.230	.54635	95.101	5.5030	10.670	1.0615	2.9476	21.729	46.500
#2	58.236	.54601	94.912	5.5044	10.651	1.0619	2.9445	21.448	45.899
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			50.000						
Low Limit			-6.0000						

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.9883**	**1.1118**	**.97932**	**.96558**	**1.9813**	**2.0946**	**.54848**	**2.3935**	**.53640**
Stddev	.0036	.0051	.00257	.00093	.0004	.0271	.00054	.0021	.00001
%RSD	.18024	.45634	.26232	.09650	.01749	1.2949	.09774	.08941	.00109
#1	1.9858	1.1154	.97750	.96492	1.9816	2.0754	.54810	2.3920	.53640
#2	1.9909	1.1082	.98113	.96624	1.9811	2.1138	.54886	2.3950	.53639
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**3851.7**	**52618.**	**4189.3**
Stddev	12.2	263.	41.6
%RSD	.31777	.50044	.99185
#1	3843.1	52804.	4159.9
#2	3860.4	52432.	4218.7

Sample Name: CCVH-4239353 Acquired: 11/13/2016 23:11:55 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3092	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00220**	**51.441**	**.00336**	**.00601**	**.00073**	**.00020**	**.97526**	**-.00137**	**.00064**	**-.00030**	**.00069**	**-.00060**
Stddev	.00040	3.569	.00372	.00005	.00033	.00007	.00256	.00610	.00027	.00005	.00007	.00031
%RSD	18.276	6.9383	110.95	.88929	45.321	35.499	.26234	445.48	42.974	17.740	10.415	51.367
#1	.00192	53.965	.00072	.00605	.00096	.00024	.97345	.00294	.00083	-.00026	.00074	-.00082
#2	.00249	48.918	.00599	.00597	.00049	.00015	.97707	-.00568	.00044	-.00034	.00064	-.00038
Check ?	None	Chk Pass	None	None	None	None	Chk Pass	None	None	None	None	None
Value												
Range												

Elem	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na8183	Ni2316	P_1782	Pb2203	S_1820	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.976**	**.27415**	**.00271**	**.04393**	**.00072**	**.00211**	**254.73**	**.00076**	**.01159**	**.00118**	**4.9692**	**.00286**
Stddev	3.330	.05385	.00027	.00227	.00006	.00066	17.38	.00014	.00416	.00015	.0001	.00119
%RSD	6.4071	19.644	10.130	5.1650	8.6428	31.353	6.8239	17.930	35.923	12.899	.00230	41.689
#1	54.331	.23607	.00290	.04554	.00076	.00164	267.02	.00066	.00864	.00108	4.9693	.00201
#2	49.622	.31223	.00251	.04233	.00067	.00257	242.44	.00086	.01453	.00129	4.9692	.00370
Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None	None	None	Chk Pass	None
Value												
Range												

Elem	Se1960	Si2881	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00020**	**-.01133**	**-.02425**	**.00031**	**.00049**	W **4.7064**	**.01686**	**.00417**	**10.072**	**.01352**	**.00011**	**.11420**
Stddev	.00263	.00772	.01652	.00153	.00001	.0138	.00026	.00337	.009	.00021	.00041	.02459
%RSD	1284.2	68.145	68.145	493.41	1.4531	.29341	1.5572	80.833	.09190	1.5687	384.79	21.536
#1	-.00165	-.00587	-.01256	-.00077	.00049	4.6966	.01667	.00179	10.066	.01367	-.00018	.13159
#2	.00206	-.01679	-.03593	.00139	.00050	4.7162	.01704	.00656	10.079	.01337	.00040	.09681
Check ?	None	None	None	None	None	Chk Warn	None	None	Chk Pass	None	None	None
Value						5.0000						
Range						-5.0000%						

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3863.7**	**52344.**	**3981.8**
Stddev	19.1	12.	232.6
%RSD	.49358	.02348	5.8411
#1	3850.3	52353.	3817.4
#2	3877.2	52336.	4146.3

Sample Name: CCV-4239351 Acquired: 11/13/2016 23:14:25 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48802**	**.48857**	**.94892**	**.49407**	**.49356**	**.48032**	**.00049**	**4.9540**	**.49029**	**.49563**	**.49633**	**.48167**	**2.4318**
Stddev	.00169	.00015	.00477	.00139	.00268	.00146	.00146	.0457	.00003	.00044	.00021	.00092	.0029
%RSD	.34622	.03130	.50282	.28127	.54283	.30333	295.40	.92275	.00711	.08939	.04202	.19190	.11826
#1	.48922	.48846	.95230	.49309	.49545	.48136	.00152	4.9863	.49031	.49532	.49618	.48232	2.4338
#2	.48683	.48868	.94555	.49506	.49166	.47929	-.00054	4.9217	.49026	.49594	.49648	.48101	2.4297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**49.717**	**1.0077**	**19.224**	**.47701**	**.49393**	**5.0438**	**.49529**	**.96302**	**.99713**	**.05638**	**.97777**	**.96022**	**4.8303**
Stddev	.163	.0026	.002	.00091	.00107	.0139	.00015	.00239	.00300	.00109	.00684	.00146	.0120
%RSD	.32864	.25357	.00873	.19037	.21641	.27641	.03065	.24773	.30094	1.9385	.69936	.15194	.24877
#1	49.833	1.0095	19.226	.47637	.49469	5.0536	.49519	.96471	.99926	.05561	.98261	.96125	4.8388
#2	49.602	1.0059	19.223	.47765	.49318	5.0339	.49540	.96134	.99501	.05716	.97294	.95919	4.8218
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value													
Range													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.337**	**.99176**	**.48116**	**.00894**	**.47237**	**1.0115**	**-.03190**	**.47378**	**.47110**	**.49920**
Stddev	.026	.00218	.00118	.00033	.00094	.0029	.02944	.00026	.00008	.00538
%RSD	.24877	.21976	.24618	3.6674	.19989	.28511	92.294	.05559	.01617	1.0774
#1	10.355	.99021	.48200	.00871	.47304	1.0095	-.01108	.47360	.47105	.50300
#2	10.319	.99330	.48032	.00917	.47170	1.0135	-.05272	.47397	.47116	.49539
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**3985.4**	**54206.**	**4179.2**
Stddev	.8	144.	1.9
%RSD	.01970	.26650	.04595
#1	3985.9	54308.	4180.6
#2	3984.8	54104.	4177.8

Sample Name: CCB Acquired: 11/13/2016 23:16:47 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00111**	**.00040**	**.00493**	**.00380**	**.00003**	**-.00007**	**.00202**	**-.00323**	**.00019**	**.00033**	**-.00000**	**-.00113**	**-.00011**
Stddev	.00084	.00022	.00223	.00028	.00005	.00013	.00177	.00334	.00008	.00009	.00040	.00052	.00039
%RSD	75.044	54.861	45.262	7.3628	176.78	191.35	87.453	103.29	44.724	28.588	15450.	46.088	357.38
#1	.00052	.00024	.00335	.00400	.00006	.00002	.00327	-.00560	.00025	.00026	-.00029	-.00076	-.00039
#2	.00170	.00055	.00650	.00360	-.00001	-.00016	.00077	-.00087	.00013	.00039	.00028	-.00150	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.18981**	**.00207**	**-.00018**	**.00004**	**.00219**	**.13316**	**-.00011**	**-.00020**	**-.00008**	**.04469**	**.00276**	**.00101**	**-.00296**
Stddev	.02118	.00368	.00009	.00002	.00128	.01180	.00012	.00022	.00060	.00063	.00042	.00194	.00594
%RSD	11.159	177.33	49.383	47.052	58.616	8.8647	107.04	109.57	770.80	1.4038	15.188	191.25	200.69
#1	.20479	.00467	-.00012	.00005	.00128	.14150	-.00003	-.00036	-.00050	.04424	.00247	-.00036	-.00716
#2	.17484	-.00053	-.00025	.00002	.00310	.12481	-.00019	-.00005	.00035	.04513	.00306	.00238	.00124
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit													
Low Limit													

Elem	SiO2	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00633**	**-.00037**	**.00002**	**.00191**	**.00044**	**.00005**	**-.02099**	**.00014**	**-.00019**	**-.00007**
Stddev	.01270	.00016	.00019	.00076	.00014	.00072	.01124	.00011	.00011	.00051
%RSD	200.69	44.703	1176.5	39.660	32.555	1369.5	53.540	74.387	54.956	758.62
#1	-.01531	-.00025	-.00012	.00138	.00054	-.00046	-.01304	.00022	-.00027	-.00043
#2	.00265	-.00048	.00015	.00245	.00034	.00056	-.02893	.00007	-.00012	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4018.5**	**55586.**	**4126.3**
Stddev	4.1	3.	3.3
%RSD	.10088	.00485	.08053
#1	4021.3	55588.	4123.9
#2	4015.6	55584.	4128.6

Sample Name: CCVL-4245706 Acquired: 11/13/2016 23:19:21 Type: QC
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288	Co2286	Cr2055	Cu3247	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01085**	**.10037**	**.01720**	**.09928**	**.01105**	**.00090**	**.10239**	**.20495**	**.00508**	**.01032**	**.01023**	**.01368**	**.10187**	**3.1076**
Stddev	.00051	.00333	.00234	.00052	.00153	.00004	.00037	.01385	.00005	.00047	.00031	.00046	.00304	.0281
%RSD	4.6947	3.3175	13.585	.52580	13.824	4.3893	.35655	6.7562	.98861	4.5720	3.0227	3.3517	2.9860	.90471
#1	.01049	.10273	.01886	.09891	.00997	.00093	.10265	.19516	.00512	.01066	.01045	.01400	.09972	3.0877
#2	.01121	.09802	.01555	.09965	.01213	.00087	.10213	.21475	.00505	.00999	.01001	.01335	.10402	3.1275
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Li6707	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02281**	**.19989**	**.00965**	**.01924**	**1.0920**	**.04007**	**2.7570**	**.01084**	**.03821**	**.01957**	**.01303**	**.47499**	**1.0165**	**.09744**
Stddev	.00150	.00316	.00003	.00010	.0234	.00023	.0112	.00114	.00258	.00197	.00080	.01394	.0298	.00132
%RSD	6.5590	1.5830	.26732	.51195	2.1439	.56643	.40516	10.496	6.7446	10.068	6.1478	2.9356	2.9356	1.3568
#1	.02387	.20212	.00967	.01931	1.0755	.04023	2.7649	.01165	.04003	.02096	.01246	.46513	.99537	.09838
#2	.02175	.19765	.00963	.01917	1.1086	.03991	2.7491	.01004	.03639	.01817	.01360	.48485	1.0376	.09651
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value														
Range														

Elem	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00984**	**.01569**	**.00945**	**.01524**	**.04600**	**.00924**	**.01819**	**.01634**
Stddev	.00028	.00090	.00032	.00213	.03736	.00014	.00008	.00035
%RSD	2.8759	5.7204	3.3885	13.946	81.217	1.4940	.43868	2.1656
#1	.00964	.01506	.00968	.01674	.07241	.00914	.01813	.01609
#2	.01004	.01633	.00922	.01374	.01958	.00934	.01824	.01659
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**4063.2**	**56359.**	**4174.1**
Stddev	.1	30.	16.1
%RSD	.00170	.05344	.38662
#1	4063.2	56380.	4185.5
#2	4063.3	56338.	4162.7

TestAmerica *Denver*

ICP Data Review Checklist

LIMS Batch Number(s): 351243, 5-7	Filename(s): 25A111316.pdf	Instrument ID (circle one): (ICP25) ICP26
Analyst/1st Reviewer/Date: CR 11/14/16		Method (circle): (200.7) 6010B 6010C
		QC Type (circle): (Standard) DoD 3M (DoD QS) QAPP_____ Other_____
Matrix (circle): (Water) Solid (Leachate)		Circle: (Total) TR PD (Dissolved)

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC				✓	
1. Instrument calibrated per lab SOP?	✓			✓	
2. Reanalysis of Calibration Standards before samples: 95-105% recovery	✓			✓	
3. ICB/CCB: run before samples, 10% frequency, & closing Result < ½ RL (routine) Result < LOD/2x MDL (DoD or special project)	✓			✓	If no, list details:
4. ICV/CCV: frequency initial, 10%, & closing 90-110% recovery, 5% RSD (6010) 95-105% recovery, 3% RSD (200.7)	✓			✓	If no, list details:
5. ICVL/CCVL: 70-130% recovery (6010C)	✓			✓	If no, list details:
6. ICSA/ICSAB: run before samples ICSA detections for non-spiked < [2x RL] [<LOD/2x MDL for DoD or special project] ICSAB for spiked elements 80-120% *If no, list analytes:*	✓			✓	☐ Results outside limits due to contamination. ☐ Concentration of affected analyte in sample is less than RL.
7. RL-level check standard (CRI): 50-150% (routine) 80-120% recovery (DoD or special projects)	✓			✓	If no, list details:
B. Client Sample and QC Sample Results				✓	
1. Samples with target element concentrations > 90% linear range diluted and reanalyzed? (200.7)	✓			✓	Comments:
2. Were all hits reported from a run with interfering elements < linear range? (L Flags investigated?)	✓			✓	Comments:
3. Internal standard (IS) response ± 30% of ICB IS? *If no, list details:*	✓			✓	☐ High IS response. Sample(s) rerun at dilution. ☐ Low IS response. Sample(s) rerun at dilution.
C. Preparation/Matrix QC					
1. Method Blank: one per preparation batch result < ½ RL (routine)	✓			✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
2. LCS: one per preparation batch 80-120% recovery or historical (routine) 85-115% recovery or historical (200.7), project limits (other)	✓			✓	☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
3. MS/MSD or MS/Dup frequency: a pair per batch (routine) a pair per 10 samples (200.7)	✓			✓	☐ Insufficient sample – LCS/LCSD analyzed
C. Preparation/Matrix QC (cont.)					
4. MS/MSD recovery & RPD: 75-125% recovery or historical (routine) 70-130% recovery or historical (200.7) 20% RPD project limits (other)	✓			✓	☐ LCS acceptable – matrix effects ☐ Native analyte > 4x spike level ☐ Matrix effect and native analyte > 4x spike

TestAmerica *Denver*

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
5. If TCLP MS <50% and sample result 80-100% of toxicity characteristic limit, was MSA run?	✓			✓	Comments:
6. Serial dilution: present for each prep batch (routine) Required if MS/MSD fail (DoDV5) run at 5x dilution of parent sample ≤ 10% difference	✓			✓	n Sample result < 50 x MDL
7. Post digestion spike: Required if MS/MSD fail (DoD and 6010C) or by client request 75-125% recovery	✓			✓	
D. Raw Data & TALS Data Entry	✓			✓	
1. TALS Sample List Tab	✓			✓	
a. LIMS Sample IDs / Containers are correct	✓			✓	
b. Method and matrix are correct	✓			✓	
c. Date and time are correct	✓			✓	
d. Dilutions are correct	✓			✓	
e. Correct suffix designated; e.g., DU, (where applicable)	✓			✓	
2. TALS Sample Results Tab	✓			✓	
a. All reported analytes are marked Primary or Secondary	✓			✓	
b. All unused data are marked Rejected or Accepted. Unused data are clearly identified with reason not used	✓			✓	
c. Out of control QC is clearly identified	✓			✓	
d. Any data that has a qualifier is reviewed with appropriate action taken (NCM if needed)	✓			✓	
e. The attached data file includes the filename, Instrument, and analyst initials	✓			✓	
3. TALS Worksheet Tab is complete and correct	✓			✓	
4. TALS Reagent Tab is complete and correct	✓			✓	
5. TALS QC Links Tab is correct	✓			✓	
6. TALS Batch Information Screen documentation is complete	✓			✓	
7. TALS Status set to appropriate review level	✓			✓	
E. Final Report and NCMs (2nd level review only)				✓	
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	
5. Raw Data PDF attached as document				✓	

Comments: _____

2nd Reviewer: _____ Review Date: 11/14/16

11/29/2016

ICP/MS Data Review Checklist

LIMS Batch Number(s): 351011 351016	Filename(s): 111016xa 5	Instrument ID (circle one): 024 027 078
Analyst/1st Reviewer/Date: 11/11/16		Method (circle): 200.8 6020 6020A
		QC Type (circle): Standard DOD Q4
		DoD Q5 QAPP Other
Matrix (circle): Water Solid Leachate		Circle: Total TR PD Dissolved

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Tune					
1. Tune solution analyzed minimum of 4 times for 6020 or 5 times for 200.8	✓			✓	
2. Tune RSD <5%	✓			✓	
3. Resolution ≤ 0.9 AMU full width at 10% peak height Note: This also satisfies 200.8, 1.0 AMU at 5% peak height	✓			✓	
4. Mass calibration results within ± 0.1 amu of expected value	✓			✓	
B. Calibration/Instrument Run QC					
1. Instrument calibrated per lab SOP?	✓			✓	
2. For multi-point calibrations: $r \geq 0.995$ -- |x-intercept| ≤ RL	✓			✓	
3. High Level LDR Check Standard: required by DoD daily if samples analyzed > highest ICAL level -- 90-110% recovery	✓			✓	
4. ICB/CCB: run before samples, 10% frequency, & closing Result < ½ RL (routine), < LOD/2x MDL (DoD or special project)	✓			✓	
5. ICV/CCV: frequency initial, 10%, & closing; 90-110% recovery	✓			✓	
6. ICVL/CCVL: 70-130% recovery (6020A); Not applicable (other)	✓			✓	
7. ICSA/ICSAB: run before samples and every 12 hours ICSA detections for non-spiked <2*RL (<LOD or 2x MDL for DoD or special projects) ICSAB for spiked elements 80-120%; *If no, list analytes:*	✓			✓	☐ Results outside limits due to contamination. ☐ Concentration of affected analyte in sample is less than RL ☐ Concentration of affected analyte in sample is more than 10x analyte signal in ICSA.
8. RL-level check standard: CRI: 50-150% (routine) 80-120% recovery (DoD);	✓			✓	
C. Client Sample and QC Sample Results					
1. Samples with target element concentrations > 90% linear range diluted and reanalyzed (200.8)	✓			✓	Comments:
2. Sample IS response: 30-120% of ICB IS (6020) 70-150% of ICB IS (6020A) 60-125% (200.8)	✓			✓	☐ High IS response. Sample(s) rerun at dilution. ☐ Low IS response. Sample(s) rerun at dilution.
D. Preparation/Matrix QC					
1. Method Blank: one per preparation batch result < ½ RL	✓			✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
2. LCS: one per preparation batch; 80-120% recovery or historical (routine) 85-115% recovery or historical (200.8); project limits (other)	✓			✓	☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
3. MS/MSD or MS/Dup frequency: a pair per batch (routine); a pair per 10 samples (200.8);	✓			✓	☐ Insufficient sample
4. MS/MSD recovery & RPD: 75-125% recovery or historical (routine); 70-130% recovery (200.8); 20% RPD;	✓			✓	☐ LCS acceptable – matrix effects ☐ Native analyte > 4x spike level ☐ Matrix effect and native analyte > 4x spike

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
C. Prep Preparation/Matrix QC (continued)					
5. Serial dilution: one per prep batch (6020/6020A) Required if MS/MSD fail (DoD) – run at 5x dilution of parent sample; ≤ 10% difference.	✓			✓	□ Sample result < 50 x MDL
6. Post digestion spike: one per 6020/6020A batch Required if MS/MSD fail (DoD) 75-125% recovery	✓			✓	
D. Raw Data & TALS Data Entry					
1. TALS Sample List Tab					
a. LIMS Sample IDs / Containers are correct	✓			✓	
b. Method and matrix are correct	✓			✓	
c. Date and time are correct	✓			✓	
d. Dilutions are correct	✓			✓	
e. Correct suffix designated, e.g., DU, (where applicable)	✓			✓	
2. TALS Sample Results Tab					
a. All reported analytes are marked Primary or Secondary	✓			✓	
b. All unused data are marked Rejected or Accepted. Unused data are clearly identified with reason not used	✓			✓	
c. Out of control QC is clearly identified	✓			✓	
d. Any data that has a qualifier is reviewed with appropriate action taken. (NCM if needed)	✓			✓	
e. The attached data file includes the filename, instrument, and analyst initials	✓			✓	
3. TALS Worksheet Tab is complete and correct	✓			✓	
4. TALS Reagent Tab is complete and correct	✓			✓	
5. TALS QC Links Tab is correct	✓			✓	
6. TALS Batch Information Screen documentation is complete	✓			✓	
7. TALS Status set to appropriate review level	✓			✓	
E. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	
5. Raw Data PDF attached as document				✓	

Comments: _____

2nd Reviewer: LRD Review Date: 11/18/16

US EPA Tune Check Sample Report

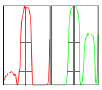
Batch Folder D:\MassHunter Data\Ll111016.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3310	1.35	5.00	
9	12250	0.49	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3316	3278	3377	3316	3262
9	12166	12270	12309	12291	12211

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	498	6.95	6.9 - 7.1		0.822	0.900	
9	1789	8.95	8.9 - 9.1		0.790	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	1.6	V
Extract 2	-195.0	V	Cell Entrance	-20	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-64	V			

Cell Parameters

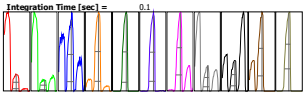
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	2290	1.49	5.00	
25	341	4.86	5.00	
26	421	4.01	5.00	
59	18860	1.39	5.00	
103	52887	1.58	5.00	
115	6116	2.47	5.00	
205	53508	1.04	5.00	
206	17389	1.81	5.00	
207	15608	1.97	5.00	
208	36362	1.74	5.00	
238	94053	1.25	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	2258	2341	2286	2303	2262
25	319	362	336	352	336
26	399	442	434	417	415
59	18553	18898	18736	18849	19265
103	51843	52312	52958	53356	53866
115	5858	6118	6175	6243	6187
205	52616	53454	53619	53733	54119
206	16947	17190	17525	17553	17732
207	15151	15519	15693	15685	15994
208	35711	35653	36621	36896	36929
238	92651	93186	93994	95455	94980

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	353	23.950	23.9 - 24.1		0.784	0.900	
25	51	25.100	24.9 - 25.1		0.783	0.900	
26	67	26.000	25.9 - 26.1		0.782	0.900	
59	3122	59.000	58.9 - 59.1		0.736	0.900	
103	9538	103.050	102.9 - 103.1		0.714	0.900	
115	1077	115.050	114.9 - 115.1		0.729	0.900	
205	9965	205.000	204.9 - 205.1		0.703	0.900	
206	3219	206.000	205.9 - 206.1		0.697	0.900	
207	2708	207.000	206.9 - 207.1		0.684	0.900	
208	6857	208.000	207.9 - 208.1		0.694	0.900	
238	17388	237.950	237.9 - 238.1		0.715	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	4.6	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-66	V			

Cell Parameters

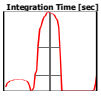
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	4.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	305670	1.52	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	313629	305917	302859	303605	302342

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	45570	7.000	6.9 - 7.1		0.834	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.99	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	15.4	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-85	V	Cell Exit	-58	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

PAFactor.txt

P/A Factor Tuning Report

===Current Sample===
Sample Name: 280-90514-a-13-b
Data File: 280SMPL.d
Acquired: 11/11/2016 09:00:20

===Detector Parameters and P/A Factors===
Discriminator: 4.5 mV
AnalogHV: 1698 V
PulseHV: 1600 V

Acquired: 11/10/2016 10:35:31

Mass[u]	Element	P/A Factor
7	Li	0.099128
89	Y	0.140648
205	Tl	0.153044
9	Be	0.107910
23	Na	0.117949
24	Mg	0.122937
27	Al	0.126031
39	K	0.126656
45	Sc	0.128887
51	V	0.130485
55	Mn	0.135264
56	Fe	0.130924
59	Co	0.138397
60	Ni	0.139840
63	Cu	0.141584
66	Zn	0.140968
72	Ge	0.140183
75	As	0.139048
88	Sr	0.141500
95	Mo	0.140369
101	Ru	0.142828
100	Ru	0.142000
102	Ru	0.143726

Page 1

104	Ru	0.144564
105	Pd	0.145862
106	Pd	0.146346
111	Cd	0.145502
114	Cd	0.147169
115	In	0.145425
118	Sn	0.146540
121	Sb	0.146244
137	Ba	0.147711
175	Lu	0.148741
193	Ir	0.151045
208	Pb	0.153149
209	Bi	0.153729
232	Th	0.154318
238	U	0.154391
77	Se	Signal too low
82	Se	Signal too low

Mass	Element Name	Current Value
7	Li	0.0991281414143495
9	Be	0.107910362565524
23	Na	0.117949055103482
24	Mg	0.122936682813836
27	Al	0.126030751705494
39	K	0.126656235695021
45	Sc	0.128887202112123
51	V	0.130484853811747
55	Mn	0.135263838160651
56	Fe	0.130924053206825
59	Co	0.138396973959511
60	Ni	0.139840076655857
63	Cu	0.141583872308372
66	Zn	0.140968313498066
72	Ge	0.140183047464892
75	As	0.139048402140707
77	Se	Signal too low
82	Se	Signal too low
88	Sr	0.141499558616198
89	Y	0.140647504273919
95	Mo	0.140368675032048
100	Ru	0.141999985073704
101	Ru	0.142827697619952
102	Ru	0.14372605081541
104	Ru	0.144563740813235
105	Pd	0.145861512886992

	Mass	Element Name	Current Value
	106	Pd	0.146346335342442
	111	Cd	0.145501805624019
	114	Cd	0.147169372412427
	115	In	0.145424920913093
	118	Sn	0.146539514991239
	121	Sb	0.146243620604857
	137	Ba	0.147710532444244
	175	Lu	0.148740725150307
	193	Ir	0.151045443321457
	205	Tl	0.153044036938828
	208	Pb	0.153148839401927
	209	Bi	0.153729310766074
	232	Th	0.154318236948118
	238	U	0.154390793882258

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	001WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:02:27-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	002WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:06:14-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	003WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:10:01-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	004WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:13:47-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	005WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:18:34-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	006WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:22:22-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name	ICIS-4238446
Data File Name	007CALB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:26:10-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	77595	0.00
Li	7	2	HMI He	3784	0.16
Li	7	3	No Gas	4035883	0.00
Be	9	1	HMI H2	0	#VALUE!
B	11	1	HMI H2	28643	0.01
Na	23	1	HMI H2	108036	0.00
Na	23	2	HMI He	4804	0.04
Mg	24	2	HMI He	487	2.81
Al	27	2	HMI He	33	226.50
K	39	2	HMI He	4361	0.13
Ca	44	2	HMI He	30	222.22
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	88	320.34
Cr	52	2	HMI He	293	8.41
Mn	55	2	HMI He	17	207.85
Fe	57	2	HMI He	70	40.82
Co	59	2	HMI He	27	353.90
Ni	60	2	HMI He	90	32.66
Cu	63	2	HMI He	4126	0.22
Zn	66	2	HMI He	223	22.35
As	75	2	HMI He	7	876.40
Se	78	1	HMI H2	51	39.21
Sr	88	2	HMI He	17	1039.23
Zr	90	2	HMI He	27	81.19
Nb	93	2	HMI He	87	81.35
Mo	95	2	HMI He	17	549.91
Pd	105	2	HMI He	13	859.23
Ag	107	2	HMI He	7	2598.08
Cd	111	2	HMI He	3	5196.15
Sn	120	2	HMI He	53	88.47
Sb	121	2	HMI He	10	1000.00
Ba	137	2	HMI He	10	1000.00
W	182	2	HMI He	303	4.52
Pt	195	2	HMI He	143	24.50
Tl	205	2	HMI He	167	5.50
Pb	208	2	HMI He	1447	0.28
Th	232	2	HMI He	30	0.00
U	238	2	HMI He	30	192.45

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1030374	1.93
Sc (IS)	45	1	HMI H2	50049516	0.90
Sc (IS)	45	2	HMI He	455282	0.65
Sc (IS)	45	3	No Gas	129118738	0.54
Ge Internal Standard	72	1	HMI H2	25231850	0.92
Ge Internal Standard	72	2	HMI He	724676	0.17
In Internal Standard	115	2	HMI He	1743517	2.85
Ho-165	165	2	HMI He	14982339	1.31

Calibration Standard Report

Sample Table

Sample Name	IC-4238447
Data File Name	008CALS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:29:58-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	432702	0.00
Li	7	2	HMI He	21460	0.01
Li	7	3	No Gas	21696738	0.00
Be	9	1	HMI H2	32529	0.01
B	11	1	HMI H2	65005	0.00
Na	23	1	HMI H2	40050217	0.00
Na	23	2	HMI He	1220312	0.00
Mg	24	2	HMI He	510868	0.00
Al	27	2	HMI He	95964	0.00
K	39	1	HMI H2	53935458	0.00
K	39	2	HMI He	187956	0.00
Ca	40	1	HMI H2	74183182	0.00
Ca	44	2	HMI He	12442	0.02
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	80139	0.00
Cr	52	2	HMI He	107675	0.00
Mn	55	2	HMI He	27786	0.01
Fe	57	2	HMI He	191547	0.00
Co	59	2	HMI He	245984	0.00
Ni	60	2	HMI He	74817	0.00
Cu	63	2	HMI He	229817	0.00
Zn	66	2	HMI He	18227	0.01
As	75	2	HMI He	10900	0.01
Se	78	1	HMI H2	57999	0.00
Sr	88	2	HMI He	24334	0.01
Zr	90	2	HMI He	710	0.60
Nb	93	2	HMI He	671146	0.00
Mo	95	2	HMI He	87340	0.00
Pd	105	2	HMI He	170263	0.00
Ag	107	2	HMI He	357500	0.00
Cd	111	2	HMI He	29152	0.01
Sn	120	2	HMI He	67123	0.00
Sb	121	2	HMI He	58629	0.00
Ba	137	2	HMI He	16419	0.01
Nd	146	1	HMI H2	12655	0.01
Nd	146	2	HMI He	850	1.33
Sm	147	1	HMI H2	10504	0.01
Sm	147	2	HMI He	673	1.88
Sm	150	1	HMI H2	9346	0.05
Sm	150	2	HMI He	653	3.01
Gd	156	1	HMI H2	14240	0.03
Gd	156	2	HMI He	2847	0.24
Gd	157	1	HMI H2	10751	0.05
Gd	157	2	HMI He	2154	0.31
W	182	2	HMI He	717065	0.00
Pt	195	2	HMI He	759703	0.00
Tl	205	2	HMI He	924153	0.00
Pb	208	2	HMI He	1197103	0.00
Th	232	2	HMI He	1444434	0.00
U	238	2	HMI He	1666272	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	996174	1.05	1030374	96.68	60	120	
Sc (IS)	45	1	HMI H2	49275264	0.29	50049516	98.45	60	120	
Sc (IS)	45	2	HMI He	446192	1.25	455282	98.00	60	120	
Sc (IS)	45	3	No Gas	125762948	1.00	129118738	97.40	60	120	
Ge Internal Standard	72	1	HMI H2	25020534	0.32	25231850	99.16	60	120	
Ge Internal Standard	72	2	HMI He	715037	0.67	724676	98.67	60	120	
In Internal Standard	115	2	HMI He	1716583	1.23	1743517	98.46	60	120	
Ho-165	165	2	HMI He	14767216	1.19	14982339	98.56	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-4238449
Data File Name	009_ICV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:33:56-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	408.506	ppb	0.770	222321	400	102.1	90	110	
Li	7	2	45	380.735	ppb	7.003	10577	400	95.2	90	110	
Li	7	3	45	403.717	ppb	1.998	11098628	400	100.9	90	110	
Be	9	1	6	40.756	ppb	3.584	13352	40	101.9	90	110	
B	11	1	6	32.213	ppb	6.441	40000	40	80.5	90	110	>+\-10%
Na	23	1	45	4029.009	ppb	0.034	16226991	4000	100.7	90	110	>+\-10%
Na	23	2	45	3983.772	ppb	1.515	494218	4000	99.6	90	110	
Mg	24	2	45	4044.016	ppb	1.193	209095	4000	101.1	90	110	
Al	27	2	45	3944.960	ppb	3.154	38274	4000	98.6	90	110	
K	39	1	45	3989.543	ppb	0.892	27523638	4000	99.7	90	110	
K	39	2	45	4074.418	ppb	1.239	79950	4000	101.9	90	110	
Ca	40	1	45	4019.995	ppb	0.257	29915359	4000	100.5	90	110	
Ca	44	2	45	4044.519	ppb	9.696	5104	4000	101.1	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	40	-21017.1	90	110	>+\-10%
V	51	2	72	41.987	ppb	6.314	33737	40	105.0	90	110	
Cr	52	2	72	41.115	ppb	2.782	44503	40	102.8	90	110	
Mn	55	2	72	42.557	ppb	2.913	11851	40	106.4	90	110	
Fe	57	2	72	3924.439	ppb	1.570	75319	4000	98.1	90	110	
Co	59	2	72	40.908	ppb	1.160	100787	40	102.3	90	110	
Ni	60	2	72	40.081	ppb	0.672	30086	40	100.2	90	110	
Cu	63	2	72	40.166	ppb	2.573	94880	40	100.4	90	110	
Zn	66	2	72	42.329	ppb	9.647	7852	40	105.8	90	110	
As	75	2	72	41.996	ppb	0.869	4588	40	105.0	90	110	
Se	78	1	72	40.720	ppb	2.959	23560	40	101.8	90	110	
Sr	88	2	72	36.855	ppb	7.564	8989	40	92.1	90	110	
Zr	90	2	72	7.346	ppb	11.232	77	40	18.4	90	110	>+\-10%
Nb	93	2	72	78.349	ppb	0.618	263349	80	97.9	90	110	
Mo	95	2	115	40.483	ppb	1.907	35417	40	101.2	90	110	
Pd	105	2	115	40.585	ppb	0.913	69193	40	101.5	90	110	
Ag	107	2	115	37.971	ppb	1.673	135914	40	94.9	90	110	
Cd	111	2	115	41.462	ppb	1.972	12101	40	103.7	90	110	
Sn	120	2	115	39.322	ppb	3.917	26451	40	98.3	90	110	
Sb	121	2	115	38.885	ppb	1.941	22829	40	97.2	90	110	
Ba	137	2	115	39.523	ppb	5.068	6502	40	98.8	90	110	
W	182	2	165	39.008	ppb	2.082	279864	40	97.5	90	110	
Pt	195	2	165	38.416	ppb	0.870	291934	40	96.0	90	110	
Tl	205	2	165	40.287	ppb	2.063	372376	40	100.7	90	110	
Pb	208	2	165	40.889	ppb	1.442	490330	40	102.2	90	110	
Th	232	2	165	39.862	ppb	1.528	575745	40	99.7	90	110	
U	238	2	165	40.107	ppb	2.195	668221	40	100.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1003542	1.74	1030374	97.40	60	120	
Sc (IS)	45	1	HMI H2	49357366	0.28	50049516	98.62	60	120	
Sc (IS)	45	2	HMI He	450933	0.88	455282	99.04	60	120	
Sc (IS)	45	3	No Gas	125712001	0.80	129118738	97.36	60	120	
Ge Internal Standard	72	1	HMI H2	24929245	0.29	25231850	98.80	60	120	
Ge Internal Standard	72	2	HMI He	716066	0.68	724676	98.81	60	120	
In Internal Standard	115	2	HMI He	1718654	1.51	1743517	98.57	60	120	
Ho-165	165	2	HMI He	14767307	1.43	14982339	98.56	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-4238446
Data File Name	010_ICB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:37:44-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	3.596	ppb	56.5	4018060	10	
Be	9	1	0.020	ppb	173.2	7	0.5	
B	11	1	-2.331	ppb	-31.6	27862	0.5	
Na	23	1	-0.248	ppb	-270.5	106252	25	
Na	23	2	1.779	ppb	81.6	4974	25	
Mg	24	2	-5.857	ppb	-13.4	180	25	
Al	27	2	0.022	ppb	7143.8	33	15	
K	39	1	-28.457	ppb	-75.0	9871267	50	
K	39	2	-7.761	ppb	-346.2	4174	50	
Ca	40	1	-0.236	ppb	-68.3	72586	50	
Ca	44	2	-15.681	ppb	-50.5	10	25	
Ti	47	2	-8406.828	ppb	0.0	0	0.5	
V	51	2	-0.146	ppb	-99.0	-30	1	
Cr	52	2	-0.053	ppb	-100.1	233	1	
Mn	55	2	0.024	ppb	83.1	23	0.5	
Fe	57	2	0.551	ppb	160.6	80	25	
Co	59	2	0.001	ppb	4.3	30	0.5	
Ni	60	2	-0.034	ppb	-91.1	63	1	
Cu	63	2	0.003	ppb	3097.9	4094	1	
Zn	66	2	-0.173	ppb	-28.8	190	5	
As	75	2	0.001	ppb	6225.1	7	1	
Se	78	1	0.052	ppb	61.8	80	1	
Sr	88	2	0.028	ppb	339.5	23	0.5	
Zr	90	2	0.521	ppb	4.3	30	1	
Nb	93	2	1.422	ppb	7.0	4878	2	
Mo	95	2	0.031	ppb	83.7	43	0.5	
Pd	105	2	0.143	ppb	28.2	257	1	
Ag	107	2	0.019	ppb	17.0	73	1	
Cd	111	2	0.012	ppb	333.1	7	0.5	
Sn	120	2	0.052	ppb	92.7	87	1	
Sb	121	2	0.239	ppb	18.1	150	0.6	
Ba	137	2	-0.040	ppb	-89.5	3	0.5	
W	182	2	0.052	ppb	23.8	683	1	
Pt	195	2	0.007	ppb	107.2	200	1	
Tl	205	2	0.027	ppb	38.1	423	0.1	
Pb	208	2	-0.001	ppb	-813.5	1437	0.5	
Th	232	2	0.125	ppb	4.3	1860	1	
U	238	2	0.010	ppb	5.8	200	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1034875	0.85	1030374	100.44	60	120	
Sc (IS)	45	1	HMI H2	49681988	0.53	50049516	99.27	60	120	
Sc (IS)	45	2	HMI He	450652	0.65	455282	98.98	60	120	
Sc (IS)	45	3	No Gas	126499715	0.77	129118738	97.97	60	120	
Ge Internal Standard	72	1	HMI H2	24930447	0.22	25231850	98.81	60	120	
Ge Internal Standard	72	2	HMI He	717851	0.51	724676	99.06	60	120	
In Internal Standard	115	2	HMI He	1713143	0.72	1743517	98.26	60	120	
Ho-165	165	2	HMI He	14958414	0.73	14982339	99.84	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-4238450
Data File Name	011LICV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:43:58-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	50.586	ppb	6.360	4863468	50	101.2	70	130	
Be	9	1	6	1.257	ppb	9.575	420	1	125.7	70	130	
Na	23	2	45	50.681	ppb	8.149	11191	50	101.4	70	130	
Mg	24	2	45	49.339	ppb	11.647	3084	50	98.7	70	130	
Al	27	2	45	32.037	ppb	22.350	350	30	106.8	70	130	
K	39	2	45	96.666	ppb	9.000	6228	100	96.7	70	130	
Ca	44	2	45	52.064	ppb	48.623	97	50	104.1	70	130	
V	51	2	72	5.107	ppb	12.500	4239	5	102.1	70	130	
Cr	52	2	72	2.040	ppb	2.281	2520	2	102.0	70	130	
Mn	55	2	72	0.861	ppb	21.281	260	1	86.1	70	130	
Fe	57	2	72	52.913	ppb	7.135	1100	50	105.8	70	130	
Co	59	2	72	0.948	ppb	1.501	2397	1	94.8	70	130	
Ni	60	2	72	2.220	ppb	10.384	1777	2	111.0	70	130	
Cu	63	2	72	2.149	ppb	19.331	9063	2	107.4	70	130	
Zn	66	2	72	11.953	ppb	13.331	2414	10	119.5	70	130	
As	75	2	72	5.011	ppb	3.447	562	5	100.2	70	130	
Se	78	1	72	5.169	ppb	4.543	3050	5	103.4	70	130	
Sr	88	2	72	1.013	ppb	22.930	267	1	101.3	70	130	
Zr	90	2	72	2.395	ppb	194.632	43	0.5	479.0	70	130	>+/-30%
Nb	93	2	72	1.331	ppb	13.744	4621	2	66.6	70	130	>+/-30%
Mo	95	2	115	1.998	ppb	7.464	1797	2	99.9	70	130	
Pd	105	2	115	0.036	ppb	25.173	77	1	3.6	70	130	>+/-30%
Ag	107	2	115	5.234	ppb	0.475	19095	5	104.7	70	130	
Cd	111	2	115	1.095	ppb	30.679	330	1	109.5	70	130	
Sn	120	2	115	10.085	ppb	2.938	6952	10	100.9	70	130	
Sb	121	2	115	2.214	ppb	3.836	1333	2	110.7	70	130	
Ba	137	2	115	1.433	ppb	35.855	250	1	143.3	70	130	>+/-30%
W	182	2	165	4.939	ppb	2.752	36245	1	493.9	70	130	>+/-30%
Pt	195	2	165	0.009	ppb	44.070	210	1	0.9	70	130	>+/-30%
Tl	205	2	165	1.005	ppb	4.936	9597	1	100.5	70	130	
Pb	208	2	165	1.067	ppb	3.389	14400	1	106.7	70	130	
Th	232	2	165	2.239	ppb	0.993	32856	2	111.9	70	130	
U	238	2	165	1.011	ppb	3.539	17127	1	101.1	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1023315	0.77	1030374	99.31	60	120	
Sc (IS)	45	1	HMI H2	49886881	0.38	50049516	99.68	60	120	
Sc (IS)	45	2	HMI He	459316	0.25	455282	100.89	60	120	
Sc (IS)	45	3	No Gas	126656748	1.39	129118738	98.09	60	120	
Ge Internal Standard	72	1	HMI H2	25049421	0.33	25231850	99.28	60	120	
Ge Internal Standard	72	2	HMI He	726634	1.26	724676	100.27	60	120	
In Internal Standard	115	2	HMI He	1750933	1.71	1743517	100.43	60	120	
Ho-165	165	2	HMI He	14988476	1.37	14982339	100.04	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-4238450
Data File Name	012LICV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:48:43-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	51.820	ppb	1.795	4837724	50	103.6	70	130	
Be	9	1	6	1.240	ppb	22.747	420	1	124.0	70	130	
Na	23	2	45	53.136	ppb	6.348	11381	50	106.3	70	130	
Mg	24	2	45	51.026	ppb	3.961	3140	50	102.1	70	130	
Al	27	2	45	37.854	ppb	39.638	403	30	126.2	70	130	
K	39	2	45	120.356	ppb	16.484	6608	100	120.4	70	130	
Ca	44	2	45	60.694	ppb	14.971	107	50	121.4	70	130	
V	51	2	72	5.287	ppb	11.422	4367	5	105.7	70	130	
Cr	52	2	72	2.156	ppb	8.727	2634	2	107.8	70	130	
Mn	55	2	72	0.950	ppb	28.334	283	1	95.0	70	130	
Fe	57	2	72	55.112	ppb	13.936	1137	50	110.2	70	130	
Co	59	2	72	1.009	ppb	3.970	2537	1	100.9	70	130	
Ni	60	2	72	1.985	ppb	5.820	1590	2	99.3	70	130	
Cu	63	2	72	2.179	ppb	6.653	9089	2	109.0	70	130	
Zn	66	2	72	10.313	ppb	1.950	2100	10	103.1	70	130	
As	75	2	72	5.228	ppb	3.520	583	5	104.6	70	130	
Se	78	1	72	5.254	ppb	2.486	3099	5	105.1	70	130	
Sr	88	2	72	0.950	ppb	25.928	250	1	95.0	70	130	
Zr	90	2	72	5.290	ppb	150.289	63	0.5	1058.0	70	130	>+/-30%
Nb	93	2	72	0.376	ppb	5.301	1363	2	18.8	70	130	>+/-30%
Mo	95	2	115	2.032	ppb	2.626	1813	2	101.6	70	130	
Pd	105	2	115	0.077	ppb	22.191	147	1	7.7	70	130	>+/-30%
Ag	107	2	115	5.244	ppb	1.807	18994	5	104.9	70	130	
Cd	111	2	115	1.095	ppb	23.312	327	1	109.5	70	130	
Sn	120	2	115	10.925	ppb	7.076	7475	10	109.3	70	130	
Sb	121	2	115	1.870	ppb	12.168	1120	2	93.5	70	130	
Ba	137	2	115	1.002	ppb	29.218	177	1	100.2	70	130	
W	182	2	165	4.970	ppb	0.443	36242	1	497.0	70	130	>+/-30%
Pt	195	2	165	0.004	ppb	72.347	177	1	0.4	70	130	>+/-30%
Tl	205	2	165	1.023	ppb	7.814	9707	1	102.3	70	130	
Pb	208	2	165	1.074	ppb	2.889	14400	1	107.4	70	130	
Th	232	2	165	2.040	ppb	3.992	29749	2	102.0	70	130	
U	238	2	165	1.046	ppb	6.736	17624	1	104.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1037525	0.46	1030374	100.69	60	120	
Sc (IS)	45	1	HMI H2	49822553	0.58	50049516	99.55	60	120	
Sc (IS)	45	2	HMI He	454672	0.06	455282	99.87	60	120	
Sc (IS)	45	3	No Gas	125403688	0.80	129118738	97.12	60	120	
Ge Internal Standard	72	1	HMI H2	25051364	0.88	25231850	99.28	60	120	
Ge Internal Standard	72	2	HMI He	722955	0.51	724676	99.76	60	120	
In Internal Standard	115	2	HMI He	1738332	0.45	1743517	99.70	60	120	
Ho-165	165	2	HMI He	14898046	0.32	14982339	99.44	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-4238450
Data File Name	013LICV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T15:53:02-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	52.202	ppb	6.443	4884543	50	104.4	70	130	
Be	9	1	6	1.147	ppb	7.323	383	1	114.7	70	130	
Na	23	2	45	51.038	ppb	3.335	11070	50	102.1	70	130	
Mg	24	2	45	52.132	ppb	4.022	3184	50	104.3	70	130	
Al	27	2	45	39.058	ppb	5.213	413	30	130.2	70	130	
K	39	2	45	113.942	ppb	23.488	6458	100	113.9	70	130	
Ca	44	2	45	29.357	ppb	112.782	67	50	58.7	70	130	>+/-30%
V	51	2	72	4.755	ppb	3.086	3916	5	95.1	70	130	
Cr	52	2	72	1.814	ppb	1.784	2250	2	90.7	70	130	
Mn	55	2	72	1.133	ppb	42.513	333	1	113.3	70	130	
Fe	57	2	72	50.409	ppb	10.218	1040	50	100.8	70	130	
Co	59	2	72	1.047	ppb	6.498	2617	1	104.7	70	130	
Ni	60	2	72	2.018	ppb	5.319	1607	2	100.9	70	130	
Cu	63	2	72	2.118	ppb	6.337	8903	2	105.9	70	130	
Zn	66	2	72	10.136	ppb	6.683	2057	10	101.4	70	130	
As	75	2	72	5.006	ppb	5.834	556	5	100.1	70	130	
Se	78	1	72	5.152	ppb	5.418	3040	5	103.0	70	130	
Sr	88	2	72	0.941	ppb	9.778	247	1	94.1	70	130	
Zr	90	2	72	2.944	ppb	58.830	47	0.5	588.8	70	130	>+/-30%
Nb	93	2	72	0.181	ppb	9.713	697	2	9.0	70	130	>+/-30%
Mo	95	2	115	2.293	ppb	2.506	2060	2	114.6	70	130	
Pd	105	2	115	0.065	ppb	14.393	127	1	6.5	70	130	>+/-30%
Ag	107	2	115	5.269	ppb	3.024	19235	5	105.4	70	130	
Cd	111	2	115	0.887	ppb	30.168	267	1	88.7	70	130	
Sn	120	2	115	10.857	ppb	0.703	7489	10	108.6	70	130	
Sb	121	2	115	1.994	ppb	4.174	1203	2	99.7	70	130	
Ba	137	2	115	0.853	ppb	33.281	153	1	85.3	70	130	
W	182	2	165	4.976	ppb	1.620	36165	1	497.6	70	130	>+/-30%
Pt	195	2	165	-0.001	ppb	-600.093	137	1	-0.1	70	130	>+/-30%
Tl	205	2	165	1.066	ppb	4.146	10070	1	106.6	70	130	
Pb	208	2	165	1.044	ppb	8.902	13986	1	104.4	70	130	
Th	232	2	165	2.008	ppb	2.500	29191	2	100.4	70	130	
U	238	2	165	1.056	ppb	1.636	17717	1	105.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1023112	1.52	1030374	99.30	60	120	
Sc (IS)	45	1	HMI H2	49794489	0.47	50049516	99.49	60	120	
Sc (IS)	45	2	HMI He	452629	0.26	455282	99.42	60	120	
Sc (IS)	45	3	No Gas	126438811	0.26	129118738	97.92	60	120	
Ge Internal Standard	72	1	HMI H2	25063154	0.54	25231850	99.33	60	120	
Ge Internal Standard	72	2	HMI He	719181	0.69	724676	99.24	60	120	
In Internal Standard	115	2	HMI He	1752518	1.02	1743517	100.52	60	120	
Ho-165	165	2	HMI He	14847721	0.25	14982339	99.10	60	120	

CRI Report

Sample Table

Sample Name	CRI-4238451
Data File Name	014RLST.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:02:59-07:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	9.742	ppb	15.701	81277	10	97.4	80	120	
Li	7	2	45	15.682	ppb	171.469	4154	10	156.8	80	120	>+\-20%
Li	7	3	45	13.471	ppb	11.242	4142218	10	134.7	80	120	>+\-20%
Be	9	1	6	1.192	ppb	24.783	397	1	119.2	80	120	
B	11	1	6	-7.329	ppb	-52.837	25582	1	-732.9	80	120	>+\-20%
Na	23	1	45	108.093	ppb	0.911	547582	100	108.1	80	120	
Na	23	2	45	97.438	ppb	2.860	17252	100	97.4	80	120	
Mg	24	2	45	93.090	ppb	3.874	5448	100	93.1	80	120	
Al	27	2	45	105.867	ppb	14.258	1093	100	105.9	80	120	
K	39	2	45	91.539	ppb	17.552	6205	100	91.5	80	120	
Ca	40	1	45	108.429	ppb	0.642	892701	100	108.4	80	120	
Ca	44	2	45	92.065	ppb	49.598	150	100	92.1	80	120	
Ti	47	2	45	-8406.828	ppb	0.000	0	1	-840682.8	80	120	>+\-20%
V	51	2	72	0.840	ppb	21.375	790	1	84.0	80	120	
Cr	52	2	72	1.014	ppb	19.268	1433	1	101.4	80	120	
Mn	55	2	72	0.980	ppb	23.202	300	1	98.0	80	120	
Fe	57	2	72	93.010	ppb	9.740	1924	100	93.0	80	120	
Co	59	2	72	1.029	ppb	13.926	2660	1	102.9	80	120	
Ni	60	2	72	1.069	ppb	26.080	923	1	106.9	80	120	
Cu	63	2	72	0.853	ppb	12.677	6235	1	85.3	80	120	
Zn	66	2	72	0.627	ppb	17.469	347	1	62.7	80	120	>+\-20%
As	75	2	72	1.141	ppb	10.761	137	1	114.1	80	120	
Se	78	1	72	1.005	ppb	4.053	639	1	100.5	80	120	
Sr	88	2	72	0.961	ppb	17.979	260	1	96.1	80	120	
Zr	90	2	72	1.305	ppb	328.818	37	1	130.5	80	120	>+\-20%
Nb	93	2	72	2.048	ppb	5.055	7235	2	102.4	80	120	
Mo	95	2	115	0.959	ppb	11.054	897	1	95.9	80	120	
Pd	105	2	115	0.902	ppb	5.784	1627	1	90.2	80	120	
Ag	107	2	115	0.969	ppb	5.978	3644	1	96.9	80	120	
Cd	111	2	115	1.133	ppb	22.067	350	1	113.3	80	120	
Sn	120	2	115	0.774	ppb	28.616	600	1	77.4	80	120	>+\-20%
Sb	121	2	115	1.023	ppb	16.231	640	1	102.3	80	120	
Ba	137	2	115	0.637	ppb	33.418	120	1	63.7	80	120	>+\-20%
W	182	2	165	1.024	ppb	3.528	7799	1	102.4	80	120	
Pt	195	2	165	0.969	ppb	6.397	7655	1	96.9	80	120	
Tl	205	2	165	1.018	ppb	2.541	9777	1	101.8	80	120	
Pb	208	2	165	1.058	ppb	1.781	14377	1	105.8	80	120	
Th	232	2	165	0.956	ppb	2.740	14124	1	95.6	80	120	
U	238	2	165	1.010	ppb	3.347	17204	1	101.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1022032	2.01	1030374	99.19	60	120	
Sc (IS)	45	1	HMI H2	50140808	0.22	50049516	100.18	60	120	
Sc (IS)	45	2	HMI He	465003	1.32	455282	102.14	60	120	
Sc (IS)	45	3	No Gas	124919738	0.42	129118738	96.75	60	120	
Ge Internal Standard	72	1	HMI H2	25252359	0.61	25231850	100.08	60	120	
Ge Internal Standard	72	2	HMI He	743468	0.15	724676	102.59	60	120	
In Internal Standard	115	2	HMI He	1802374	0.60	1743517	103.38	60	120	
Ho-165	165	2	HMI He	15077286	1.00	14982339	100.63	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	015RLST.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:09:14-07:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	1.013	ppb	271.506	78375	10	10.1	80	120	>+\-20%
Li	7	2	45	-22.660	ppb	-59.321	3477	10	-226.6	80	120	>+\-20%
Li	7	3	45	2.722	ppb	44.288	3990109	10	27.2	80	120	>+\-20%
Be	9	1	6	0.000	ppb	#DIV/0!	0	1	0.0	80	120	>+\-20%
B	11	1	6	-8.777	ppb	-10.217	25408	1	-877.7	80	120	>+\-20%
Na	23	1	45	-0.288	ppb	-116.793	107422	100	-0.3	80	120	>+\-20%
Na	23	2	45	-3.165	ppb	-24.933	4547	100	-3.2	80	120	>+\-20%
Mg	24	2	45	-3.078	ppb	-31.611	337	100	-3.1	80	120	>+\-20%
Al	27	2	45	2.204	ppb	53.600	57	100	2.2	80	120	>+\-20%
K	39	2	45	0.752	ppb	1776.831	4511	100	0.8	80	120	>+\-20%
Ca	40	1	45	4.508	ppb	1.808	109392	100	4.5	80	120	>+\-20%
Ca	44	2	45	-3.115	ppb	-715.975	27	100	-3.1	80	120	>+\-20%
Ti	47	2	45	-8406.828	ppb	0.000	0	1	-840682.8	80	120	>+\-20%
V	51	2	72	-0.053	ppb	-215.568	47	1	-5.3	80	120	>+\-20%
Cr	52	2	72	0.031	ppb	215.995	333	1	3.1	80	120	>+\-20%
Mn	55	2	72	0.138	ppb	95.055	57	1	13.8	80	120	>+\-20%
Fe	57	2	72	11.557	ppb	50.107	300	100	11.6	80	120	>+\-20%
Co	59	2	72	-0.001	ppb	-610.931	23	1	-0.1	80	120	>+\-20%
Ni	60	2	72	-0.028	ppb	-45.810	70	1	-2.8	80	120	>+\-20%
Cu	63	2	72	-0.134	ppb	-102.793	3897	1	-13.4	80	120	>+\-20%
Zn	66	2	72	11.678	ppb	9.600	2404	1	1167.8	80	120	>+\-20%
As	75	2	72	-0.036	ppb	-73.091	3	1	-3.6	80	120	>+\-20%
Se	78	1	72	-0.006	ppb	-743.903	47	1	-0.6	80	120	>+\-20%
Sr	88	2	72	-0.028	ppb	-244.701	10	1	-2.8	80	120	>+\-20%
Zr	90	2	72	0.392	ppb	5.996	30	1	39.2	80	120	>+\-20%
Nb	93	2	72	0.027	ppb	15.252	183	2	1.4	80	120	>+\-20%
Mo	95	2	115	0.004	ppb	605.076	20	1	0.4	80	120	>+\-20%
Pd	105	2	115	0.021	ppb	55.390	50	1	2.1	80	120	>+\-20%
Ag	107	2	115	0.005	ppb	231.305	27	1	0.5	80	120	>+\-20%
Cd	111	2	115	-0.011	ppb	0.000	0	1	-1.1	80	120	>+\-20%
Sn	120	2	115	9.817	ppb	3.736	6865	1	981.7	80	120	>+\-20%
Sb	121	2	115	0.011	ppb	235.297	17	1	1.1	80	120	>+\-20%
Ba	137	2	115	0.981	ppb	13.869	177	1	98.1	80	120	
W	182	2	165	0.023	ppb	16.324	480	1	2.3	80	120	>+\-20%
Pt	195	2	165	-0.002	ppb	-164.611	133	1	-0.2	80	120	>+\-20%
Tl	205	2	165	0.002	ppb	312.176	187	1	0.2	80	120	>+\-20%
Pb	208	2	165	0.016	ppb	102.703	1667	1	1.6	80	120	>+\-20%
Th	232	2	165	0.012	ppb	34.217	203	1	1.2	80	120	>+\-20%
U	238	2	165	0.001	ppb	210.416	40	1	0.1	80	120	>+\-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1036722	0.98	1030374	100.62	60	120	
Sc (IS)	45	1	HMI H2	50309408	0.64	50049516	100.52	60	120	
Sc (IS)	45	2	HMI He	469363	0.66	455282	103.09	60	120	
Sc (IS)	45	3	No Gas	126104365	0.40	129118738	97.67	60	120	
Ge Internal Standard	72	1	HMI H2	25130525	0.59	25231850	99.60	60	120	
Ge Internal Standard	72	2	HMI He	739779	0.55	724676	102.08	60	120	
In Internal Standard	115	2	HMI He	1775477	0.06	1743517	101.83	60	120	
Ho-165	165	2	HMI He	15181456	0.93	14982339	101.33	60	120	

CRI Report

Sample Table

Sample Name	CRI4238452
Data File Name	016_CRI.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:14:32-07:00
Sample Type	AFCRI
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	0.229	ppb	41.737	77	0.2	114.3	80	120	
Na	23	2	45	16.164	ppb	10.132	6892	20	80.8	80	120	
Mg	24	2	45	19.166	ppb	10.148	1503	20	95.8	80	120	
Al	27	2	45	16.773	ppb	10.323	200	20	83.9	80	120	
K	39	2	45	29.177	ppb	37.789	4968	20	145.9	80	120	AFCRI Main CR1 Failed
Ca	44	2	45	20.601	ppb	44.669	57	20	103.0	80	120	
V	51	2	72	0.216	ppb	74.096	266	0.2	107.8	80	120	
Cr	52	2	72	0.242	ppb	42.456	563	0.2	121.2	80	120	AFCRI Main CR1 Failed
(Cr)	53	2	72	0.310	ppb	86.371	163	0.2	154.9	80	120	AFCRI Main CR1 Failed
Mn	55	2	72	0.257	ppb	13.342	90	0.2	128.7	80	120	AFCRI Main CR1 Failed
Fe	57	2	72	23.629	ppb	14.213	533	20	118.1	80	120	
Co	59	2	72	0.188	ppb	20.451	500	0.2	93.9	80	120	
Ni	60	2	72	0.182	ppb	69.238	230	0.2	91.1	80	120	
Cu	63	2	72	0.097	ppb	145.565	4387	0.2	48.4	80	120	AFCRI Main CR1 Failed
Zn	66	2	72	0.783	ppb	22.893	370	0.2	391.3	80	120	AFCRI Main CR1 Failed
As	75	2	72	0.146	ppb	55.778	24	0.2	73.2	80	120	AFCRI Main CR1 Failed
Se	78	1	72	0.124	ppb	49.965	123	0.2	62.1	80	120	AFCRI Main CR1 Failed
(Se)	82	1	72	0.176	ppb	446.813	3834	0.2	87.9	80	120	
Nb	93	2	72	0.387	ppb	13.067	1417	0.4	96.8	80	120	
Mo	95	2	115	0.234	ppb	35.186	227	0.2	116.9	80	120	
Pd	105	2	115	0.254	ppb	40.752	457	0.2	126.8	80	120	AFCRI Main CR1 Failed
Ag	107	2	115	0.209	ppb	10.303	773	0.2	104.5	80	120	
Cd	111	2	115	0.233	ppb	82.865	73	0.2	116.4	80	120	
(Cd)	114	2	115	0.279	ppb	12.547	260	0.2	139.7	80	120	AFCRI Main CR1 Failed
Sn	120	2	115	0.328	ppb	18.984	280	0.2	164.1	80	120	AFCRI Main CR1 Failed
Sb	121	2	115	0.161	ppb	40.472	107	0.2	80.4	80	120	
Ba	137	2	115	0.216	ppb	41.050	47	0.2	108.2	80	120	
W	182	2	165	0.186	ppb	16.479	1667	0.2	92.8	80	120	
Pt	195	2	165	0.200	ppb	8.667	1704	0.2	100.2	80	120	
Tl	205	2	165	0.199	ppb	9.905	2050	0.2	99.5	80	120	
(Pb)	206	2	165	0.226	ppb	15.931	1023	0.2	112.9	80	120	
(Pb)	207	2	165	0.178	ppb	24.642	823	0.2	89.1	80	120	
Pb	208	2	165	0.216	ppb	6.198	4104	0.2	108.0	80	120	
Th	232	2	165	0.194	ppb	4.553	2904	0.2	97.2	80	120	
U	238	2	165	0.203	ppb	7.071	3487	0.2	101.3	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1026509	0.39	1030374	99.62	60	120	
Sc (IS)	45	1	HMI H2	49866093	0.43	50049516	99.63	60	120	
Sc (IS)	45	2	HMI He	460791	0.42	455282	101.21	60	120	
Sc (IS)	45	3	No Gas	125440808	0.09	129118738	97.15	60	120	
Ge Internal Standard	72	1	HMI H2	25080901	0.99	25231850	99.40	60	120	
Ge Internal Standard	72	2	HMI He	731749	0.91	724676	100.98	60	120	
In Internal Standard	115	2	HMI He	1763114	1.09	1743517	101.12	60	120	
Ho-165	165	2	HMI He	15114079	0.39	14982339	100.88	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-4238198
Data File Name	017ICSA.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:18:20-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.167	ppb	-38.8	3804353	1	
Be	9	1	6	0.000	ppb	#DIV/0!	0	1	
B	11	1	6	-0.763	ppb	-438.6	25585	1	
Na	23	1	45	97606.790	ppb	0.2	371671288	100000	
K	39	1	45	99943.171	ppb	0.6	428724700	100000	
Ca	40	1	45	99799.527	ppb	0.5	704929163	100000	
Ti	47	2	45	63357734.873	ppb	1.6	23977	1	>RL or LOD
V	51	2	72	-0.056	ppb	-373.8	40	1	
Cr	52	2	72	1.407	ppb	12.1	1723	1	>RL or LOD
Mn	55	2	72	1.418	ppb	28.3	393	1	>RL or LOD
Co	59	2	72	0.002	ppb	357.4	30	1	
Ni	60	2	72	0.105	ppb	60.6	160	1	
Cu	63	2	72	0.429	ppb	8.3	4824	1	
Zn	66	2	72	0.517	ppb	57.0	300	1	
As	75	2	72	0.079	ppb	56.0	15	1	
Se	78	1	72	0.015	ppb	152.6	55	1	
Sr	88	2	72	0.563	ppb	25.1	147	1	
Zr	90	2	72	0.212	ppb	1092.2	27	1	
Nb	93	2	72	0.038	ppb	18.7	203	1	
Mo	95	2	115	2035.255	ppb	1.5	1703565	2000	>RL or LOD
Pd	105	2	115	0.031	ppb	32.2	63	1	
Ag	107	2	115	0.011	ppb	94.2	43	1	
Cd	111	2	115	0.169	ppb	58.4	50	1	
Sn	120	2	115	0.026	ppb	268.4	67	1	
Sb	121	2	115	-0.005	ppb	-417.6	7	1	
Ba	137	2	115	0.088	ppb	83.2	23	1	
W	182	2	165	0.134	ppb	23.1	1227	1	
Pt	195	2	165	0.018	ppb	14.2	273	1	
Tl	205	2	165	0.007	ppb	32.2	223	1	
Pb	208	2	165	0.206	ppb	13.2	3784	1	
Th	232	2	165	0.049	ppb	23.1	713	1	
U	238	2	165	-0.001	ppb	-1.8	20	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	929682	1.87	1030374	90.23	60	120	
Sc (IS)	45	1	HMI H2	46960669	0.68	50049516	93.83	60	120	
Sc (IS)	45	2	HMI He	431166	2.43	455282	94.70	60	120	
Sc (IS)	45	3	No Gas	122919722	0.76	129118738	95.20	60	120	
Ge Internal Standard	72	1	HMI H2	23131605	1.13	25231850	91.68	60	120	
Ge Internal Standard	72	2	HMI He	684577	1.04	724676	94.47	60	120	
In Internal Standard	115	2	HMI He	1645663	1.96	1743517	94.39	60	120	
Ho-165	165	2	HMI He	14370769	0.80	14982339	95.92	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-4238199
Data File Name	018ICSB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:22:06-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	953.637	ppb	0.879	393563	100	953.6	80	120	
Li	7	2	45	932.192	ppb	3.926	19404	100	932.2	80	120	
Li	7	3	45	987.323	ppb	0.622	20889363	100	987.3	80	120	
Be	9	1	6	108.480	ppb	1.929	31154	100	108.5	80	120	
B	11	1	6	81.083	ppb	3.129	51178	100	81.1	80	120	
Na	23	1	45	107156.834	ppb	0.962	404865367	100	107156.8	80	120	
K	39	1	45	109993.461	ppb	1.130	467236886	100	109993.5	80	120	
Ca	40	1	45	110198.764	ppb	0.451	772369722	100	110198.8	80	120	
V	51	2	72	107.096	ppb	2.025	80293	100	107.1	80	120	
Cr	52	2	72	104.411	ppb	1.151	105174	100	104.4	80	120	
Mn	55	2	72	108.986	ppb	2.432	28333	100	109.0	80	120	
Co	59	2	72	101.953	ppb	0.545	234645	100	102.0	80	120	
Ni	60	2	72	99.965	ppb	1.299	69978	100	100.0	80	120	
Cu	63	2	72	99.053	ppb	1.526	213045	100	99.1	80	120	
Zn	66	2	72	103.426	ppb	4.372	17626	100	103.4	80	120	
As	75	2	72	104.735	ppb	0.934	10681	100	104.7	80	120	
Se	78	1	72	100.737	ppb	0.671	53921	100	100.7	80	120	
Sr	88	2	72	100.513	ppb	3.299	22883	100	100.5	80	120	
Zr	90	2	72	3.438	ppb	68.705	47	100	3.4	80	120	>+\-20%
Nb	93	2	72	199.867	ppb	2.000	627552	100	199.9	80	120	
Mo	95	2	115	2193.897	ppb	0.480	1776890	100	2193.9	80	120	>+\-20%
Pd	105	2	115	98.929	ppb	1.402	156231	100	98.9	80	120	
Ag	107	2	115	99.033	ppb	1.345	328366	100	99.0	80	120	
Cd	111	2	115	102.000	ppb	2.131	27573	100	102.0	80	120	
Sn	120	2	115	101.811	ppb	1.884	63396	100	101.8	80	120	
Sb	121	2	115	105.109	ppb	1.382	57154	100	105.1	80	120	
Ba	137	2	115	102.569	ppb	2.044	15621	100	102.6	80	120	
W	182	2	165	98.148	ppb	1.468	673605	100	98.1	80	120	
Pt	195	2	165	95.480	ppb	1.344	694264	100	95.5	80	120	
Tl	205	2	165	97.718	ppb	1.512	864342	100	97.7	80	120	
Pb	208	2	165	97.850	ppb	1.610	1121190	100	97.9	80	120	
Th	232	2	165	101.506	ppb	2.268	1403165	100	101.5	80	120	
U	238	2	165	100.732	ppb	2.637	1606261	100	100.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	879824	1.96	1030374	85.39	60	120	
Sc (IS)	45	1	HMI H2	46598579	0.85	50049516	93.10	60	120	
Sc (IS)	45	2	HMI He	427379	0.47	455282	93.87	60	120	
Sc (IS)	45	3	No Gas	122347235	0.60	129118738	94.76	60	120	
Ge Internal Standard	72	1	HMI H2	23091092	0.52	25231850	91.52	60	120	
Ge Internal Standard	72	2	HMI He	668985	0.55	724676	92.32	60	120	
In Internal Standard	115	2	HMI He	1592138	1.34	1743517	91.32	60	120	
Ho-165	165	2	HMI He	14134487	1.40	14982339	94.34	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	019SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:25:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.324	ppb	3.324	35.41	77230	500000	
Li	7	2	45	0.983	ppb	0.983	2032.32	3751	500000	
Li	7	3	45	-5.847	ppb	-5.847	-16.81	3793816	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-17.295	ppb	-17.295	-1.62	21707	2000	
Na	23	1	45	54.350	ppb	54.350	5.59	321967	2000	
Na	23	2	45	41.412	ppb	41.412	8.97	9816	400000	
Mg	24	2	45	12.515	ppb	12.515	22.01	1123	400000	
Al	27	2	45	11.431	ppb	11.431	28.74	143	400000	
K	39	1	45	27.306	ppb	27.306	20.38	9989943	400000	
K	39	2	45	68.049	ppb	68.049	10.69	5568	400000	
Ca	40	1	45	25.111	ppb	25.111	11.14	258618	400000	
Ca	44	2	45	2.827	ppb	2.827	579.17	33	400000	
Ti	47	2	45	229.409	ppb	229.409	6520.41	3	4000	
V	51	2	72	-0.145	ppb	-0.145	-143.18	-29	2000	
Cr	52	2	72	0.018	ppb	0.018	448.69	310	5000	
Mn	55	2	72	0.024	ppb	0.024	370.80	23	10000	
Fe	57	2	72	14.759	ppb	14.759	9.95	353	400000	
Co	59	2	72	-0.001	ppb	-0.001	-697.35	23	2000	
Ni	60	2	72	-0.008	ppb	-0.008	-196.12	83	5000	
Cu	63	2	72	0.006	ppb	0.006	1302.11	4107	5000	
Zn	66	2	72	-0.138	ppb	-0.138	-54.50	197	5000	
As	75	2	72	0.012	ppb	0.012	556.16	8	2000	
Se	78	1	72	0.087	ppb	0.087	20.80	100	2000	
Sr	88	2	72	-0.068	ppb	-0.068	0.00	0	4000	
Zr	90	2	72	-0.934	ppb	-0.934	-156.43	20	1000	
Nb	93	2	72	1.024	ppb	1.024	5.65	3541	200	
Mo	95	2	115	1.243	ppb	1.243	22.07	1097	2000	
Pd	105	2	115	0.131	ppb	0.131	30.66	237	100	
Ag	107	2	115	0.018	ppb	0.018	54.95	70	100	
Cd	111	2	115	0.000	ppb	0.000	4226.11	3	2000	
Sn	120	2	115	-0.003	ppb	-0.003	-519.40	50	2000	
Sb	121	2	115	0.023	ppb	0.023	113.38	23	1000	
Ba	137	2	115	-0.040	ppb	-0.040	-88.04	3	5000	
W	182	2	165	0.047	ppb	0.047	8.70	633	100	
Pt	195	2	165	0.013	ppb	0.013	52.48	237	100	
Tl	205	2	165	0.039	ppb	0.039	60.98	517	2000	
Pb	208	2	165	0.009	ppb	0.009	130.53	1523	5000	
Th	232	2	165	0.061	ppb	0.061	11.50	907	2000	
U	238	2	165	0.017	ppb	0.017	22.54	303	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1018353	2.01	1030374	98.83	60	120	
Sc (IS)	45	1	HMI H2	49048244	0.23	50049516	98.00	60	120	
Sc (IS)	45	2	HMI He	449834	2.04	455282	98.80	60	120	
Sc (IS)	45	3	No Gas	124676321	1.15	129118738	96.56	60	120	
Ge Internal Standard	72	1	HMI H2	24879659	0.49	25231850	98.60	60	120	
Ge Internal Standard	72	2	HMI He	718716	0.87	724676	99.18	60	120	
In Internal Standard	115	2	HMI He	1710398	0.80	1743517	98.10	60	120	
Ho-165	165	2	HMI He	14667208	0.23	14982339	97.90	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	lra-4149046
Data File Name	020_LR.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:29:42-07:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	1956.167	ppb	1.181	635012	2000	97.8	90	110	
V	51	2	72	2099.646	ppb	1.204	1642451	2000	105.0	90	110	
Cr	52	2	72	4961.357	ppb	0.835	5206351	5000	99.2	90	110	
(Cr)	53	2	72	5110.150	ppb	1.162	667000	5000	102.2	90	110	
Mn	55	2	72	10447.029	ppb	1.161	2834927	10000	104.5	90	110	
Co	59	2	72	1985.801	ppb	1.288	4772993	2000	99.3	90	110	
Ni	60	2	72	5110.432	ppb	0.709	3732075	5000	102.2	90	110	
Cu	63	2	72	4868.286	ppb	0.289	10744017	5000	97.4	90	110	
Zn	66	2	72	5024.099	ppb	0.618	884145	5000	100.5	90	110	
As	75	2	72	1955.125	ppb	1.119	208105	2000	97.8	90	110	
Se	78	1	72	1983.021	ppb	0.668	1121675	2000	99.2	90	110	
(Se)	82	1	72	1954.863	ppb	0.677	478659	2000	97.7	90	110	
Mo	95	2	115	2064.940	ppb	1.494	1766699	2000	103.2	90	110	
Cd	111	2	115	1979.651	ppb	1.367	565338	2000	99.0	90	110	
(Cd)	114	2	115	1948.250	ppb	1.532	1505607	2000	97.4	90	110	
Sn	120	2	115	1861.340	ppb	1.397	1223336	2000	93.1	90	110	
Sb	121	2	115	968.521	ppb	1.546	556307	1000	96.9	90	110	
Ba	137	2	115	5012.194	ppb	1.281	806008	5000	100.2	90	110	
Tl	205	2	165	954.069	ppb	0.806	8638892	2000	47.7	90	110	LRS Main CR1 Failed
(Pb)	206	2	165	4786.691	ppb	0.896	13472497	5000	95.7	90	110	
(Pb)	207	2	165	4770.237	ppb	0.670	12343938	5000	95.4	90	110	
Pb	208	2	165	4776.239	ppb	0.580	55966724	5000	95.5	90	110	
Th	232	2	165	947.769	ppb	0.429	13414735	2000	47.4	90	110	LRS Main CR1 Failed
U	238	2	165	1903.837	ppb	0.983	31085233	2000	95.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	994364	1.05	1030374	96.51	60	120	
Sc (IS)	45	1	HMI H2	48312621	1.06	50049516	96.53	60	120	
Sc (IS)	45	2	HMI He	440468	0.28	455282	96.75	60	120	
Sc (IS)	45	3	No Gas	118135508	0.08	129118738	91.49	60	120	
Ge Internal Standard	72	1	HMI H2	24421570	0.47	25231850	96.79	60	120	
Ge Internal Standard	72	2	HMI He	698712	0.83	724676	96.42	60	120	
In Internal Standard	115	2	HMI He	1682090	1.71	1743517	96.48	60	120	
Ho-165	165	2	HMI He	14469977	0.47	14982339	96.58	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	021SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:33:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.117	ppb	1.117	473.68	75199	500000	
Li	7	2	45	-3.661	ppb	-3.661	-151.74	3604	500000	
Li	7	3	45	-2.462	ppb	-2.462	-86.93	3797629	50000	
Be	9	1	6	0.533	ppb	0.533	12.43	173	2000	
B	11	1	6	-16.800	ppb	-16.800	-8.14	21413	2000	
Na	23	1	45	8.510	ppb	8.510	7.84	137427	2000	
Na	23	2	45	8.520	ppb	8.520	29.18	5684	400000	
Mg	24	2	45	-1.556	ppb	-1.556	-69.05	393	400000	
Al	27	2	45	6.091	ppb	6.091	91.23	90	400000	
K	39	1	45	-39.848	ppb	-39.848	-44.46	9537637	400000	
K	39	2	45	20.666	ppb	20.666	32.72	4604	400000	
Ca	40	1	45	0.611	ppb	0.611	14.19	76636	400000	
Ca	44	2	45	-15.542	ppb	-15.542	-90.04	10	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.300	ppb	0.300	19.77	322	2000	
Cr	52	2	72	0.640	ppb	0.640	25.79	960	5000	
Mn	55	2	72	1.247	ppb	1.247	9.63	357	10000	
Fe	57	2	72	2.945	ppb	2.945	38.75	123	400000	
Co	59	2	72	0.265	ppb	0.265	20.77	667	2000	
Ni	60	2	72	0.626	ppb	0.626	18.99	547	5000	
Cu	63	2	72	0.534	ppb	0.534	16.08	5188	5000	
Zn	66	2	72	0.394	ppb	0.394	42.78	287	5000	
As	75	2	72	0.314	ppb	0.314	49.82	41	2000	
Se	78	1	72	0.815	ppb	0.815	11.78	509	2000	
Sr	88	2	72	-0.012	ppb	-0.012	-414.95	13	4000	
Zr	90	2	72	4.091	ppb	4.091	105.36	53	1000	
Nb	93	2	72	0.119	ppb	0.119	27.33	477	200	
Mo	95	2	115	1.424	ppb	1.424	15.87	1247	2000	
Pd	105	2	115	0.038	ppb	0.038	66.05	77	100	
Ag	107	2	115	0.003	ppb	0.003	110.36	17	100	
Cd	111	2	115	0.222	ppb	0.222	74.94	67	2000	
Sn	120	2	115	1.060	ppb	1.060	35.72	753	2000	
Sb	121	2	115	2.918	ppb	2.918	9.80	1707	1000	
Ba	137	2	115	0.619	ppb	0.619	56.91	110	5000	
W	182	2	165	0.013	ppb	0.013	76.88	383	100	
Pt	195	2	165	0.001	ppb	0.001	352.48	143	100	
Tl	205	2	165	0.229	ppb	0.229	22.07	2224	2000	
Pb	208	2	165	0.752	ppb	0.752	10.86	10148	5000	
Th	232	2	165	1.445	ppb	1.445	9.18	20371	2000	
U	238	2	165	0.345	ppb	0.345	19.36	5621	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	996057	1.01	1030374	96.67	60	120	
Sc (IS)	45	1	HMI H2	48250051	0.69	50049516	96.40	60	120	
Sc (IS)	45	2	HMI He	441460	0.75	455282	96.96	60	120	
Sc (IS)	45	3	No Gas	122870818	0.55	129118738	95.16	60	120	
Ge Internal Standard	72	1	HMI H2	24397167	0.87	25231850	96.69	60	120	
Ge Internal Standard	72	2	HMI He	703207	0.94	724676	97.04	60	120	
In Internal Standard	115	2	HMI He	1702069	2.07	1743517	97.62	60	120	
Ho-165	165	2	HMI He	14385584	1.09	14982339	96.02	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	022_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:37:14-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	497.102	ppb	1.837	251340	500	99.4	90	110	
Li	7	2	45	509.524	ppb	2.890	12761	500	101.9	90	110	
Li	7	3	45	498.920	ppb	1.140	12536786	500	99.8	90	110	
Be	9	1	6	52.008	ppb	1.214	16828	50	104.0	90	110	
B	11	1	6	22.971	ppb	6.007	36076	50	45.9	90	110	>+\-10%
Na	23	1	45	5086.113	ppb	0.391	20247190	5000	101.7	90	110	
Na	23	2	45	5058.217	ppb	1.344	620035	5000	101.2	90	110	
Mg	24	2	45	5171.566	ppb	0.825	264604	5000	103.4	90	110	
Al	27	2	45	5126.101	ppb	3.293	49230	5000	102.5	90	110	
K	39	1	45	5086.971	ppb	0.863	32031174	5000	101.7	90	110	
K	39	2	45	5127.960	ppb	1.173	98523	5000	102.6	90	110	
Ca	40	1	45	5119.557	ppb	1.070	37687594	5000	102.4	90	110	
Ca	44	2	45	5024.706	ppb	3.767	6271	5000	100.5	90	110	
Ti	47	2	45	45.984	ppb	31838.653	3	50	92.0	90	110	
V	51	2	72	51.666	ppb	4.519	41147	50	103.3	90	110	
Cr	52	2	72	52.266	ppb	3.831	55998	50	104.5	90	110	
Mn	55	2	72	52.837	ppb	3.683	14580	50	105.7	90	110	
Fe	57	2	72	5024.784	ppb	1.185	95575	5000	100.5	90	110	
Co	59	2	72	52.325	ppb	1.413	127784	50	104.7	90	110	
Ni	60	2	72	51.644	ppb	3.295	38396	50	103.3	90	110	
Cu	63	2	72	50.390	ppb	1.867	116973	50	100.8	90	110	
Zn	66	2	72	49.810	ppb	4.661	9119	50	99.6	90	110	
As	75	2	72	51.128	ppb	3.998	5536	50	102.3	90	110	
Se	78	1	72	50.515	ppb	2.659	28765	50	101.0	90	110	
Sr	88	2	72	49.995	ppb	5.123	12085	50	100.0	90	110	
Zr	90	2	72	44.244	ppb	29.739	327	50	88.5	90	110	>+\-10%
Nb	93	2	72	99.683	ppb	1.496	332099	100	99.7	90	110	
Mo	95	2	115	51.014	ppb	3.953	44067	50	102.0	90	110	
Pd	105	2	115	51.663	ppb	2.277	87007	50	103.3	90	110	
Ag	107	2	115	50.449	ppb	1.661	178397	50	100.9	90	110	
Cd	111	2	115	52.217	ppb	4.542	15050	50	104.4	90	110	
Sn	120	2	115	50.584	ppb	1.607	33621	50	101.2	90	110	
Sb	121	2	115	52.756	ppb	0.753	30605	50	105.5	90	110	
Ba	137	2	115	49.904	ppb	6.392	8106	50	99.8	90	110	
W	182	2	165	49.630	ppb	0.864	352446	50	99.3	90	110	
Pt	195	2	165	49.551	ppb	0.920	372716	50	99.1	90	110	
Tl	205	2	165	50.823	ppb	1.741	465023	50	101.6	90	110	
Pb	208	2	165	51.182	ppb	1.991	607224	50	102.4	90	110	
Th	232	2	165	52.093	ppb	0.404	744867	50	104.2	90	110	
U	238	2	165	50.411	ppb	1.025	831521	50	100.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	991046	0.58	1030374	96.18	60	120	
Sc (IS)	45	1	HMI H2	48852343	0.29	50049516	97.61	60	120	
Sc (IS)	45	2	HMI He	446460	0.60	455282	98.06	60	120	
Sc (IS)	45	3	No Gas	123223341	0.96	129118738	95.43	60	120	
Ge Internal Standard	72	1	HMI H2	24543607	0.34	25231850	97.27	60	120	
Ge Internal Standard	72	2	HMI He	709794	0.77	724676	97.95	60	120	
In Internal Standard	115	2	HMI He	1698098	1.92	1743517	97.40	60	120	
Ho-165	165	2	HMI He	14617528	0.39	14982339	97.57	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	023_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:41:01-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.574	ppb	-135.3	3857334	10	
Be	9	1	6	0.140	ppb	43.8	47	0.5	
B	11	1	6	-16.558	ppb	-9.3	21947	0.5	
Na	23	1	45	6.874	ppb	2.1	134132	25	
Na	23	2	45	2.813	ppb	58.9	5068	25	
Mg	24	2	45	-1.662	ppb	-94.8	393	25	
Al	27	2	45	0.385	ppb	676.6	37	15	
K	39	1	45	-5.131	ppb	-46.8	9916250	50	
K	39	2	45	12.482	ppb	95.3	4517	50	
Ca	40	1	45	5.080	ppb	5.7	111639	50	
Ca	44	2	45	3.183	ppb	391.3	33	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.008	ppb	-1031.9	81	1	
Cr	52	2	72	0.084	ppb	84.0	380	1	
Mn	55	2	72	0.337	ppb	36.7	110	0.5	
Fe	57	2	72	1.441	ppb	146.1	97	25	
Co	59	2	72	0.072	ppb	19.1	203	0.5	
Ni	60	2	72	0.149	ppb	10.4	200	1	
Cu	63	2	72	0.084	ppb	83.1	4261	1	
Zn	66	2	72	0.239	ppb	75.3	263	5	
As	75	2	72	0.043	ppb	151.1	12	1	
Se	78	1	72	0.140	ppb	25.5	129	1	
Sr	88	2	72	0.110	ppb	154.7	43	0.5	
Zr	90	2	72	-0.425	ppb	-533.6	23	1	
Nb	93	2	72	0.891	ppb	7.6	3077	2	
Mo	95	2	115	0.207	ppb	11.7	197	0.5	
Pd	105	2	115	0.084	ppb	20.6	157	1	
Ag	107	2	115	0.014	ppb	23.4	57	1	
Cd	111	2	115	0.092	ppb	64.9	30	0.5	
Sn	120	2	115	0.161	ppb	50.9	160	1	
Sb	121	2	115	0.326	ppb	9.4	200	0.6	
Ba	137	2	115	0.022	ppb	433.1	13	0.5	
W	182	2	165	0.041	ppb	27.9	590	1	
Pt	195	2	165	0.007	ppb	105.3	193	1	
Tl	205	2	165	0.090	ppb	21.6	983	0.1	
Pb	208	2	165	0.225	ppb	18.4	4070	0.5	
Th	232	2	165	0.077	ppb	5.1	1133	1	
U	238	2	165	0.061	ppb	20.1	1030	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1016613	0.94	1030374	98.66	60	120	
Sc (IS)	45	1	HMI H2	49388953	0.09	50049516	98.68	60	120	
Sc (IS)	45	2	HMI He	447674	0.71	455282	98.33	60	120	
Sc (IS)	45	3	No Gas	124870771	0.68	129118738	96.71	60	120	
Ge Internal Standard	72	1	HMI H2	24611638	0.23	25231850	97.54	60	120	
Ge Internal Standard	72	2	HMI He	715106	0.79	724676	98.68	60	120	
In Internal Standard	115	2	HMI He	1711069	0.61	1743517	98.14	60	120	
Ho-165	165	2	HMI He	14623205	1.00	14982339	97.60	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	024LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:44:49-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	46.181	ppb	4.288	4741378	50	92.4	70	130	
Be	9	1	6	1.311	ppb	12.765	433	1	131.1	70	130	>+/-30%
Na	23	2	45	53.189	ppb	2.877	11307	50	106.4	70	130	
Mg	24	2	45	49.963	ppb	7.373	3064	50	99.9	70	130	
Al	27	2	45	30.228	ppb	13.290	327	30	100.8	70	130	
K	39	2	45	117.258	ppb	14.768	6505	100	117.3	70	130	
Ca	44	2	45	82.561	ppb	24.586	133	50	165.1	70	130	>+/-30%
V	51	2	72	5.293	ppb	3.799	4334	5	105.9	70	130	
Cr	52	2	72	2.123	ppb	3.934	2577	2	106.2	70	130	
Mn	55	2	72	1.118	ppb	36.447	327	1	111.8	70	130	
Fe	57	2	72	55.606	ppb	4.556	1137	50	111.2	70	130	
Co	59	2	72	1.073	ppb	4.351	2670	1	107.3	70	130	
Ni	60	2	72	2.207	ppb	9.440	1744	2	110.4	70	130	
Cu	63	2	72	2.269	ppb	3.565	9216	2	113.5	70	130	
Zn	66	2	72	9.923	ppb	9.265	2014	10	99.2	70	130	
As	75	2	72	5.010	ppb	2.378	554	5	100.2	70	130	
Se	78	1	72	5.543	ppb	8.311	3226	5	110.9	70	130	
Sr	88	2	72	0.860	ppb	27.328	227	1	86.0	70	130	
Zr	90	2	72	2.489	ppb	92.212	43	0.5	497.7	70	130	>+/-30%
Nb	93	2	72	1.206	ppb	12.281	4137	2	60.3	70	130	>+/-30%
Mo	95	2	115	2.321	ppb	1.578	2077	2	116.0	70	130	
Pd	105	2	115	0.038	ppb	26.433	80	1	3.8	70	130	>+/-30%
Ag	107	2	115	4.966	ppb	1.341	18060	5	99.3	70	130	
Cd	111	2	115	1.047	ppb	6.180	313	1	104.7	70	130	
Sn	120	2	115	10.505	ppb	2.542	7218	10	105.1	70	130	
Sb	121	2	115	2.406	ppb	10.719	1443	2	120.3	70	130	
Ba	137	2	115	1.398	ppb	20.242	243	1	139.8	70	130	>+/-30%
W	182	2	165	5.038	ppb	2.242	36185	1	503.8	70	130	>+/-30%
Pt	195	2	165	0.001	ppb	473.254	147	1	0.1	70	130	>+/-30%
Tl	205	2	165	1.085	ppb	3.709	10130	1	108.5	70	130	
Pb	208	2	165	1.221	ppb	1.198	15927	1	122.1	70	130	
Th	232	2	165	2.275	ppb	5.989	32678	2	113.8	70	130	
U	238	2	165	1.066	ppb	1.637	17691	1	106.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1014177	2.75	1030374	98.43	60	120	
Sc (IS)	45	1	HMI H2	49541506	1.24	50049516	98.98	60	120	
Sc (IS)	45	2	HMI He	451492	0.42	455282	99.17	60	120	
Sc (IS)	45	3	No Gas	125496575	0.23	129118738	97.19	60	120	
Ge Internal Standard	72	1	HMI H2	24746700	0.75	25231850	98.08	60	120	
Ge Internal Standard	72	2	HMI He	716832	1.27	724676	98.92	60	120	
In Internal Standard	115	2	HMI He	1745451	1.22	1743517	100.11	60	120	
Ho-165	165	2	HMI He	14677991	1.49	14982339	97.97	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350329/1-a
Data File Name	025_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:48:36-07:00
Sample Type	Blank
Dilution	1
Comment	350329 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-0.974	ppb	-341.0021036	75654	0.5
Li	7	2	45	-1.498	ppb	-1681.515066	3704	0.5
Li	7	3	45	-1.607	ppb	-28.72813121	3883603	10
Be	9	1	6	0.082	ppb	78.8788487	27	0.5
B	11	1	6	-17.151	ppb	-4.638367826	21513	0.5
Na	23	1	45	14.344	ppb	2.148070163	162805	25
Na	23	2	45	14.124	ppb	28.30618994	6471	25
Mg	24	2	45	-3.122	ppb	-37.9998485	320	25
Al	27	2	45	4.171	ppb	61.47863156	73	15
K	39	1	45	315.712	ppb	4.22864909	11246377	50
K	39	2	45	35.550	ppb	29.7013238	4961	50
Ca	40	1	45	16.278	ppb	1.780848115	193353	50
Ca	44	2	45	-2.364	ppb	-850.2002428	27	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	0.026	ppb	314.4457406	108	1
Cr	52	2	72	0.481	ppb	14.1406476	803	1
Mn	55	2	72	0.435	ppb	33.89956406	137	0.5
Fe	57	2	72	23.107	ppb	30.79159391	510	25
Co	59	2	72	0.006	ppb	73.44760883	40	0.5
Ni	60	2	72	0.006	ppb	237.1250917	93	1
Cu	63	2	72	0.090	ppb	110.5670985	4261	1
Zn	66	2	72	2.098	ppb	30.07083409	597	5
As	75	2	72	-0.011	ppb	-328.2800167	6	1
Se	78	1	72	0.067	ppb	100.4975745	88	1
Sr	88	2	72	0.111	ppb	150.3310264	43	0.5
Zr	90	2	72	0.560	ppb	787.6458202	30	1
Nb	93	2	72	0.035	ppb	43.08944555	203	2
Mo	95	2	115	0.080	ppb	20.65903769	87	0.5
Pd	105	2	115	0.074	ppb	13.59502948	140	1
Ag	107	2	115	0.006	ppb	29.44360778	27	1
Cd	111	2	115	0.068	ppb	75.24145674	23	0.5
Sn	120	2	115	0.213	ppb	66.5498046	197	1
Sb	121	2	115	0.164	ppb	11.85026749	107	0.6
Ba	137	2	115	0.243	ppb	25.70136204	50	0.5
W	182	2	165	0.012	ppb	180.6979014	387	1
Pt	195	2	165	-0.005	ppb	-85.36845105	107	1
Tl	205	2	165	0.056	ppb	7.851055766	683	0.1
Pb	208	2	165	0.115	ppb	22.0737519	2804	0.5
Th	232	2	165	0.016	ppb	20.22053429	267	1
U	238	2	165	0.030	ppb	28.44012142	520	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1006938	2.13	1030374	97.73	60	120	
Sc (IS)	45	1	HMI H2	49016753	0.51	50049516	97.94	60	120	
Sc (IS)	45	2	HMI He	449220	0.83	455282	98.67	60	120	
Sc (IS)	45	3	No Gas	125159348	0.63	129118738	96.93	60	120	
Ge Internal Standard	72	1	HMI H2	24699146	0.65	25231850	97.89	60	120	
Ge Internal Standard	72	2	HMI He	712969	0.35	724676	98.38	60	120	
In Internal Standard	115	2	HMI He	1725480	0.90	1743517	98.97	60	120	
Ho-165	165	2	HMI He	14750814	1.17	14982339	98.45	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350329/2-a
Data File Name	026_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:52:23-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350329 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	66.547	66.547	ppb	6.722	99424	400	16.6	80	120	>+/-20%
Li	7	2	45	63.364	63.364	ppb	16.074	4868	400	15.8	80	120	>+/-20%
Li	7	3	45	61.527	61.527	ppb	4.149	5054808	400	15.4	80	120	>+/-20%
Be	9	1	6	32.447	32.447	ppb	1.983	10570	40	81.1	80	120	
Na	23	2	45	11.033	11.033	ppb	32.051	6098	40	27.6	80	120	>+/-20%
Mg	24	2	45	-3.529	-3.529	ppb	-50.436	300	40	-8.8	80	120	>+/-20%
Al	27	2	45	314.184	314.184	ppb	7.216	3070	40	785.5	80	120	>+/-20%
K	39	2	45	20.805	20.805	ppb	50.423	4691	40	52.0	80	120	>+/-20%
Ca	44	2	45	221.488	221.488	ppb	27.039	307	40	553.7	80	120	>+/-20%
V	51	2	72	33.098	33.098	ppb	1.769	26606	40	82.7	80	120	
Cr	52	2	72	36.120	36.120	ppb	2.817	39104	40	90.3	80	120	
Mn	55	2	72	31.905	31.905	ppb	7.009	8879	40	79.8	80	120	>+/-20%
Fe	57	2	72	377.324	377.324	ppb	3.788	7298	40	943.3	80	120	>+/-20%
Co	59	2	72	31.716	31.716	ppb	1.559	78095	40	79.3	80	120	>+/-20%
Ni	60	2	72	32.743	32.743	ppb	2.663	24578	40	81.9	80	120	
Cu	63	2	72	31.537	31.537	ppb	1.162	75324	40	78.8	80	120	>+/-20%
Zn	66	2	72	32.848	32.848	ppb	3.781	6138	40	82.1	80	120	
As	75	2	72	32.532	32.532	ppb	2.993	3553	40	81.3	80	120	
Se	78	1	72	31.699	31.699	ppb	1.121	18120	40	79.2	80	120	>+/-20%
Nb	93	2	72	0.036	0.036	ppb	43.550	207	40	0.1	80	120	>+/-20%
Mo	95	2	115	33.370	33.370	ppb	2.403	28965	40	83.4	80	120	
Pd	105	2	115	0.061	0.061	ppb	46.103	117	40	0.2	80	120	>+/-20%
Ag	107	2	115	31.959	31.959	ppb	1.231	113537	40	79.9	80	120	>+/-20%
Cd	111	2	115	30.432	30.432	ppb	0.762	8816	40	76.1	80	120	>+/-20%
Sn	120	2	115	31.405	31.405	ppb	1.527	20984	40	78.5	80	120	>+/-20%
Sb	121	2	115	31.852	31.852	ppb	2.071	18558	40	79.6	80	120	>+/-20%
Ba	137	2	115	32.973	32.973	ppb	6.720	5384	40	82.4	80	120	
W	182	2	165	30.827	30.827	ppb	1.303	218218	40	77.1	80	120	>+/-20%
Pt	195	2	165	0.006	0.006	ppb	171.883	187	40	0.0	80	120	>+/-20%
Tl	205	2	165	31.567	31.567	ppb	1.745	287818	40	78.9	80	120	>+/-20%
Pb	208	2	165	31.881	31.881	ppb	0.261	377375	40	79.7	80	120	>+/-20%
Th	232	2	165	30.851	30.851	ppb	0.860	439502	40	77.1	80	120	>+/-20%
U	238	2	165	31.629	31.629	ppb	1.029	519770	40	79.1	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	997806	2.93	1030374	96.84	60	120	
Sc (IS)	45	1	HMI H2	48936778	0.41	50049516	97.78	60	120	
Sc (IS)	45	2	HMI He	449522	1.22	455282	98.74	60	120	
Sc (IS)	45	3	No Gas	126536435	0.77	129118738	98.00	60	120	
Ge Internal Standard	72	1	HMI H2	24613354	0.54	25231850	97.55	60	120	
Ge Internal Standard	72	2	HMI He	715607	1.25	724676	98.75	60	120	
In Internal Standard	115	2	HMI He	1705409	1.24	1743517	97.81	60	120	
Ho-165	165	2	HMI He	14562982	0.31	14982339	97.20	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-1-e
Data File Name	027SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:56:09-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.235	ppb	-0.235	-1231.31	75265	500000	
Li	7	2	45	12.488	ppb	12.488	161.04	3971	500000	
Li	7	3	45	-3.314	ppb	-3.314	-42.27	3802033	50000	
Be	9	1	6	0.041	ppb	0.041	45.24	13	2000	
B	11	1	6	2.901	ppb	2.901	131.15	28740	2000	
Na	23	1	45	5420.254	ppb	5420.254	0.36	21455275	2000	
Na	23	2	45	5384.218	ppb	5384.218	0.28	666110	400000	
Mg	24	2	45	2773.353	ppb	2773.353	0.56	143501	400000	
Al	27	2	45	40.951	ppb	40.951	30.49	430	400000	
K	39	1	45	1777.758	ppb	1777.758	1.62	17495179	400000	
K	39	2	45	1475.940	ppb	1475.940	2.55	31705	400000	
Ca	40	1	45	105294.043	ppb	105294.043	0.44	769565722	400000	
Ca	44	2	45	104011.428	ppb	104011.428	1.02	130488	400000	
Ti	47	2	45	57.522	ppb	57.522	25487.01	3	4000	
V	51	2	72	0.246	ppb	0.246	33.06	281	2000	
Cr	52	2	72	0.387	ppb	0.387	36.25	697	5000	
Mn	55	2	72	19.225	ppb	19.225	4.30	5294	10000	
Fe	57	2	72	660.211	ppb	660.211	3.01	12568	400000	
Co	59	2	72	0.058	ppb	0.058	39.33	167	2000	
Ni	60	2	72	0.292	ppb	0.292	44.53	303	5000	
Cu	63	2	72	-0.039	ppb	-0.039	-300.91	3941	5000	
Zn	66	2	72	4.673	ppb	4.673	5.89	1050	5000	
As	75	2	72	0.826	ppb	0.826	14.22	96	2000	
Se	78	1	72	0.133	ppb	0.133	15.95	123	2000	
Sr	88	2	72	823.101	ppb	823.101	1.16	197917	4000	
Zr	90	2	72	135.861	ppb	135.861	48.60	944	1000	
Nb	93	2	72	0.048	ppb	0.048	48.30	243	200	
Mo	95	2	115	2.403	ppb	2.403	12.51	2090	2000	
Pd	105	2	115	0.012	ppb	0.012	76.35	33	100	
Ag	107	2	115	0.007	ppb	0.007	42.61	30	100	
Cd	111	2	115	0.070	ppb	0.070	57.32	23	2000	
Sn	120	2	115	0.088	ppb	0.088	34.00	110	2000	
Sb	121	2	115	0.196	ppb	0.196	22.01	123	1000	
Ba	137	2	115	15.248	ppb	15.248	7.84	2484	5000	
W	182	2	165	0.068	ppb	0.068	27.76	770	100	
Pt	195	2	165	-0.005	ppb	-0.005	-128.75	100	100	
Tl	205	2	165	0.063	ppb	0.063	13.55	737	2000	
Pb	208	2	165	0.132	ppb	0.132	10.06	2947	5000	
Th	232	2	165	0.252	ppb	0.252	8.25	3591	2000	
U	238	2	165	0.072	ppb	0.072	3.45	1200	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	995621	1.91	1030374	96.63	60	120	
Sc (IS)	45	1	HMI H2	48591898	0.67	50049516	97.09	60	120	
Sc (IS)	45	2	HMI He	450776	0.49	455282	99.01	60	120	
Sc (IS)	45	3	No Gas	123488325	0.55	129118738	95.64	60	120	
Ge Internal Standard	72	1	HMI H2	24128801	0.84	25231850	95.63	60	120	
Ge Internal Standard	72	2	HMI He	707024	0.91	724676	97.56	60	120	
In Internal Standard	115	2	HMI He	1696929	0.21	1743517	97.33	60	120	
Ho-165	165	2	HMI He	14483547	0.94	14982339	96.67	60	120	

Sample Table

Sample Name	280-90238-c-1-f ms
Data File Name	028SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T16:59:56-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	66.717	ppb	66.717	1.81	98436	500000	
Li	7	2	45	46.783	ppb	46.783	53.08	4591	500000	
Li	7	3	45	55.945	ppb	55.945	8.24	4793093	50000	
Be	9	1	6	34.314	ppb	34.314	4.80	11037	2000	
B	11	1	6	30.454	ppb	30.454	12.93	38614	2000	
Na	23	1	45	5594.011	ppb	5594.011	0.92	22061546	2000	
Na	23	2	45	5511.278	ppb	5511.278	1.37	682829	400000	
Mg	24	2	45	2858.685	ppb	2858.685	0.54	148161	400000	
Al	27	2	45	375.634	ppb	375.634	10.44	3677	400000	
K	39	1	45	1802.171	ppb	1802.171	1.96	17539298	400000	
K	39	2	45	1549.188	ppb	1549.188	3.97	33131	400000	
Ca	40	1	45	109762.766	ppb	109762.766	1.02	799395881	400000	
Ca	44	2	45	107402.781	ppb	107402.781	1.59	134961	400000	
Ti	47	2	45	75846.213	ppb	75846.213	20.69	33	4000	>LDR
V	51	2	72	33.417	ppb	33.417	8.78	26513	2000	
Cr	52	2	72	32.885	ppb	32.885	3.42	35169	5000	
Mn	55	2	72	52.160	ppb	52.160	4.07	14323	10000	
Fe	57	2	72	999.775	ppb	999.775	2.60	18977	400000	
Co	59	2	72	31.997	ppb	31.997	0.89	77760	2000	
Ni	60	2	72	32.100	ppb	32.100	1.71	23783	5000	
Cu	63	2	72	32.295	ppb	32.295	1.12	76033	5000	
Zn	66	2	72	37.383	ppb	37.383	11.85	6865	5000	
As	75	2	72	34.109	ppb	34.109	3.42	3677	2000	
Se	78	1	72	31.795	ppb	31.795	1.02	17868	2000	
Sr	88	2	72	868.488	ppb	868.488	1.42	208612	4000	
Zr	90	2	72	4813.904	ppb	4813.904	2.34	32542	1000	
Nb	93	2	72	0.022	ppb	0.022	70.02	157	200	
Mo	95	2	115	37.169	ppb	37.169	2.56	31927	2000	
Pd	105	2	115	0.038	ppb	0.038	55.63	77	100	
Ag	107	2	115	32.128	ppb	32.128	0.59	112957	100	
Cd	111	2	115	31.852	ppb	31.852	4.43	9129	2000	
Sn	120	2	115	32.134	ppb	32.134	0.66	21247	2000	
Sb	121	2	115	33.012	ppb	33.012	3.91	19035	1000	
Ba	137	2	115	45.912	ppb	45.912	2.60	7422	5000	
W	182	2	165	31.799	ppb	31.799	1.38	224259	100	
Pt	195	2	165	-0.005	ppb	-0.005	-77.46	100	100	
Tl	205	2	165	32.166	ppb	32.166	0.35	292217	2000	
Pb	208	2	165	32.548	ppb	32.548	0.68	383829	5000	
Th	232	2	165	31.844	ppb	31.844	0.18	452013	2000	
U	238	2	165	32.349	ppb	32.349	0.57	529698	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	984937	1.01	1030374	95.59	60	120	
Sc (IS)	45	1	HMI H2	48420248	0.16	50049516	96.74	60	120	
Sc (IS)	45	2	HMI He	451557	1.21	455282	99.18	60	120	
Sc (IS)	45	3	No Gas	122410372	0.90	129118738	94.80	60	120	
Ge Internal Standard	72	1	HMI H2	24198000	0.20	25231850	95.90	60	120	
Ge Internal Standard	72	2	HMI He	706215	0.55	724676	97.45	60	120	
In Internal Standard	115	2	HMI He	1688038	1.59	1743517	96.82	60	120	
Ho-165	165	2	HMI He	14510092	0.93	14982339	96.85	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-1-g msd
Data File Name	029SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:03:41-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	56.944	ppb	56.944	8.98	96087	500000	
Li	7	2	45	45.806	ppb	45.806	26.88	4521	500000	
Li	7	3	45	55.313	ppb	55.313	5.26	4847197	50000	
Be	9	1	6	31.688	ppb	31.688	2.64	10130	2000	
B	11	1	6	27.517	ppb	27.517	7.94	37305	2000	
Na	23	1	45	5396.012	ppb	5396.012	1.43	21524150	2000	
Na	23	2	45	5468.467	ppb	5468.467	1.14	669749	400000	
Mg	24	2	45	2805.602	ppb	2805.602	0.81	143728	400000	
Al	27	2	45	348.141	ppb	348.141	3.23	3374	400000	
K	39	1	45	1738.880	ppb	1738.880	2.10	17459926	400000	
K	39	2	45	1537.014	ppb	1537.014	0.51	32517	400000	
Ca	40	1	45	106047.030	ppb	106047.030	1.35	781028255	400000	
Ca	44	2	45	106096.911	ppb	106096.911	1.03	131787	400000	
Ti	47	2	45	8678.826	ppb	8678.826	170.52	7	4000	
V	51	2	72	32.798	ppb	32.798	0.89	26018	2000	
Cr	52	2	72	32.211	ppb	32.211	1.06	34447	5000	
Mn	55	2	72	51.722	ppb	51.722	3.74	14200	10000	
Fe	57	2	72	979.874	ppb	979.874	1.78	18600	400000	
Co	59	2	72	31.463	ppb	31.463	1.32	76455	2000	
Ni	60	2	72	31.810	ppb	31.810	1.49	23566	5000	
Cu	63	2	72	30.727	ppb	30.727	2.11	72528	5000	
Zn	66	2	72	33.368	ppb	33.368	3.02	6151	5000	
As	75	2	72	32.721	ppb	32.721	2.78	3528	2000	
Se	78	1	72	31.292	ppb	31.292	0.82	17827	2000	
Sr	88	2	72	848.074	ppb	848.074	1.41	203707	4000	
Zr	90	2	72	4787.667	ppb	4787.667	2.01	32358	1000	
Nb	93	2	72	0.037	ppb	0.037	54.14	207	200	
Mo	95	2	115	35.423	ppb	35.423	3.57	30765	2000	
Pd	105	2	115	0.051	ppb	0.051	27.32	100	100	
Ag	107	2	115	30.989	ppb	30.989	3.36	110145	100	
Cd	111	2	115	31.782	ppb	31.782	5.99	9216	2000	
Sn	120	2	115	31.447	ppb	31.447	3.41	21031	2000	
Sb	121	2	115	31.962	ppb	31.962	1.99	18641	1000	
Ba	137	2	115	46.303	ppb	46.303	7.71	7559	5000	
W	182	2	165	30.586	ppb	30.586	0.86	218704	100	
Pt	195	2	165	-0.004	ppb	-0.004	-104.71	107	100	
Tl	205	2	165	30.956	ppb	30.956	0.68	285136	2000	
Pb	208	2	165	31.134	ppb	31.134	0.58	372303	5000	
Th	232	2	165	30.564	ppb	30.564	0.47	439840	2000	
U	238	2	165	31.025	ppb	31.025	0.39	515044	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	979087	0.99	1030374	95.02	60	120	
Sc (IS)	45	1	HMI H2	48965746	0.27	50049516	97.83	60	120	
Sc (IS)	45	2	HMI He	446336	1.19	455282	98.04	60	120	
Sc (IS)	45	3	No Gas	124064085	0.64	129118738	96.09	60	120	
Ge Internal Standard	72	1	HMI H2	24529060	0.18	25231850	97.21	60	120	
Ge Internal Standard	72	2	HMI He	706227	1.23	724676	97.45	60	120	
In Internal Standard	115	2	HMI He	1707590	3.07	1743517	97.94	60	120	
Ho-165	165	2	HMI He	14711099	0.84	14982339	98.19	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-2-e
Data File Name	030SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:07:28-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.695	ppb	-0.695	-463.86	75142	500000	
Li	7	2	45	9.821	ppb	9.821	144.65	3857	500000	
Li	7	3	45	-3.974	ppb	-3.974	-13.06	3742332	50000	
Be	9	1	6	0.219	ppb	0.219	29.25	70	2000	
B	11	1	6	4.246	ppb	4.246	51.95	28760	2000	
Na	23	1	45	7576.942	ppb	7576.942	0.39	29967936	2000	
Na	23	2	45	7647.975	ppb	7647.975	1.40	927850	400000	
Mg	24	2	45	3271.801	ppb	3271.801	1.75	166272	400000	
Al	27	2	45	59.715	ppb	59.715	20.67	600	400000	
K	39	1	45	2121.824	ppb	2121.824	1.61	18999732	400000	
K	39	2	45	1862.643	ppb	1862.643	2.53	38208	400000	
Ca	40	1	45	93304.838	ppb	93304.838	0.96	682312843	400000	
Ca	44	2	45	91885.718	ppb	91885.718	0.40	113301	400000	
Ti	47	2	45	153097.573	ppb	153097.573	111.98	63	4000	>LDR
V	51	2	72	0.788	ppb	0.788	44.43	707	2000	
Cr	52	2	72	3.559	ppb	3.559	7.96	4047	5000	
Mn	55	2	72	9.705	ppb	9.705	11.19	2670	10000	
Fe	57	2	72	1015.231	ppb	1015.231	0.66	19214	400000	
Co	59	2	72	0.073	ppb	0.073	12.08	203	2000	
Ni	60	2	72	0.171	ppb	0.171	46.58	213	5000	
Cu	63	2	72	0.157	ppb	0.157	102.64	4357	5000	
Zn	66	2	72	1.558	ppb	1.558	17.92	493	5000	
As	75	2	72	1.501	ppb	1.501	12.30	168	2000	
Se	78	1	72	0.121	ppb	0.121	18.20	117	2000	
Sr	88	2	72	698.795	ppb	698.795	0.17	167372	4000	
Zr	90	2	72	72.858	ppb	72.858	3.46	517	1000	
Nb	93	2	72	0.029	ppb	0.029	36.57	180	200	
Mo	95	2	115	2.066	ppb	2.066	13.61	1814	2000	
Pd	105	2	115	0.023	ppb	0.023	102.60	53	100	
Ag	107	2	115	0.008	ppb	0.008	67.40	37	100	
Cd	111	2	115	0.035	ppb	0.035	151.07	13	2000	
Sn	120	2	115	0.241	ppb	0.241	42.13	213	2000	
Sb	121	2	115	0.110	ppb	0.110	65.24	73	1000	
Ba	137	2	115	16.389	ppb	16.389	4.77	2687	5000	
W	182	2	165	0.086	ppb	0.086	11.27	913	100	
Pt	195	2	165	0.000	ppb	0.000	1435.18	143	100	
Tl	205	2	165	0.042	ppb	0.042	28.08	553	2000	
Pb	208	2	165	0.110	ppb	0.110	11.29	2727	5000	
Th	232	2	165	0.245	ppb	0.245	10.62	3547	2000	
U	238	2	165	0.154	ppb	0.154	4.48	2584	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	978822	0.86	1030374	95.00	60	120	
Sc (IS)	45	1	HMI H2	48620093	0.99	50049516	97.14	60	120	
Sc (IS)	45	2	HMI He	443053	1.69	455282	97.31	60	120	
Sc (IS)	45	3	No Gas	121920078	0.20	129118738	94.42	60	120	
Ge Internal Standard	72	1	HMI H2	24448536	0.96	25231850	96.90	60	120	
Ge Internal Standard	72	2	HMI He	704212	0.80	724676	97.18	60	120	
In Internal Standard	115	2	HMI He	1707792	1.46	1743517	97.95	60	120	
Ho-165	165	2	HMI He	14690846	1.12	14982339	98.05	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-3-c
Data File Name	031SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:11:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.599	ppb	3.599	149.09	76390	500000	
Li	7	2	45	-4.891	ppb	-4.891	-239.52	3634	500000	
Li	7	3	45	-6.717	ppb	-6.717	-23.40	3734432	50000	
Be	9	1	6	0.062	ppb	0.062	50.22	20	2000	
B	11	1	6	4.546	ppb	4.546	47.26	29070	2000	
Na	23	1	45	8299.597	ppb	8299.597	0.35	32704763	2000	
Na	23	2	45	8188.443	ppb	8188.443	1.83	1003707	400000	
Mg	24	2	45	3060.260	ppb	3060.260	2.14	157220	400000	
Al	27	2	45	10.092	ppb	10.092	80.42	130	400000	
K	39	1	45	2058.599	ppb	2058.599	0.50	18661941	400000	
K	39	2	45	1782.572	ppb	1782.572	3.72	37142	400000	
Ca	40	1	45	82153.975	ppb	82153.975	0.25	598773298	400000	
Ca	44	2	45	79822.716	ppb	79822.716	0.98	99473	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.728	ppb	0.728	27.78	659	2000	
Cr	52	2	72	0.721	ppb	0.721	22.54	1047	5000	
Mn	55	2	72	25.367	ppb	25.367	4.82	6952	10000	
Fe	57	2	72	1533.988	ppb	1533.988	2.04	28981	400000	
Co	59	2	72	0.649	ppb	0.649	4.16	1597	2000	
Ni	60	2	72	0.148	ppb	0.148	18.44	197	5000	
Cu	63	2	72	0.132	ppb	0.132	107.04	4301	5000	
Zn	66	2	72	2.256	ppb	2.256	27.59	617	5000	
As	75	2	72	1.489	ppb	1.489	12.31	167	2000	
Se	78	1	72	0.099	ppb	0.099	15.50	105	2000	
Sr	88	2	72	577.361	ppb	577.361	0.78	138218	4000	
Zr	90	2	72	45.125	ppb	45.125	54.39	330	1000	
Nb	93	2	72	0.006	ppb	0.006	150.69	103	200	
Mo	95	2	115	2.271	ppb	2.271	14.20	1987	2000	
Pd	105	2	115	0.047	ppb	0.047	24.90	93	100	
Ag	107	2	115	0.005	ppb	0.005	135.19	23	100	
Cd	111	2	115	0.035	ppb	0.035	58.05	13	2000	
Sn	120	2	115	0.103	ppb	0.103	102.84	120	2000	
Sb	121	2	115	0.047	ppb	0.047	86.46	37	1000	
Ba	137	2	115	20.948	ppb	20.948	2.88	3427	5000	
W	182	2	165	91.270	ppb	91.270	0.92	645595	100	
Pt	195	2	165	-0.004	ppb	-0.004	-130.60	107	100	
Tl	205	2	165	0.014	ppb	0.014	22.59	293	2000	
Pb	208	2	165	0.094	ppb	0.094	17.03	2510	5000	
Th	232	2	165	0.097	ppb	0.097	10.59	1410	2000	
U	238	2	165	0.051	ppb	0.051	26.58	870	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	985589	0.91	1030374	95.65	60	120	
Sc (IS)	45	1	HMI H2	48454811	0.12	50049516	96.81	60	120	
Sc (IS)	45	2	HMI He	447768	0.84	455282	98.35	60	120	
Sc (IS)	45	3	No Gas	123224185	1.08	129118738	95.43	60	120	
Ge Internal Standard	72	1	HMI H2	24535529	0.50	25231850	97.24	60	120	
Ge Internal Standard	72	2	HMI He	703857	0.39	724676	97.13	60	120	
In Internal Standard	115	2	HMI He	1706428	1.57	1743517	97.87	60	120	
Ho-165	165	2	HMI He	14566544	1.54	14982339	97.22	60	120	

Sample Table

Sample Name	280-90238-c-4-c
Data File Name	032SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:15:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-8.615	ppb	-8.615	-42.70	70611	500000	
Li	7	2	45	-3.010	ppb	-3.010	-247.99	3611	500000	
Li	7	3	45	-5.807	ppb	-5.807	-15.82	3881726	50000	
Be	9	1	6	0.046	ppb	0.046	114.39	13	2000	
B	11	1	6	6.205	ppb	6.205	6.46	26787	2000	
Na	23	1	45	339578.567	ppb	339578.567	0.56	1306189474	2000	>LDR
Na	23	2	45	328382.727	ppb	328382.727	1.28	39441541	400000	
Mg	24	2	45	13833.756	ppb	13833.756	0.72	697935	400000	
Al	27	2	45	7.534	ppb	7.534	72.20	103	400000	
K	39	1	45	3090.533	ppb	3090.533	0.79	22647591	400000	
K	39	2	45	2421.282	ppb	2421.282	0.87	48151	400000	
Ca	40	1	45	213711.135	ppb	213711.135	0.89	1525048991	400000	
Ca	44	2	45	218299.644	ppb	218299.644	0.82	267733	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.441	ppb	0.441	52.89	428	2000	
Cr	52	2	72	0.107	ppb	0.107	81.60	393	5000	
Mn	55	2	72	39.211	ppb	39.211	0.92	10620	10000	
Fe	57	2	72	6515.009	ppb	6515.009	0.90	121534	400000	
Co	59	2	72	0.152	ppb	0.152	27.93	390	2000	
Ni	60	2	72	0.371	ppb	0.371	50.20	357	5000	
Cu	63	2	72	-0.055	ppb	-0.055	-241.59	3844	5000	
Zn	66	2	72	2.558	ppb	2.558	32.93	663	5000	
As	75	2	72	1.340	ppb	1.340	17.55	149	2000	
Se	78	1	72	0.135	ppb	0.135	36.92	119	2000	
Sr	88	2	72	2443.882	ppb	2443.882	0.59	578717	4000	
Zr	90	2	72	23.680	ppb	23.680	12.90	183	1000	
Nb	93	2	72	0.003	ppb	0.003	376.79	93	200	
Mo	95	2	115	0.887	ppb	0.887	3.02	767	2000	
Pd	105	2	115	0.014	ppb	0.014	172.87	37	100	
Ag	107	2	115	0.003	ppb	0.003	146.46	17	100	
Cd	111	2	115	0.025	ppb	0.025	249.33	10	2000	
Sn	120	2	115	0.091	ppb	0.091	66.70	110	2000	
Sb	121	2	115	0.107	ppb	0.107	34.71	70	1000	
Ba	137	2	115	195.432	ppb	195.432	1.99	31123	5000	
W	182	2	165	0.127	ppb	0.127	16.75	1180	100	
Pt	195	2	165	-0.002	ppb	-0.002	-60.69	120	100	
Tl	205	2	165	0.043	ppb	0.043	17.64	547	2000	
Pb	208	2	165	0.073	ppb	0.073	8.09	2240	5000	
Th	232	2	165	0.078	ppb	0.078	11.85	1123	2000	
U	238	2	165	0.074	ppb	0.074	12.42	1237	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	889314	0.24	1030374	86.31	60	120	
Sc (IS)	45	1	HMI H2	47447456	0.90	50049516	94.80	60	120	
Sc (IS)	45	2	HMI He	440743	1.23	455282	96.81	60	120	
Sc (IS)	45	3	No Gas	127536831	0.12	129118738	98.77	60	120	
Ge Internal Standard	72	1	HMI H2	23153575	0.20	25231850	91.76	60	120	
Ge Internal Standard	72	2	HMI He	696250	1.48	724676	96.08	60	120	
In Internal Standard	115	2	HMI He	1665049	2.48	1743517	95.50	60	120	
Ho-165	165	2	HMI He	14398314	0.61	14982339	96.10	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	033_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:18:56-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	507.736	ppb	1.014	256357	500	101.5	90	110	
Li	7	2	45	459.357	ppb	4.299	12054	500	91.9	90	110	
Li	7	3	45	501.685	ppb	1.521	12995155	500	100.3	90	110	
Be	9	1	6	51.418	ppb	5.259	16818	50	102.8	90	110	
B	11	1	6	14.912	ppb	8.544	33464	50	29.8	90	110	>+\-10%
Na	23	1	45	5227.873	ppb	0.307	20911388	5000	104.6	90	110	
Na	23	2	45	5170.949	ppb	1.122	643416	5000	103.4	90	110	
Mg	24	2	45	5139.325	ppb	1.150	266962	5000	102.8	90	110	
Al	27	2	45	5164.595	ppb	1.512	50360	5000	103.3	90	110	
K	39	1	45	5134.346	ppb	0.801	32397743	5000	102.7	90	110	
K	39	2	45	5176.837	ppb	3.356	100920	5000	103.5	90	110	
Ca	40	1	45	5157.102	ppb	0.254	38151569	5000	103.1	90	110	
Ca	44	2	45	4989.057	ppb	6.946	6321	5000	99.8	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	52.161	ppb	1.564	41987	50	104.3	90	110	
Cr	52	2	72	52.493	ppb	1.760	56861	50	105.0	90	110	
Mn	55	2	72	51.987	ppb	5.432	14503	50	104.0	90	110	
Fe	57	2	72	5062.347	ppb	0.178	97345	5000	101.2	90	110	
Co	59	2	72	51.787	ppb	0.592	127854	50	103.6	90	110	
Ni	60	2	72	52.240	ppb	2.146	39271	50	104.5	90	110	
Cu	63	2	72	51.130	ppb	1.113	119922	50	102.3	90	110	
Zn	66	2	72	52.203	ppb	0.876	9653	50	104.4	90	110	
As	75	2	72	50.805	ppb	1.651	5561	50	101.6	90	110	
Se	78	1	72	51.126	ppb	1.455	29441	50	102.3	90	110	
Sr	88	2	72	50.003	ppb	1.272	12218	50	100.0	90	110	
Zr	90	2	72	144.424	ppb	27.830	1017	50	288.8	90	110	>+\-10%
Nb	93	2	72	98.440	ppb	0.710	331536	100	98.4	90	110	
Mo	95	2	115	50.474	ppb	2.565	43964	50	100.9	90	110	
Pd	105	2	115	50.863	ppb	2.139	86364	50	101.7	90	110	
Ag	107	2	115	51.096	ppb	3.220	182142	50	102.2	90	110	
Cd	111	2	115	52.379	ppb	3.642	15224	50	104.8	90	110	
Sn	120	2	115	51.203	ppb	2.081	34302	50	102.4	90	110	
Sb	121	2	115	51.282	ppb	3.651	29987	50	102.6	90	110	
Ba	137	2	115	51.147	ppb	8.059	8376	50	102.3	90	110	
W	182	2	165	49.516	ppb	1.732	351041	50	99.0	90	110	
Pt	195	2	165	48.693	ppb	0.839	365638	50	97.4	90	110	
Tl	205	2	165	51.413	ppb	1.239	469618	50	102.8	90	110	
Pb	208	2	165	51.479	ppb	0.851	609709	50	103.0	90	110	
Th	232	2	165	51.156	ppb	0.433	730211	50	102.3	90	110	
U	238	2	165	51.033	ppb	0.065	840338	50	102.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1002304	1.53	1030374	97.28	60	120	
Sc (IS)	45	1	HMI H2	49093728	0.42	50049516	98.09	60	120	
Sc (IS)	45	2	HMI He	453272	0.90	455282	99.56	60	120	
Sc (IS)	45	3	No Gas	127245928	0.57	129118738	98.55	60	120	
Ge Internal Standard	72	1	HMI H2	24820936	0.49	25231850	98.37	60	120	
Ge Internal Standard	72	2	HMI He	717539	0.50	724676	99.02	60	120	
In Internal Standard	115	2	HMI He	1711931	1.32	1743517	98.19	60	120	
Ho-165	165	2	HMI He	14592354	0.30	14982339	97.40	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	034_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:22:44-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.376	ppb	-61.1	3938434	10	
Be	9	1	6	0.030	ppb	173.2	10	0.5	
B	11	1	6	-22.101	ppb	-5.6	20095	0.5	
Na	23	1	45	50.661	ppb	1.3	311311	25	>RL
Na	23	2	45	47.287	ppb	9.3	10744	25	>RL
Mg	24	2	45	-4.201	ppb	-18.1	270	25	
Al	27	2	45	1.991	ppb	298.3	53	15	
K	39	1	45	-27.542	ppb	-25.2	9876882	50	
K	39	2	45	32.321	ppb	25.7	5001	50	
Ca	40	1	45	12.931	ppb	5.3	170981	50	
Ca	44	2	45	-0.102	ppb	-7675.8	30	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	0.001	ppb	1131.9	89	1	
Cr	52	2	72	-0.025	ppb	-149.9	267	1	
Mn	55	2	72	0.011	ppb	817.7	20	0.5	
Fe	57	2	72	1.705	ppb	46.9	103	25	
Co	59	2	72	0.012	ppb	117.4	57	0.5	
Ni	60	2	72	-0.005	ppb	-418.5	87	1	
Cu	63	2	72	-0.089	ppb	-93.8	3931	1	
Zn	66	2	72	0.032	ppb	862.6	230	5	
As	75	2	72	0.041	ppb	227.6	12	1	
Se	78	1	72	0.035	ppb	97.6	71	1	
Sr	88	2	72	0.054	ppb	199.4	30	0.5	
Zr	90	2	72	3.841	ppb	108.8	53	1	>RL
Nb	93	2	72	0.747	ppb	2.7	2634	2	
Mo	95	2	115	0.053	ppb	87.3	63	0.5	
Pd	105	2	115	0.103	ppb	35.6	190	1	
Ag	107	2	115	0.015	ppb	82.0	60	1	
Cd	111	2	115	0.034	ppb	114.9	13	0.5	
Sn	120	2	115	0.040	ppb	130.4	80	1	
Sb	121	2	115	0.169	ppb	1.7	110	0.6	
Ba	137	2	115	0.040	ppb	312.8	17	0.5	
W	182	2	165	0.073	ppb	31.5	827	1	
Pt	195	2	165	0.001	ppb	1136.0	147	1	
Tl	205	2	165	0.043	ppb	30.2	567	0.1	
Pb	208	2	165	0.033	ppb	24.8	1830	0.5	
Th	232	2	165	0.050	ppb	15.1	760	1	
U	238	2	165	0.017	ppb	39.4	307	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1029866	0.94	1030374	99.95	60	120	
Sc (IS)	45	1	HMI H2	49688578	0.38	50049516	99.28	60	120	
Sc (IS)	45	2	HMI He	458404	0.22	455282	100.69	60	120	
Sc (IS)	45	3	No Gas	127378165	1.16	129118738	98.65	60	120	
Ge Internal Standard	72	1	HMI H2	25135170	0.32	25231850	99.62	60	120	
Ge Internal Standard	72	2	HMI He	726409	0.47	724676	100.24	60	120	
In Internal Standard	115	2	HMI He	1733422	1.54	1743517	99.42	60	120	
Ho-165	165	2	HMI He	14830655	0.87	14982339	98.99	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-5-c
Data File Name	035SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:26:32-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.710	ppb	2.710	92.89	77753	500000	
Li	7	2	45	2.807	ppb	2.807	800.53	3807	500000	
Li	7	3	45	-5.641	ppb	-5.641	-15.49	3881273	50000	
Be	9	1	6	0.020	ppb	0.020	86.61	7	2000	
B	11	1	6	-4.101	ppb	-4.101	-7.16	26703	2000	
Na	23	1	45	11449.234	ppb	11449.234	0.81	46066408	2000	>LDR
Na	23	2	45	11582.729	ppb	11582.729	2.31	1430256	400000	
Mg	24	2	45	2025.250	ppb	2025.250	3.60	105120	400000	
Al	27	2	45	4.810	ppb	4.810	41.49	80	400000	
K	39	1	45	2684.676	ppb	2684.676	1.81	21841226	400000	
K	39	2	45	2393.634	ppb	2393.634	0.46	48840	400000	
Ca	40	1	45	61607.088	ppb	61607.088	0.91	458896860	400000	
Ca	44	2	45	60339.760	ppb	60339.760	1.68	75860	400000	
Ti	47	2	45	8349.344	ppb	8349.344	347.60	7	4000	
V	51	2	72	0.445	ppb	0.445	54.88	449	2000	
Cr	52	2	72	0.254	ppb	0.254	21.00	567	5000	
Mn	55	2	72	7.844	ppb	7.844	7.45	2214	10000	
Fe	57	2	72	157.066	ppb	157.066	10.09	3104	400000	
Co	59	2	72	0.027	ppb	0.027	15.89	93	2000	
Ni	60	2	72	0.063	ppb	0.063	120.69	137	5000	
Cu	63	2	72	-0.029	ppb	-0.029	-617.33	4034	5000	
Zn	66	2	72	1.178	ppb	1.178	39.93	437	5000	
As	75	2	72	0.316	ppb	0.316	4.69	42	2000	
Se	78	1	72	0.052	ppb	0.052	79.52	80	2000	
Sr	88	2	72	426.520	ppb	426.520	0.91	104566	4000	
Zr	90	2	72	13.589	ppb	13.589	59.76	120	1000	
Nb	93	2	72	0.328	ppb	0.328	20.06	1197	200	
Mo	95	2	115	2.079	ppb	2.079	9.05	1844	2000	
Pd	105	2	115	0.082	ppb	0.082	21.51	153	100	
Ag	107	2	115	0.030	ppb	0.030	129.46	113	100	
Cd	111	2	115	0.023	ppb	0.023	147.64	10	2000	
Sn	120	2	115	0.085	ppb	0.085	63.13	110	2000	
Sb	121	2	115	0.079	ppb	0.079	45.02	57	1000	
Ba	137	2	115	9.826	ppb	9.826	13.03	1633	5000	
W	182	2	165	0.064	ppb	0.064	6.27	767	100	
Pt	195	2	165	-0.002	ppb	-0.002	-352.21	123	100	
Tl	205	2	165	0.021	ppb	0.021	11.64	363	2000	
Pb	208	2	165	0.036	ppb	0.036	26.72	1873	5000	
Th	232	2	165	0.059	ppb	0.059	11.49	897	2000	
U	238	2	165	0.061	ppb	0.061	22.57	1063	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1016934	0.98	1030374	98.70	60	120	
Sc (IS)	45	1	HMI H2	49519389	0.28	50049516	98.94	60	120	
Sc (IS)	45	2	HMI He	451731	1.32	455282	99.22	60	120	
Sc (IS)	45	3	No Gas	127423775	0.37	129118738	98.69	60	120	
Ge Internal Standard	72	1	HMI H2	24826347	0.44	25231850	98.39	60	120	
Ge Internal Standard	72	2	HMI He	720712	1.29	724676	99.45	60	120	
In Internal Standard	115	2	HMI He	1727839	0.41	1743517	99.10	60	120	
Ho-165	165	2	HMI He	14915008	0.61	14982339	99.55	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-6-c
Data File Name	036SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:30:19-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.955	ppb	-5.955	-29.69	73130	500000	
Li	7	2	45	10.075	ppb	10.075	149.11	3951	500000	
Li	7	3	45	-4.726	ppb	-4.726	-12.05	3934287	50000	
Be	9	1	6	0.074	ppb	0.074	107.76	23	2000	
B	11	1	6	3.823	ppb	3.823	25.12	27912	2000	
Na	23	1	45	167791.491	ppb	167791.491	0.24	659953150	2000	>LDR
Na	23	2	45	161797.809	ppb	161797.809	1.30	19993981	400000	
Mg	24	2	45	9182.293	ppb	9182.293	1.03	476752	400000	
Al	27	2	45	5.458	ppb	5.458	69.88	87	400000	
K	39	1	45	2063.614	ppb	2063.614	0.68	18705661	400000	
K	39	2	45	1574.483	ppb	1574.483	2.30	33729	400000	
Ca	40	1	45	133299.821	ppb	133299.821	0.18	972644572	400000	
Ca	44	2	45	131822.007	ppb	131822.007	0.51	166335	400000	
Ti	47	2	45	8324.378	ppb	8324.378	348.13	7	4000	
V	51	2	72	0.521	ppb	0.521	133.17	499	2000	
Cr	52	2	72	6.583	ppb	6.583	3.85	7278	5000	
Mn	55	2	72	16.755	ppb	16.755	3.20	4617	10000	
Fe	57	2	72	2926.364	ppb	2926.364	1.57	55487	400000	
Co	59	2	72	0.051	ppb	0.051	35.71	150	2000	
Ni	60	2	72	0.265	ppb	0.265	22.02	283	5000	
Cu	63	2	72	0.632	ppb	0.632	16.33	5438	5000	
Zn	66	2	72	2.651	ppb	2.651	6.08	690	5000	
As	75	2	72	0.893	ppb	0.893	8.88	103	2000	
Se	78	1	72	0.042	ppb	0.042	74.44	72	2000	
Sr	88	2	72	1330.154	ppb	1330.154	0.33	319892	4000	
Zr	90	2	72	5.991	ppb	5.991	74.14	67	1000	
Nb	93	2	72	0.195	ppb	0.195	9.73	733	200	
Mo	95	2	115	0.994	ppb	0.994	20.53	880	2000	
Pd	105	2	115	0.065	ppb	0.065	28.28	123	100	
Ag	107	2	115	0.008	ppb	0.008	57.52	33	100	
Cd	111	2	115	0.035	ppb	0.035	57.17	13	2000	
Sn	120	2	115	0.152	ppb	0.152	31.74	153	2000	
Sb	121	2	115	0.097	ppb	0.097	35.79	67	1000	
Ba	137	2	115	60.951	ppb	60.951	2.29	9980	5000	
W	182	2	165	0.035	ppb	0.035	28.31	550	100	
Pt	195	2	165	-0.001	ppb	-0.001	-759.28	137	100	
Tl	205	2	165	0.015	ppb	0.015	62.82	307	2000	
Pb	208	2	165	0.267	ppb	0.267	1.56	4640	5000	
Th	232	2	165	0.046	ppb	0.046	5.67	690	2000	
U	238	2	165	0.057	ppb	0.057	12.80	977	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	954993	0.96	1030374	92.68	60	120	
Sc (IS)	45	1	HMI H2	48511779	0.05	50049516	96.93	60	120	
Sc (IS)	45	2	HMI He	453420	0.80	455282	99.59	60	120	
Sc (IS)	45	3	No Gas	128618501	0.72	129118738	99.61	60	120	
Ge Internal Standard	72	1	HMI H2	24150609	0.30	25231850	95.71	60	120	
Ge Internal Standard	72	2	HMI He	707117	0.68	724676	97.58	60	120	
In Internal Standard	115	2	HMI He	1710660	0.77	1743517	98.12	60	120	
Ho-165	165	2	HMI He	14836982	0.64	14982339	99.03	60	120	

Sample Report

Sample Table

Sample Name	280-90238-c-7-c
Data File Name	037SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:34:07-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.849	ppb	-3.849	-168.16	74857	500000	
Li	7	2	45	-0.282	ppb	-0.282	-4915.29	3794	500000	
Li	7	3	45	-4.904	ppb	-4.904	-38.23	4036977	50000	
Be	9	1	6	0.021	ppb	0.021	86.65	7	2000	
B	11	1	6	0.914	ppb	0.914	208.88	27131	2000	
Na	23	1	45	151463.835	ppb	151463.835	0.67	603788484	2000	>LDR
Na	23	2	45	145796.143	ppb	145796.143	2.45	18156500	400000	
Mg	24	2	45	6770.771	ppb	6770.771	2.22	354385	400000	
Al	27	2	45	21.730	ppb	21.730	13.19	247	400000	
K	39	1	45	1869.952	ppb	1869.952	1.68	18107051	400000	
K	39	2	45	1437.007	ppb	1437.007	1.01	31412	400000	
Ca	40	1	45	132842.017	ppb	132842.017	0.81	982390065	400000	
Ca	44	2	45	132302.617	ppb	132302.617	2.13	168231	400000	
Ti	47	2	45	16537.076	ppb	16537.076	3.54	10	4000	
V	51	2	72	0.627	ppb	0.627	27.50	587	2000	
Cr	52	2	72	1.494	ppb	1.494	6.70	1887	5000	
Mn	55	2	72	19.427	ppb	19.427	4.89	5391	10000	
Fe	57	2	72	2512.430	ppb	2512.430	0.48	47999	400000	
Co	59	2	72	0.071	ppb	0.071	12.05	200	2000	
Ni	60	2	72	0.176	ppb	0.176	65.63	220	5000	
Cu	63	2	72	0.629	ppb	0.629	14.08	5471	5000	
Zn	66	2	72	2.195	ppb	2.195	19.73	613	5000	
As	75	2	72	0.754	ppb	0.754	26.25	89	2000	
Se	78	1	72	0.065	ppb	0.065	81.08	85	2000	
Sr	88	2	72	1199.521	ppb	1199.521	0.75	290632	4000	
Zr	90	2	72	5.443	ppb	5.443	67.35	63	1000	
Nb	93	2	72	0.142	ppb	0.142	5.09	560	200	
Mo	95	2	115	1.297	ppb	1.297	23.96	1147	2000	
Pd	105	2	115	0.045	ppb	0.045	45.45	90	100	
Ag	107	2	115	0.003	ppb	0.003	150.54	17	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.127	ppb	0.127	43.28	137	2000	
Sb	121	2	115	0.046	ppb	0.046	57.28	37	1000	
Ba	137	2	115	32.022	ppb	32.022	5.95	5251	5000	
W	182	2	165	0.026	ppb	0.026	18.78	487	100	
Pt	195	2	165	-0.005	ppb	-0.005	-77.97	103	100	
Tl	205	2	165	0.016	ppb	0.016	10.14	310	2000	
Pb	208	2	165	0.346	ppb	0.346	4.40	5577	5000	
Th	232	2	165	0.034	ppb	0.034	7.10	517	2000	
U	238	2	165	0.334	ppb	0.334	3.37	5601	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	964455	1.86	1030374	93.60	60	120	
Sc (IS)	45	1	HMI H2	49166756	0.63	50049516	98.24	60	120	
Sc (IS)	45	2	HMI He	457054	2.35	455282	100.39	60	120	
Sc (IS)	45	3	No Gas	132083621	0.06	129118738	102.30	60	120	
Ge Internal Standard	72	1	HMI H2	24397584	1.15	25231850	96.69	60	120	
Ge Internal Standard	72	2	HMI He	712385	0.48	724676	98.30	60	120	
In Internal Standard	115	2	HMI He	1710934	1.38	1743517	98.13	60	120	
Ho-165	165	2	HMI He	14794511	1.13	14982339	98.75	60	120	

Sample Table

Sample Name	280-90238-c-8-c
Data File Name	038SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:37:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-15.936	ppb	-15.936	-9.38	65231	500000	
Li	7	2	45	-30.151	ppb	-30.151	-29.11	3057	500000	
Li	7	3	45	-3.732	ppb	-3.732	-36.00	3891530	50000	
Be	9	1	6	0.065	ppb	0.065	69.28	17	2000	
B	11	1	6	274.267	ppb	274.267	0.35	102629	2000	
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	
Na	23	2	45	1530166.209	ppb	1530166.209	0.53	179319617	400000	
Mg	24	2	45	155159.712	ppb	155159.712	0.92	7634225	400000	
Al	27	2	45	128.411	ppb	128.411	33.02	1217	400000	
K	39	1	45	37600.611	ppb	37600.611	1.03	161798218	400000	
K	39	2	45	35203.513	ppb	35203.513	0.25	627338	400000	
Ca	40	1	45	259176.746	ppb	259176.746	1.38	1771508347	400000	
Ca	44	2	45	249692.294	ppb	249692.294	1.07	298807	400000	
Ti	47	2	45	26997.511	ppb	26997.511	57.78	13	4000	>LDR
V	51	2	72	1.128	ppb	1.128	19.08	908	2000	
Cr	52	2	72	0.282	ppb	0.282	11.16	543	5000	
Mn	55	2	72	38.427	ppb	38.427	2.91	9800	10000	
Fe	57	2	72	8361.815	ppb	8361.815	1.52	146885	400000	
Co	59	2	72	0.083	ppb	0.083	15.98	210	2000	
Ni	60	2	72	0.174	ppb	0.174	69.05	200	5000	
Cu	63	2	72	-0.056	ppb	-0.056	-133.55	3617	5000	
Zn	66	2	72	1.766	ppb	1.766	36.48	493	5000	
As	75	2	72	0.771	ppb	0.771	28.12	84	2000	
Se	78	1	72	0.258	ppb	0.258	29.88	172	2000	
Sr	88	2	72	2615.702	ppb	2615.702	0.79	583332	4000	
Zr	90	2	72	21.595	ppb	21.595	32.10	160	1000	
Nb	93	2	72	0.125	ppb	0.125	18.97	463	200	
Mo	95	2	115	0.534	ppb	0.534	2.91	443	2000	
Pd	105	2	115	0.056	ppb	0.056	40.41	100	100	
Ag	107	2	115	0.016	ppb	0.016	72.76	60	100	
Cd	111	2	115	0.002	ppb	0.002	1378.32	3	2000	
Sn	120	2	115	0.197	ppb	0.197	49.14	170	2000	
Sb	121	2	115	0.119	ppb	0.119	93.54	73	1000	
Ba	137	2	115	418.900	ppb	418.900	0.87	63194	5000	
W	182	2	165	0.056	ppb	0.056	16.85	650	100	
Pt	195	2	165	-0.002	ppb	-0.002	-107.77	117	100	
Tl	205	2	165	0.036	ppb	0.036	70.68	463	2000	
Pb	208	2	165	0.207	ppb	0.207	19.15	3634	5000	
Th	232	2	165	0.069	ppb	0.069	3.38	960	2000	
U	238	2	165	0.073	ppb	0.073	4.04	1157	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	786037	0.18	1030374	76.29	60	120	
Sc (IS)	45	1	HMI H2	45446974	0.55	50049516	90.80	60	120	
Sc (IS)	45	2	HMI He	430050	0.76	455282	94.46	60	120	
Sc (IS)	45	3	No Gas	126640921	0.40	129118738	98.08	60	120	
Ge Internal Standard	72	1	HMI H2	21557158	0.23	25231850	85.44	60	120	
Ge Internal Standard	72	2	HMI He	655720	1.62	724676	90.48	60	120	
In Internal Standard	115	2	HMI He	1577427	1.64	1743517	90.47	60	120	
Ho-165	165	2	HMI He	13747554	0.58	14982339	91.76	60	120	

Sample Table

Sample Name	280-90238-c-9-c
Data File Name	039SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:41:46-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350329 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-2.837	ppb	-2.837	-21.78	78863	500000	
Li	7	2	45	3.474	ppb	3.474	645.82	3914	500000	
Li	7	3	45	-2.895	ppb	-2.895	-77.46	4043572	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-18.626	ppb	-18.626	-0.32	21707	2000	
Na	23	1	45	712.582	ppb	712.582	8.47	3088182	2000	
Na	23	2	45	518.297	ppb	518.297	7.76	70315	400000	
Mg	24	2	45	24.424	ppb	24.424	33.93	1787	400000	
Al	27	2	45	1.308	ppb	1.308	361.84	47	400000	
K	39	1	45	240.747	ppb	240.747	6.40	11481388	400000	
K	39	2	45	16.083	ppb	16.083	115.26	4744	400000	
Ca	40	1	45	116.016	ppb	116.016	10.10	976369	400000	
Ca	44	2	45	40.768	ppb	40.768	44.96	83	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.028	ppb	-0.028	-616.29	66	2000	
Cr	52	2	72	0.617	ppb	0.617	3.04	973	5000	
Mn	55	2	72	0.128	ppb	0.128	78.67	53	10000	
Fe	57	2	72	9.348	ppb	9.348	28.61	253	400000	
Co	59	2	72	-0.003	ppb	-0.003	-148.19	20	2000	
Ni	60	2	72	0.073	ppb	0.073	27.80	147	5000	
Cu	63	2	72	-0.012	ppb	-0.012	-860.54	4134	5000	
Zn	66	2	72	1.129	ppb	1.129	31.00	433	5000	
As	75	2	72	0.023	ppb	0.023	266.94	10	2000	
Se	78	1	72	0.013	ppb	0.013	187.67	60	2000	
Sr	88	2	72	0.495	ppb	0.495	23.67	140	4000	
Zr	90	2	72	6.632	ppb	6.632	81.22	73	1000	
Nb	93	2	72	0.041	ppb	0.041	12.02	227	200	
Mo	95	2	115	0.015	ppb	0.015	327.26	30	2000	
Pd	105	2	115	0.028	ppb	0.028	58.27	63	100	
Ag	107	2	115	0.004	ppb	0.004	90.96	23	100	
Cd	111	2	115	0.022	ppb	0.022	259.22	10	2000	
Sn	120	2	115	0.080	ppb	0.080	47.90	110	2000	
Sb	121	2	115	0.027	ppb	0.027	174.86	27	1000	
Ba	137	2	115	0.136	ppb	0.136	49.34	33	5000	
W	182	2	165	0.016	ppb	0.016	111.61	420	100	
Pt	195	2	165	-0.004	ppb	-0.004	-109.07	113	100	
Tl	205	2	165	0.005	ppb	0.005	117.86	213	2000	
Pb	208	2	165	0.002	ppb	0.002	1191.70	1470	5000	
Th	232	2	165	0.009	ppb	0.009	28.83	167	2000	
U	238	2	165	0.002	ppb	0.002	104.56	67	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1042768	1.29	1030374	101.20	60	120	
Sc (IS)	45	1	HMI H2	51544578	0.65	50049516	102.99	60	120	
Sc (IS)	45	2	HMI He	463634	1.73	455282	101.83	60	120	
Sc (IS)	45	3	No Gas	131084751	0.20	129118738	101.52	60	120	
Ge Internal Standard	72	1	HMI H2	26020291	0.33	25231850	103.12	60	120	
Ge Internal Standard	72	2	HMI He	731006	0.84	724676	100.87	60	120	
In Internal Standard	115	2	HMI He	1780328	0.82	1743517	102.11	60	120	
Ho-165	165	2	HMI He	15028306	1.23	14982339	100.31	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	040_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:45:33-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	502.376	ppb	1.542	265131	500	100.5	90	110	
Li	7	2	45	464.549	ppb	5.118	12808	500	92.9	90	110	
Li	7	3	45	499.165	ppb	1.048	13419552	500	99.8	90	110	
Be	9	1	6	51.798	ppb	2.092	17572	50	103.6	90	110	
B	11	1	6	17.492	ppb	7.348	35692	50	35.0	90	110	>+\-10%
Na	23	1	45	5322.814	ppb	0.646	22182203	5000	106.5	90	110	
Na	23	2	45	5188.829	ppb	2.156	680867	5000	103.8	90	110	
Mg	24	2	45	5058.112	ppb	2.215	277094	5000	101.2	90	110	
Al	27	2	45	5109.384	ppb	3.094	52540	5000	102.2	90	110	
K	39	1	45	5155.003	ppb	0.759	33850869	5000	103.1	90	110	
K	39	2	45	5091.398	ppb	1.214	104765	5000	101.8	90	110	
Ca	40	1	45	5152.789	ppb	1.089	39718085	5000	103.1	90	110	
Ca	44	2	45	4912.948	ppb	6.656	6565	5000	98.3	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	53.766	ppb	4.551	45461	50	107.5	90	110	
Cr	52	2	72	51.385	ppb	3.674	58473	50	102.8	90	110	
Mn	55	2	72	52.980	ppb	3.445	15527	50	106.0	90	110	
Fe	57	2	72	4947.812	ppb	3.016	99952	5000	99.0	90	110	
Co	59	2	72	51.132	ppb	1.540	132613	50	102.3	90	110	
Ni	60	2	72	51.656	ppb	1.331	40791	50	103.3	90	110	
Cu	63	2	72	50.649	ppb	2.312	124839	50	101.3	90	110	
Zn	66	2	72	53.555	ppb	4.022	10397	50	107.1	90	110	
As	75	2	72	51.025	ppb	0.670	5867	50	102.1	90	110	
Se	78	1	72	51.621	ppb	1.707	30923	50	103.2	90	110	
Sr	88	2	72	50.852	ppb	3.852	13052	50	101.7	90	110	
Zr	90	2	72	27.148	ppb	32.727	223	50	54.3	90	110	>+\-10%
Nb	93	2	72	97.168	ppb	2.412	343800	100	97.2	90	110	
Mo	95	2	115	51.527	ppb	3.166	47446	50	103.1	90	110	
Pd	105	2	115	50.520	ppb	4.831	90656	50	101.0	90	110	
Ag	107	2	115	50.441	ppb	4.721	190042	50	100.9	90	110	
Cd	111	2	115	51.943	ppb	7.392	15955	50	103.9	90	110	
Sn	120	2	115	51.005	ppb	3.293	36122	50	102.0	90	110	
Sb	121	2	115	48.713	ppb	4.849	30107	50	97.4	90	110	
Ba	137	2	115	50.858	ppb	0.732	8813	50	101.7	90	110	
W	182	2	165	48.167	ppb	2.684	362675	50	96.3	90	110	
Pt	195	2	165	47.030	ppb	2.564	375077	50	94.1	90	110	
Tl	205	2	165	50.450	ppb	1.578	489456	50	100.9	90	110	
Pb	208	2	165	50.049	ppb	2.042	629629	50	100.1	90	110	
Th	232	2	165	49.673	ppb	1.941	753075	50	99.3	90	110	
U	238	2	165	49.323	ppb	2.356	862589	50	98.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1039188	1.91	1030374	100.86	60	120	
Sc (IS)	45	1	HMI H2	51153626	0.42	50049516	102.21	60	120	
Sc (IS)	45	2	HMI He	478008	0.33	455282	104.99	60	120	
Sc (IS)	45	3	No Gas	131854785	0.69	129118738	102.12	60	120	
Ge Internal Standard	72	1	HMI H2	25821530	0.35	25231850	102.34	60	120	
Ge Internal Standard	72	2	HMI He	753816	0.54	724676	104.02	60	120	
In Internal Standard	115	2	HMI He	1810288	2.53	1743517	103.83	60	120	
Ho-165	165	2	HMI He	15499953	0.92	14982339	103.45	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	041_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:49:19-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-4.112	ppb	-23.7	4156496	10	
Be	9	1	6	0.019	ppb	86.6	7	0.5	
B	11	1	6	-21.902	ppb	-3.0	20993	0.5	
Na	23	1	45	145.874	ppb	0.9	725105	25	>RL
Na	23	2	45	144.860	ppb	2.4	24003	25	>RL
Mg	24	2	45	0.391	ppb	682.6	533	25	
Al	27	2	45	2.088	ppb	73.9	57	15	
K	39	1	45	-44.641	ppb	-9.3	10228124	50	
K	39	2	45	15.364	ppb	83.1	4901	50	
Ca	40	1	45	14.304	ppb	2.1	189147	50	
Ca	44	2	45	-6.040	ppb	-194.6	23	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.029	ppb	-607.4	68	1	
Cr	52	2	72	-0.043	ppb	-113.6	257	1	
Mn	55	2	72	-0.025	ppb	-134.8	10	0.5	
Fe	57	2	72	3.477	ppb	43.0	143	25	
Co	59	2	72	0.001	ppb	1715.1	30	0.5	
Ni	60	2	72	-0.026	ppb	-75.1	73	1	
Cu	63	2	72	-0.029	ppb	-109.8	4231	1	
Zn	66	2	72	-0.314	ppb	-94.1	173	5	
As	75	2	72	0.037	ppb	79.3	12	1	
Se	78	1	72	0.020	ppb	87.6	64	1	
Sr	88	2	72	0.075	ppb	31.1	37	0.5	
Zr	90	2	72	1.708	ppb	218.1	40	1	>RL
Nb	93	2	72	0.833	ppb	6.8	3044	2	
Mo	95	2	115	0.065	ppb	34.1	77	0.5	
Pd	105	2	115	0.059	ppb	48.0	120	1	
Ag	107	2	115	0.010	ppb	110.3	43	1	
Cd	111	2	115	0.000	ppb	17832.7	3	0.5	
Sn	120	2	115	0.055	ppb	79.0	93	1	
Sb	121	2	115	0.129	ppb	35.7	90	0.6	
Ba	137	2	115	-0.060	ppb	0.0	0	0.5	
W	182	2	165	0.048	ppb	41.6	673	1	
Pt	195	2	165	0.006	ppb	83.5	200	1	
Tl	205	2	165	0.033	ppb	23.1	497	0.1	
Pb	208	2	165	0.029	ppb	53.7	1860	0.5	
Th	232	2	165	0.043	ppb	6.0	690	1	
U	238	2	165	0.016	ppb	34.9	313	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1071720	1.47	1030374	104.01	60	120	
Sc (IS)	45	1	HMI H2	51854068	0.36	50049516	103.61	60	120	
Sc (IS)	45	2	HMI He	479840	1.42	455282	105.39	60	120	
Sc (IS)	45	3	No Gas	135499695	0.45	129118738	104.94	60	120	
Ge Internal Standard	72	1	HMI H2	25886911	0.74	25231850	102.60	60	120	
Ge Internal Standard	72	2	HMI He	755346	0.93	724676	104.23	60	120	
In Internal Standard	115	2	HMI He	1795159	1.90	1743517	102.96	60	120	
Ho-165	165	2	HMI He	15509551	0.32	14982339	103.52	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350324/1-a
Data File Name	042_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:53:08-07:00
Sample Type	Blank
Dilution	1
Comment	350324 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-0.791	ppb	-290.1860015	81067	0.5
Li	7	2	45	2.838	ppb	87.16042247	4011	0.5
Li	7	3	45	-3.662	ppb	-67.32340865	4229309	10
Be	9	1	6	0.019	ppb	173.2050808	7	0.5
B	11	1	6	-21.177	ppb	-5.721517273	21166	0.5
Na	23	1	45	140.564	ppb	1.095025626	711236	25
Na	23	2	45	140.233	ppb	3.254451652	23205	25
Mg	24	2	45	0.603	ppb	287.4291673	543	25
Al	27	2	45	3.424	ppb	27.8854404	70	15
K	39	1	45	269.371	ppb	8.539475139	11823174	50
K	39	2	45	17.257	ppb	68.31744034	4898	50
Ca	40	1	45	63.912	ppb	1.187879509	582978	50
Ca	44	2	45	24.162	ppb	14.97043911	63	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	-0.171	ppb	-52.08987749	-51	1
Cr	52	2	72	0.114	ppb	40.62495513	430	1
Mn	55	2	72	0.161	ppb	93.43650262	63	0.5
Fe	57	2	72	4.727	ppb	36.42697517	167	25
Co	59	2	72	0.000	ppb	-3343.854721	27	0.5
Ni	60	2	72	-0.004	ppb	-80.92693754	90	1
Cu	63	2	72	-0.007	ppb	-1927.133848	4237	1
Zn	66	2	72	2.659	ppb	28.4559348	733	5
As	75	2	72	0.039	ppb	199.8408108	12	1
Se	78	1	72	0.287	ppb	7.104402556	228	1
Sr	88	2	72	0.062	ppb	199.9078744	33	0.5
Zr	90	2	72	-0.119	ppb	-1769.189995	27	1
Nb	93	2	72	0.381	ppb	11.74345682	1423	2
Mo	95	2	115	0.029	ppb	62.16008366	43	0.5
Pd	105	2	115	0.058	ppb	55.4941088	120	1
Ag	107	2	115	0.007	ppb	20.81654276	33	1
Cd	111	2	115	-0.011	ppb	-1.48951E-06	0	0.5
Sn	120	2	115	0.129	ppb	82.78268235	147	1
Sb	121	2	115	0.053	ppb	75.37624481	43	0.6
Ba	137	2	115	-0.022	ppb	-299.5671107	7	0.5
W	182	2	165	0.025	ppb	43.15328298	493	1
Pt	195	2	165	-0.002	ppb	-128.4041585	130	1
Tl	205	2	165	0.018	ppb	20.75386793	340	0.1
Pb	208	2	165	0.035	ppb	50.59298312	1907	0.5
Th	232	2	165	0.038	ppb	6.961574231	607	1
U	238	2	165	0.009	ppb	38.01030525	190	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1065765	0.95	1030374	103.43	60	120	
Sc (IS)	45	1	HMI H2	52479483	0.75	50049516	104.86	60	120	
Sc (IS)	45	2	HMI He	476105	2.84	455282	104.57	60	120	
Sc (IS)	45	3	No Gas	137592011	0.47	129118738	106.56	60	120	
Ge Internal Standard	72	1	HMI H2	26321965	1.04	25231850	104.32	60	120	
Ge Internal Standard	72	2	HMI He	748251	2.53	724676	103.25	60	120	
In Internal Standard	115	2	HMI He	1818802	2.41	1743517	104.32	60	120	
Ho-165	165	2	HMI He	15324550	2.52	14982339	102.28	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350324/2-a
Data File Name	043_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T17:56:55-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350324 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	63.090	63.090	ppb	3.834	105397	400	15.8	80	120	>+/-20%
Li	7	2	45	62.019	62.019	ppb	4.158	5124	400	15.5	80	120	>+/-20%
Li	7	3	45	61.800	61.800	ppb	3.583	5481492	400	15.4	80	120	>+/-20%
Be	9	1	6	30.936	30.936	ppb	0.724	10884	40	77.3	80	120	>+/-20%
Na	23	2	45	122.669	122.669	ppb	1.930	20909	40	306.7	80	120	>+/-20%
Mg	24	2	45	-2.000	-2.000	ppb	-37.475	400	40	-5.0	80	120	>+/-20%
Al	27	2	45	310.090	310.090	ppb	5.722	3204	40	775.2	80	120	>+/-20%
K	39	2	45	18.606	18.606	ppb	80.691	4918	40	46.5	80	120	>+/-20%
Ca	44	2	45	258.585	258.585	ppb	4.484	373	40	646.5	80	120	>+/-20%
V	51	2	72	32.583	32.583	ppb	2.873	27774	40	81.5	80	120	
Cr	52	2	72	31.447	31.447	ppb	1.677	36147	40	78.6	80	120	>+/-20%
Mn	55	2	72	32.690	32.690	ppb	5.619	9653	40	81.7	80	120	
Fe	57	2	72	316.611	316.611	ppb	2.969	6508	40	791.5	80	120	>+/-20%
Co	59	2	72	32.133	32.133	ppb	0.624	83914	40	80.3	80	120	
Ni	60	2	72	31.875	31.875	ppb	1.589	25379	40	79.7	80	120	>+/-20%
Cu	63	2	72	31.039	31.039	ppb	0.583	78694	40	77.6	80	120	>+/-20%
Zn	66	2	72	33.019	33.019	ppb	6.279	6545	40	82.5	80	120	
As	75	2	72	31.064	31.064	ppb	1.107	3599	40	77.7	80	120	>+/-20%
Se	78	1	72	31.715	31.715	ppb	3.798	19359	40	79.3	80	120	>+/-20%
Nb	93	2	72	0.274	0.274	ppb	12.598	1067	40	0.7	80	120	>+/-20%
Mo	95	2	115	32.367	32.367	ppb	5.552	30261	40	80.9	80	120	
Pd	105	2	115	0.042	0.042	ppb	46.831	90	40	0.1	80	120	>+/-20%
Ag	107	2	115	31.144	31.144	ppb	0.893	119182	40	77.9	80	120	>+/-20%
Cd	111	2	115	31.498	31.498	ppb	5.432	9830	40	78.7	80	120	>+/-20%
Sn	120	2	115	31.061	31.061	ppb	1.829	22355	40	77.7	80	120	>+/-20%
Sb	121	2	115	30.970	30.970	ppb	1.856	19442	40	77.4	80	120	>+/-20%
Ba	137	2	115	31.050	31.050	ppb	3.028	5464	40	77.6	80	120	>+/-20%
W	182	2	165	29.837	29.837	ppb	1.539	225712	40	74.6	80	120	>+/-20%
Pt	195	2	165	-0.002	-0.002	ppb	-183.323	130	40	0.0	80	120	>+/-20%
Tl	205	2	165	31.074	31.074	ppb	0.279	302799	40	77.7	80	120	>+/-20%
Pb	208	2	165	31.426	31.426	ppb	0.830	397561	40	78.6	80	120	>+/-20%
Th	232	2	165	30.249	30.249	ppb	0.379	460553	40	75.6	80	120	>+/-20%
U	238	2	165	31.072	31.072	ppb	0.602	545725	40	77.7	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1077600	1.94	1030374	104.58	60	120	
Sc (IS)	45	1	HMI H2	52522113	0.67	50049516	104.94	60	120	
Sc (IS)	45	2	HMI He	475493	0.94	455282	104.44	60	120	
Sc (IS)	45	3	No Gas	137086455	0.68	129118738	106.17	60	120	
Ge Internal Standard	72	1	HMI H2	26284480	0.48	25231850	104.17	60	120	
Ge Internal Standard	72	2	HMI He	758911	0.42	724676	104.72	60	120	
In Internal Standard	115	2	HMI He	1837240	0.94	1743517	105.38	60	120	
Ho-165	165	2	HMI He	15563797	0.91	14982339	103.88	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-350324/3-a
Data File Name	044SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:00:43-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.374	ppb	60.374	4.20	105598	500000	
Li	7	2	45	66.069	ppb	66.069	8.12	5244	500000	
Li	7	3	45	61.279	ppb	61.279	2.49	5502283	50000	
Be	9	1	6	33.373	ppb	33.373	7.51	11587	2000	
B	11	1	6	4.653	ppb	4.653	53.81	31414	2000	
Na	23	1	45	92.900	ppb	92.900	1.09	514921	2000	
Na	23	2	45	102.382	ppb	102.382	5.72	18427	400000	
Mg	24	2	45	-0.838	ppb	-0.838	-73.43	467	400000	
Al	27	2	45	348.077	ppb	348.077	4.72	3624	400000	
K	39	1	45	235.058	ppb	235.058	6.05	11810175	400000	
K	39	2	45	17.861	ppb	17.861	111.20	4941	400000	
Ca	40	1	45	25.086	ppb	25.086	2.73	280018	400000	
Ca	44	2	45	254.481	ppb	254.481	27.12	370	400000	
Ti	47	2	45	54452.838	ppb	54452.838	108.14	27	4000	>LDR
V	51	2	72	33.485	ppb	33.485	2.13	28512	2000	
Cr	52	2	72	32.751	ppb	32.751	1.23	37597	5000	
Mn	55	2	72	32.863	ppb	32.863	3.48	9696	10000	
Fe	57	2	72	333.707	ppb	333.707	3.00	6848	400000	
Co	59	2	72	33.179	ppb	33.179	1.52	86560	2000	
Ni	60	2	72	32.543	ppb	32.543	0.03	25883	5000	
Cu	63	2	72	32.345	ppb	32.345	1.14	81748	5000	
Zn	66	2	72	34.753	ppb	34.753	4.49	6868	5000	
As	75	2	72	32.047	ppb	32.047	3.66	3710	2000	
Se	78	1	72	33.374	ppb	33.374	2.61	20580	2000	
Sr	88	2	72	32.860	ppb	32.860	8.78	8492	4000	
Zr	90	2	72	4791.980	ppb	4791.980	0.43	34776	1000	
Nb	93	2	72	0.106	ppb	0.106	21.18	467	200	
Mo	95	2	115	33.037	ppb	33.037	5.20	31503	2000	
Pd	105	2	115	0.024	ppb	0.024	63.22	60	100	
Ag	107	2	115	31.774	ppb	31.774	2.41	124033	100	
Cd	111	2	115	32.818	ppb	32.818	3.07	10447	2000	
Sn	120	2	115	32.792	ppb	32.792	9.12	24041	2000	
Sb	121	2	115	31.752	ppb	31.752	7.35	20313	1000	
Ba	137	2	115	32.548	ppb	32.548	5.33	5848	5000	
W	182	2	165	30.374	ppb	30.374	1.49	230202	100	
Pt	195	2	165	-0.005	ppb	-0.005	-113.02	110	100	
Tl	205	2	165	32.210	ppb	32.210	1.40	314441	2000	
Pb	208	2	165	32.710	ppb	32.710	1.55	414503	5000	
Th	232	2	165	31.381	ppb	31.381	1.14	478659	2000	
U	238	2	165	32.127	ppb	32.127	1.98	565250	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1063744	1.22	1030374	103.24	60	120	
Sc (IS)	45	1	HMI H2	53143238	0.39	50049516	106.18	60	120	
Sc (IS)	45	2	HMI He	479416	1.58	455282	105.30	60	120	
Sc (IS)	45	3	No Gas	137857811	0.53	129118738	106.77	60	120	
Ge Internal Standard	72	1	HMI H2	26558538	0.60	25231850	105.26	60	120	
Ge Internal Standard	72	2	HMI He	758181	0.72	724676	104.62	60	120	
In Internal Standard	115	2	HMI He	1875026	2.98	1743517	107.54	60	120	
Ho-165	165	2	HMI He	15594019	1.35	14982339	104.08	60	120	

Sample Report

Sample Table

Sample Name	280-90596-a-5-d
Data File Name	045SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:04:30-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-2.078	ppb	-2.078	-137.18	80601	500000	
Li	7	2	45	12.461	ppb	12.461	75.87	4184	500000	
Li	7	3	45	-3.029	ppb	-3.029	-62.26	4177131	50000	
Be	9	1	6	0.038	ppb	0.038	114.00	13	2000	
B	11	1	6	-12.220	ppb	-12.220	-9.60	24697	2000	
Na	23	1	45	19264.272	ppb	19264.272	0.70	82080749	2000	>LDR
Na	23	2	45	19324.842	ppb	19324.842	1.37	2507109	400000	
Mg	24	2	45	12872.285	ppb	12872.285	1.16	700272	400000	
Al	27	2	45	23.619	ppb	23.619	25.82	277	400000	
K	39	1	45	2045.469	ppb	2045.469	1.23	20153907	400000	
K	39	2	45	1875.246	ppb	1875.246	1.69	41234	400000	
Ca	40	1	45	33449.803	ppb	33449.803	1.07	264133756	400000	
Ca	44	2	45	31582.618	ppb	31582.618	2.70	41793	400000	
Ti	47	2	45	23707.019	ppb	23707.019	60.86	13	4000	>LDR
V	51	2	72	0.653	ppb	0.653	50.99	641	2000	
Cr	52	2	72	13.726	ppb	13.726	2.34	15791	5000	
Mn	55	2	72	21.306	ppb	21.306	1.95	6235	10000	
Fe	57	2	72	266.345	ppb	266.345	6.49	5431	400000	
Co	59	2	72	0.100	ppb	0.100	45.99	287	2000	
Ni	60	2	72	1.248	ppb	1.248	6.73	1073	5000	
Cu	63	2	72	1.335	ppb	1.335	1.32	7445	5000	
Zn	66	2	72	6.797	ppb	6.797	13.30	1517	5000	
As	75	2	72	0.574	ppb	0.574	30.28	73	2000	
Se	78	1	72	0.248	ppb	0.248	31.70	203	2000	
Sr	88	2	72	49.074	ppb	49.074	4.08	12555	4000	
Zr	90	2	72	109.777	ppb	109.777	7.83	817	1000	
Nb	93	2	72	0.135	ppb	0.135	7.36	567	200	
Mo	95	2	115	1189.225	ppb	1189.225	1.03	1106309	2000	
Pd	105	2	115	0.040	ppb	0.040	68.05	87	100	
Ag	107	2	115	0.017	ppb	0.017	38.13	73	100	
Cd	111	2	115	0.257	ppb	0.257	7.18	83	2000	
Sn	120	2	115	0.062	ppb	0.062	102.95	100	2000	
Sb	121	2	115	0.522	ppb	0.522	14.05	337	1000	
Ba	137	2	115	20.056	ppb	20.056	0.30	3517	5000	
W	182	2	165	0.115	ppb	0.115	20.81	1183	100	
Pt	195	2	165	-0.007	ppb	-0.007	-30.87	90	100	
Tl	205	2	165	0.050	ppb	0.050	16.56	663	2000	
Pb	208	2	165	0.063	ppb	0.063	13.27	2293	5000	
Th	232	2	165	0.233	ppb	0.233	9.81	3584	2000	
U	238	2	165	0.819	ppb	0.819	4.13	14421	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1063632	1.01	1030374	103.23	60	120	
Sc (IS)	45	1	HMI H2	52489449	0.51	50049516	104.88	60	120	
Sc (IS)	45	2	HMI He	475222	1.47	455282	104.38	60	120	
Sc (IS)	45	3	No Gas	135497118	0.20	129118738	104.94	60	120	
Ge Internal Standard	72	1	HMI H2	26136722	0.08	25231850	103.59	60	120	
Ge Internal Standard	72	2	HMI He	751336	0.69	724676	103.68	60	120	
In Internal Standard	115	2	HMI He	1828666	0.22	1743517	104.88	60	120	
Ho-165	165	2	HMI He	15580874	1.07	14982339	103.99	60	120	

Sample Report

Sample Table

Sample Name	280-90596-a-5-e ms
Data File Name	046SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:08:17-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.800	ppb	60.800	5.00	104180	500000	
Li	7	2	45	71.568	ppb	71.568	27.45	5308	500000	
Li	7	3	45	60.697	ppb	60.697	0.86	5435503	50000	
Be	9	1	6	31.418	ppb	31.418	3.45	10847	2000	
B	11	1	6	8.946	ppb	8.946	1.72	32937	2000	
Na	23	1	45	18576.230	ppb	18576.230	0.58	78942524	2000	>LDR
Na	23	2	45	18728.381	ppb	18728.381	1.66	2433525	400000	
Mg	24	2	45	12416.406	ppb	12416.406	0.95	676286	400000	
Al	27	2	45	343.704	ppb	343.704	0.67	3551	400000	
K	39	1	45	2006.348	ppb	2006.348	0.68	19916996	400000	
K	39	2	45	1756.660	ppb	1756.660	5.18	38976	400000	
Ca	40	1	45	32585.011	ppb	32585.011	0.19	256624643	400000	
Ca	44	2	45	31143.077	ppb	31143.077	1.84	41268	400000	
Ti	47	2	45	127209.659	ppb	127209.659	38.94	57	4000	>LDR
V	51	2	72	32.741	ppb	32.741	2.70	27610	2000	
Cr	52	2	72	32.004	ppb	32.004	1.74	36401	5000	
Mn	55	2	72	50.147	ppb	50.147	4.22	14643	10000	
Fe	57	2	72	405.561	ppb	405.561	3.97	8229	400000	
Co	59	2	72	32.001	ppb	32.001	1.94	82682	2000	
Ni	60	2	72	31.557	ppb	31.557	3.00	24858	5000	
Cu	63	2	72	32.140	ppb	32.140	0.66	80475	5000	
Zn	66	2	72	36.252	ppb	36.252	3.11	7085	5000	
As	75	2	72	32.633	ppb	32.633	5.30	3740	2000	
Se	78	1	72	32.382	ppb	32.382	0.87	19869	2000	
Sr	88	2	72	75.995	ppb	75.995	1.55	19425	4000	
Zr	90	2	72	4588.566	ppb	4588.566	3.27	32975	1000	
Nb	93	2	72	0.066	ppb	0.066	9.71	323	200	
Mo	95	2	115	1202.406	ppb	1202.406	0.95	1105519	2000	
Pd	105	2	115	0.022	ppb	0.022	40.60	53	100	
Ag	107	2	115	31.172	ppb	31.172	0.49	117350	100	
Cd	111	2	115	30.931	ppb	30.931	4.93	9500	2000	
Sn	120	2	115	31.832	ppb	31.832	2.97	22543	2000	
Sb	121	2	115	32.127	ppb	32.127	4.50	19836	1000	
Ba	137	2	115	52.621	ppb	52.621	4.59	9106	5000	
W	182	2	165	30.519	ppb	30.519	0.84	230564	100	
Pt	195	2	165	-0.003	ppb	-0.003	-174.42	127	100	
Tl	205	2	165	31.084	ppb	31.084	0.90	302493	2000	
Pb	208	2	165	31.289	ppb	31.289	0.55	395324	5000	
Th	232	2	165	29.962	ppb	29.962	0.75	455565	2000	
U	238	2	165	31.838	ppb	31.838	1.16	558455	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1057411	1.37	1030374	102.62	60	120	
Sc (IS)	45	1	HMI H2	52348168	0.31	50049516	104.59	60	120	
Sc (IS)	45	2	HMI He	475793	1.59	455282	104.51	60	120	
Sc (IS)	45	3	No Gas	136463148	0.12	129118738	105.69	60	120	
Ge Internal Standard	72	1	HMI H2	26421953	0.64	25231850	104.72	60	120	
Ge Internal Standard	72	2	HMI He	750930	1.14	724676	103.62	60	120	
In Internal Standard	115	2	HMI He	1807450	1.27	1743517	103.67	60	120	
Ho-165	165	2	HMI He	15542724	0.71	14982339	103.74	60	120	

Sample Table

Sample Name	280-90596-a-5-f msd
Data File Name	047SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:12:04-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	58.295	ppb	58.295	2.10	103801	500000	
Li	7	2	45	62.634	ppb	62.634	18.02	5151	500000	
Li	7	3	45	58.092	ppb	58.092	3.56	5374562	50000	
Be	9	1	6	32.455	ppb	32.455	7.07	11314	2000	
B	11	1	6	10.288	ppb	10.288	1.80	33782	2000	
Na	23	1	45	19854.276	ppb	19854.276	0.96	84826695	2000	>LDR
Na	23	2	45	19797.626	ppb	19797.626	1.07	2577934	400000	
Mg	24	2	45	13310.413	ppb	13310.413	1.59	726719	400000	
Al	27	2	45	329.616	ppb	329.616	7.21	3414	400000	
K	39	1	45	2122.349	ppb	2122.349	2.15	20571396	400000	
K	39	2	45	1902.132	ppb	1902.132	2.62	41916	400000	
Ca	40	1	45	34824.119	ppb	34824.119	0.55	275755009	400000	
Ca	44	2	45	32987.034	ppb	32987.034	2.67	43814	400000	
Ti	47	2	45	87460.496	ppb	87460.496	72.87	40	4000	>LDR
V	51	2	72	33.163	ppb	33.163	4.41	27890	2000	
Cr	52	2	72	31.505	ppb	31.505	1.60	35730	5000	
Mn	55	2	72	54.310	ppb	54.310	2.94	15811	10000	
Fe	57	2	72	442.536	ppb	442.536	3.65	8946	400000	
Co	59	2	72	31.774	ppb	31.774	2.82	81862	2000	
Ni	60	2	72	32.316	ppb	32.316	1.18	25382	5000	
Cu	63	2	72	32.147	ppb	32.147	0.35	80258	5000	
Zn	66	2	72	39.029	ppb	39.029	4.67	7589	5000	
As	75	2	72	31.249	ppb	31.249	2.74	3572	2000	
Se	78	1	72	32.708	ppb	32.708	1.35	19989	2000	
Sr	88	2	72	84.543	ppb	84.543	0.80	21544	4000	
Zr	90	2	72	4587.792	ppb	4587.792	1.11	32879	1000	
Nb	93	2	72	0.059	ppb	0.059	42.03	297	200	
Mo	95	2	115	1279.454	ppb	1279.454	0.35	1184851	2000	
Pd	105	2	115	0.027	ppb	0.027	66.76	63	100	
Ag	107	2	115	31.337	ppb	31.337	0.49	118822	100	
Cd	111	2	115	30.995	ppb	30.995	1.42	9583	2000	
Sn	120	2	115	30.479	ppb	30.479	1.16	21738	2000	
Sb	121	2	115	32.458	ppb	32.458	0.52	20189	1000	
Ba	137	2	115	51.370	ppb	51.370	6.72	8953	5000	
W	182	2	165	30.455	ppb	30.455	0.94	230608	100	
Pt	195	2	165	-0.008	ppb	-0.008	-9.05	87	100	
Tl	205	2	165	30.807	ppb	30.807	0.59	300484	2000	
Pb	208	2	165	31.265	ppb	31.265	1.15	395879	5000	
Th	232	2	165	29.883	ppb	29.883	2.48	455359	2000	
U	238	2	165	31.882	ppb	31.882	0.60	560439	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1067324	1.55	1030374	103.59	60	120	
Sc (IS)	45	1	HMI H2	52635828	0.44	50049516	105.17	60	120	
Sc (IS)	45	2	HMI He	476963	0.77	455282	104.76	60	120	
Sc (IS)	45	3	No Gas	136197315	0.81	129118738	105.48	60	120	
Ge Internal Standard	72	1	HMI H2	26317455	0.30	25231850	104.30	60	120	
Ge Internal Standard	72	2	HMI He	748720	0.23	724676	103.32	60	120	
In Internal Standard	115	2	HMI He	1820401	1.05	1743517	104.41	60	120	
Ho-165	165	2	HMI He	15577798	0.68	14982339	103.97	60	120	

Sample Report

Sample Table

Sample Name	280-90596-a-6-b
Data File Name	048SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:15:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.036	ppb	-4.036	-96.38	80631	500000	
Li	7	2	45	-0.873	ppb	-0.873	-2032.16	3947	500000	
Li	7	3	45	-1.430	ppb	-1.430	-180.74	4240153	50000	
Be	9	1	6	0.085	ppb	0.085	31.92	30	2000	
B	11	1	6	-12.329	ppb	-12.329	-3.03	25101	2000	
Na	23	1	45	19944.759	ppb	19944.759	0.85	85798775	2000	>LDR
Na	23	2	45	20125.687	ppb	20125.687	1.05	2621032	400000	
Mg	24	2	45	13496.586	ppb	13496.586	0.92	737045	400000	
Al	27	2	45	22.296	ppb	22.296	39.00	263	400000	
K	39	1	45	2138.664	ppb	2138.664	0.56	20790726	400000	
K	39	2	45	1954.246	ppb	1954.246	4.72	42945	400000	
Ca	40	1	45	34967.003	ppb	34967.003	0.40	278801256	400000	
Ca	44	2	45	32592.201	ppb	32592.201	0.82	43290	400000	
Ti	47	2	45	71288.057	ppb	71288.057	20.10	33	4000	>LDR
V	51	2	72	0.240	ppb	0.240	77.83	294	2000	
Cr	52	2	72	0.708	ppb	0.708	15.98	1107	5000	
Mn	55	2	72	21.415	ppb	21.415	4.32	6288	10000	
Fe	57	2	72	119.592	ppb	119.592	12.74	2487	400000	
Co	59	2	72	0.111	ppb	0.111	22.66	317	2000	
Ni	60	2	72	0.770	ppb	0.770	5.69	700	5000	
Cu	63	2	72	0.791	ppb	0.791	7.73	6175	5000	
Zn	66	2	72	7.870	ppb	7.870	10.19	1727	5000	
As	75	2	72	0.663	ppb	0.663	9.44	84	2000	
Se	78	1	72	0.203	ppb	0.203	14.08	177	2000	
Sr	88	2	72	50.505	ppb	50.505	4.18	12969	4000	
Zr	90	2	72	72.915	ppb	72.915	14.76	553	1000	
Nb	93	2	72	0.053	ppb	0.053	44.51	277	200	
Mo	95	2	115	1269.239	ppb	1269.239	1.60	1171107	2000	
Pd	105	2	115	0.026	ppb	0.026	58.01	60	100	
Ag	107	2	115	0.008	ppb	0.008	19.17	37	100	
Cd	111	2	115	0.108	ppb	0.108	96.74	37	2000	
Sn	120	2	115	0.096	ppb	0.096	47.38	123	2000	
Sb	121	2	115	0.500	ppb	0.500	22.85	320	1000	
Ba	137	2	115	23.120	ppb	23.120	7.94	4021	5000	
W	182	2	165	0.103	ppb	0.103	18.90	1097	100	
Pt	195	2	165	-0.001	ppb	-0.001	-475.66	140	100	
Tl	205	2	165	0.039	ppb	0.039	25.72	550	2000	
Pb	208	2	165	0.066	ppb	0.066	17.93	2347	5000	
Th	232	2	165	0.166	ppb	0.166	11.57	2560	2000	
U	238	2	165	0.794	ppb	0.794	1.56	14020	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1082991	1.74	1030374	105.11	60	120	
Sc (IS)	45	1	HMI H2	52998449	0.71	50049516	105.89	60	120	
Sc (IS)	45	2	HMI He	477020	0.61	455282	104.77	60	120	
Sc (IS)	45	3	No Gas	136541585	0.61	129118738	105.75	60	120	
Ge Internal Standard	72	1	HMI H2	26417127	0.65	25231850	104.70	60	120	
Ge Internal Standard	72	2	HMI He	753970	0.37	724676	104.04	60	120	
In Internal Standard	115	2	HMI He	1813755	0.41	1743517	104.03	60	120	
Ho-165	165	2	HMI He	15607359	0.63	14982339	104.17	60	120	

Sample Report

Sample Table

Sample Name	280-90596-a-12-a
Data File Name	049SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:19:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350324 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.201	ppb	7.201	39.23	85034	500000	
Li	7	2	45	3.094	ppb	3.094	538.33	4044	500000	
Li	7	3	45	4.962	ppb	4.962	34.51	4404455	50000	
Be	9	1	6	0.019	ppb	0.019	86.64	7	2000	
B	11	1	6	-7.728	ppb	-7.728	-20.47	26393	2000	
Na	23	1	45	47893.243	ppb	47893.243	0.14	206124030	2000	>LDR
Na	23	2	45	46701.484	ppb	46701.484	0.50	6113327	400000	
Mg	24	2	45	9350.758	ppb	9350.758	0.87	513915	400000	
Al	27	2	45	5.638	ppb	5.638	36.89	93	400000	
K	39	1	45	1999.475	ppb	1999.475	1.23	20155638	400000	
K	39	2	45	1755.984	ppb	1755.984	2.14	39290	400000	
Ca	40	1	45	26512.574	ppb	26512.574	0.77	211656230	400000	
Ca	44	2	45	25468.046	ppb	25468.046	1.05	34043	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.063	ppb	-0.063	-256.13	38	2000	
Cr	52	2	72	3.386	ppb	3.386	5.42	4167	5000	
Mn	55	2	72	14.718	ppb	14.718	10.18	4357	10000	
Fe	57	2	72	82.810	ppb	82.810	3.40	1757	400000	
Co	59	2	72	0.086	ppb	0.086	21.79	253	2000	
Ni	60	2	72	1.142	ppb	1.142	3.28	1000	5000	
Cu	63	2	72	1.036	ppb	1.036	4.88	6805	5000	
Zn	66	2	72	8.402	ppb	8.402	3.74	1840	5000	
As	75	2	72	0.336	ppb	0.336	33.18	46	2000	
Se	78	1	72	0.480	ppb	0.480	22.13	347	2000	
Sr	88	2	72	60.659	ppb	60.659	3.54	15678	4000	
Zr	90	2	72	34.251	ppb	34.251	21.94	277	1000	
Nb	93	2	72	0.028	ppb	0.028	10.27	190	200	
Mo	95	2	115	593.109	ppb	593.109	0.77	550806	2000	
Pd	105	2	115	0.032	ppb	0.032	85.88	73	100	
Ag	107	2	115	0.010	ppb	0.010	38.38	47	100	
Cd	111	2	115	0.054	ppb	0.054	160.12	20	2000	
Sn	120	2	115	0.067	ppb	0.067	73.92	103	2000	
Sb	121	2	115	0.278	ppb	0.278	33.59	183	1000	
Ba	137	2	115	14.633	ppb	14.633	8.54	2564	5000	
W	182	2	165	0.062	ppb	0.062	11.05	793	100	
Pt	195	2	165	-0.007	ppb	-0.007	-71.28	97	100	
Tl	205	2	165	0.022	ppb	0.022	40.35	390	2000	
Pb	208	2	165	0.038	ppb	0.038	49.23	2007	5000	
Th	232	2	165	0.071	ppb	0.071	13.69	1120	2000	
U	238	2	165	0.638	ppb	0.638	1.05	11351	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1059691	1.91	1030374	102.85	60	120	
Sc (IS)	45	1	HMI H2	53062056	0.82	50049516	106.02	60	120	
Sc (IS)	45	2	HMI He	479981	1.65	455282	105.43	60	120	
Sc (IS)	45	3	No Gas	137822288	0.03	129118738	106.74	60	120	
Ge Internal Standard	72	1	HMI H2	26395495	0.32	25231850	104.61	60	120	
Ge Internal Standard	72	2	HMI He	759099	0.32	724676	104.75	60	120	
In Internal Standard	115	2	HMI He	1825550	0.87	1743517	104.71	60	120	
Ho-165	165	2	HMI He	15725425	0.34	14982339	104.96	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	050_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:23:25-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	502.702	ppb	0.465	278270	500	100.5	90	110	
Li	7	2	45	488.339	ppb	1.177	13439	500	97.7	90	110	
Li	7	3	45	507.027	ppb	0.327	14089473	500	101.4	90	110	
Be	9	1	6	49.960	ppb	1.934	17769	50	99.9	90	110	
B	11	1	6	16.705	ppb	21.334	37092	50	33.4	90	110	>+\-10%
Na	23	1	45	5183.391	ppb	0.294	22664661	5000	103.7	90	110	
Na	23	2	45	5120.680	ppb	0.166	681019	5000	102.4	90	110	
Mg	24	2	45	5143.052	ppb	0.607	285520	5000	102.9	90	110	
Al	27	2	45	5190.543	ppb	1.012	54094	5000	103.8	90	110	
K	39	1	45	5079.472	ppb	1.097	35149336	5000	101.6	90	110	
K	39	2	45	5130.200	ppb	1.440	106941	5000	102.6	90	110	
Ca	40	1	45	5119.756	ppb	1.078	41400624	5000	102.4	90	110	
Ca	44	2	45	4970.728	ppb	2.218	6732	5000	99.4	90	110	
Ti	47	2	45	-562.966	ppb	-2413.284	3	50	-1125.9	90	110	>+\-10%
V	51	2	72	52.109	ppb	4.317	44878	50	104.2	90	110	
Cr	52	2	72	51.328	ppb	4.756	59483	50	102.7	90	110	
Mn	55	2	72	52.087	ppb	5.668	15557	50	104.2	90	110	
Fe	57	2	72	5060.809	ppb	0.657	104153	5000	101.2	90	110	
Co	59	2	72	51.360	ppb	1.867	135686	50	102.7	90	110	
Ni	60	2	72	52.553	ppb	2.326	42271	50	105.1	90	110	
Cu	63	2	72	50.444	ppb	1.330	126669	50	100.9	90	110	
Zn	66	2	72	50.081	ppb	1.939	9923	50	100.2	90	110	
As	75	2	72	50.529	ppb	1.866	5919	50	101.1	90	110	
Se	78	1	72	51.868	ppb	0.506	32223	50	103.7	90	110	
Sr	88	2	72	50.072	ppb	7.838	13089	50	100.1	90	110	
Zr	90	2	72	207.245	ppb	24.436	1547	50	414.5	90	110	>+\-10%
Nb	93	2	72	98.006	ppb	0.137	353272	100	98.0	90	110	
Mo	95	2	115	53.039	ppb	2.529	48943	50	106.1	90	110	
Pd	105	2	115	51.318	ppb	1.894	92311	50	102.6	90	110	
Ag	107	2	115	51.922	ppb	2.170	196098	50	103.8	90	110	
Cd	111	2	115	52.132	ppb	4.624	16055	50	104.3	90	110	
Sn	120	2	115	50.592	ppb	0.604	35909	50	101.2	90	110	
Sb	121	2	115	51.841	ppb	0.708	32118	50	103.7	90	110	
Ba	137	2	115	50.856	ppb	4.380	8826	50	101.7	90	110	
W	182	2	165	48.596	ppb	1.360	372833	50	97.2	90	110	
Pt	195	2	165	47.807	ppb	0.480	388493	50	95.6	90	110	
Tl	205	2	165	50.818	ppb	0.649	502343	50	101.6	90	110	
Pb	208	2	165	50.947	ppb	0.347	653026	50	101.9	90	110	
Th	232	2	165	50.353	ppb	1.059	777834	50	100.7	90	110	
U	238	2	165	49.933	ppb	0.389	889798	50	99.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1089570	1.46	1030374	105.75	60	120	
Sc (IS)	45	1	HMI H2	53664323	0.81	50049516	107.22	60	120	
Sc (IS)	45	2	HMI He	484412	0.54	455282	106.40	60	120	
Sc (IS)	45	3	No Gas	136944198	0.59	129118738	106.06	60	120	
Ge Internal Standard	72	1	HMI H2	26778536	0.24	25231850	106.13	60	120	
Ge Internal Standard	72	2	HMI He	767961	1.47	724676	105.97	60	120	
In Internal Standard	115	2	HMI He	1813662	1.78	1743517	104.02	60	120	
Ho-165	165	2	HMI He	15791554	0.39	14982339	105.40	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	051_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:27:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-1.954	ppb	-142.0	4320883	10	
Be	9	1	6	0.037	ppb	86.6	13	0.5	
B	11	1	6	-22.032	ppb	-8.9	21670	0.5	
Na	23	1	45	50.332	ppb	0.3	334418	25	>RL
Na	23	2	45	51.808	ppb	12.6	11968	25	>RL
Mg	24	2	45	-1.350	ppb	-140.5	443	25	
Al	27	2	45	1.717	ppb	134.7	53	15	
K	39	1	45	-73.611	ppb	-18.6	10434409	50	
K	39	2	45	11.244	ppb	149.7	4874	50	
Ca	40	1	45	7.774	ppb	2.7	142890	50	
Ca	44	2	45	-6.255	ppb	-297.7	23	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.093	ppb	-163.3	15	1	
Cr	52	2	72	-0.099	ppb	-49.6	197	1	
Mn	55	2	72	0.008	ppb	406.7	20	0.5	
Fe	57	2	72	0.950	ppb	164.8	93	25	
Co	59	2	72	0.011	ppb	89.7	57	0.5	
Ni	60	2	72	-0.031	ppb	-150.6	70	1	
Cu	63	2	72	-0.113	ppb	-98.1	4077	1	
Zn	66	2	72	-0.236	ppb	-138.2	190	5	
As	75	2	72	0.030	ppb	137.6	11	1	
Se	78	1	72	0.010	ppb	167.9	60	1	
Sr	88	2	72	-0.017	ppb	-355.7	13	0.5	
Zr	90	2	72	5.279	ppb	17.1	67	1	>RL
Nb	93	2	72	0.930	ppb	5.1	3427	2	
Mo	95	2	115	0.241	ppb	12.2	250	0.5	
Pd	105	2	115	0.079	ppb	46.7	163	1	
Ag	107	2	115	0.021	ppb	24.8	90	1	
Cd	111	2	115	0.020	ppb	155.6	10	0.5	
Sn	120	2	115	0.098	ppb	35.8	130	1	
Sb	121	2	115	0.009	ppb	355.1	17	0.6	
Ba	137	2	115	0.014	ppb	614.1	13	0.5	
W	182	2	165	0.050	ppb	32.7	707	1	
Pt	195	2	165	0.001	ppb	1679.7	157	1	
Tl	205	2	165	0.042	ppb	37.6	590	0.1	
Pb	208	2	165	0.021	ppb	23.3	1807	0.5	
Th	232	2	165	0.058	ppb	16.0	933	1	
U	238	2	165	0.016	ppb	22.3	327	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1109127	0.69	1030374	107.64	60	120	
Sc (IS)	45	1	HMI H2	53603836	0.52	50049516	107.10	60	120	
Sc (IS)	45	2	HMI He	485555	1.83	455282	106.65	60	120	
Sc (IS)	45	3	No Gas	139477971	0.64	129118738	108.02	60	120	
Ge Internal Standard	72	1	HMI H2	26732977	0.20	25231850	105.95	60	120	
Ge Internal Standard	72	2	HMI He	764385	1.48	724676	105.48	60	120	
In Internal Standard	115	2	HMI He	1894288	0.77	1743517	108.65	60	120	
Ho-165	165	2	HMI He	15863687	0.80	14982339	105.88	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	052LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:31:01-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	45.505	ppb	7.291	5244513	50	91.0	70	130	
Be	9	1	6	1.055	ppb	19.438	383	1	105.5	70	130	
Na	23	2	45	99.429	ppb	4.288	18580	50	198.9	70	130	>+/-30%
Mg	24	2	45	47.564	ppb	4.692	3214	50	95.1	70	130	
Al	27	2	45	33.965	ppb	7.971	397	30	113.2	70	130	
K	39	2	45	107.630	ppb	4.417	6915	100	107.6	70	130	
Ca	44	2	45	66.065	ppb	44.989	123	50	132.1	70	130	>+/-30%
V	51	2	72	5.204	ppb	2.865	4583	5	104.1	70	130	
Cr	52	2	72	1.989	ppb	2.830	2614	2	99.4	70	130	
Mn	55	2	72	0.944	ppb	39.126	300	1	94.4	70	130	
Fe	57	2	72	46.475	ppb	11.661	1033	50	93.0	70	130	
Co	59	2	72	0.988	ppb	4.437	2647	1	98.8	70	130	
Ni	60	2	72	2.013	ppb	3.589	1717	2	100.7	70	130	
Cu	63	2	72	1.958	ppb	3.336	9149	2	97.9	70	130	
Zn	66	2	72	11.147	ppb	11.182	2400	10	111.5	70	130	
As	75	2	72	5.319	ppb	7.759	632	5	106.4	70	130	
Se	78	1	72	5.191	ppb	2.412	3290	5	103.8	70	130	
Sr	88	2	72	0.912	ppb	44.549	257	1	91.2	70	130	
Zr	90	2	72	39.137	ppb	18.026	317	0.5	7827.3	70	130	>+/-30%
Nb	93	2	72	1.044	ppb	5.852	3867	2	52.2	70	130	>+/-30%
Mo	95	2	115	2.148	ppb	12.410	2064	2	107.4	70	130	
Pd	105	2	115	0.068	ppb	60.619	140	1	6.8	70	130	>+/-30%
Ag	107	2	115	4.924	ppb	5.135	19238	5	98.5	70	130	
Cd	111	2	115	1.101	ppb	24.246	353	1	110.1	70	130	
Sn	120	2	115	10.485	ppb	8.511	7735	10	104.9	70	130	
Sb	121	2	115	1.776	ppb	8.257	1150	2	88.8	70	130	
Ba	137	2	115	1.061	ppb	29.460	200	1	106.1	70	130	
W	182	2	165	4.918	ppb	1.474	38062	1	491.8	70	130	>+/-30%
Pt	195	2	165	0.011	ppb	56.746	240	1	1.1	70	130	>+/-30%
Tl	205	2	165	1.040	ppb	6.110	10471	1	104.0	70	130	
Pb	208	2	165	1.041	ppb	3.809	14860	1	104.1	70	130	
Th	232	2	165	2.122	ppb	2.607	32846	2	106.1	70	130	
U	238	2	165	1.004	ppb	1.510	17944	1	100.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1114293	1.48	1030374	108.14	60	120	
Sc (IS)	45	1	HMI H2	53910323	0.57	50049516	107.71	60	120	
Sc (IS)	45	2	HMI He	493600	0.65	455282	108.42	60	120	
Sc (IS)	45	3	No Gas	139182208	1.36	129118738	107.79	60	120	
Ge Internal Standard	72	1	HMI H2	26910104	0.24	25231850	106.65	60	120	
Ge Internal Standard	72	2	HMI He	770512	0.23	724676	106.33	60	120	
In Internal Standard	115	2	HMI He	1876847	3.01	1743517	107.65	60	120	
Ho-165	165	2	HMI He	15810882	0.58	14982339	105.53	60	120	

Blank Report

Sample Table

Sample Name	mb 280-349333/1-a
Data File Name	053_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:34:50-07:00
Sample Type	Blank
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-2.304	ppb	-146.742029	81813	0.5
Li	7	2	45	0.961	ppb	626.3766696	4121	0.5
Li	7	3	45	-7.455	ppb	-32.67067771	4030940	10
Be	9	1	6	0.020	ppb	173.2050808	7	0.5
B	11	1	6	-14.694	ppb	-6.312892253	23853	0.5
Na	23	1	45	172.529	ppb	0.250693737	861117	25
Na	23	2	45	164.882	ppb	0.98783744	27381	25
Mg	24	2	45	44.583	ppb	4.3188925	3044	25
Al	27	2	45	10.450	ppb	34.06530245	147	15
K	39	1	45	-995.459	ppb	-1.740984352	5990105	50
K	39	2	45	-8.121	ppb	-260.134601	4557	50
Ca	40	1	45	173.434	ppb	0.337965176	1471113	50
Ca	44	2	45	174.977	ppb	33.24035074	273	25
Ti	47	2	45	7313.214	ppb	372.3111514	7	0.5
V	51	2	72	-0.001	ppb	-7511.229304	93	1
Cr	52	2	72	2.106	ppb	8.725276235	2754	1
Mn	55	2	72	0.686	ppb	24.0304358	223	0.5
Fe	57	2	72	64.085	ppb	23.29477524	1400	25
Co	59	2	72	0.012	ppb	31.49859888	60	0.5
Ni	60	2	72	0.600	ppb	35.23136831	580	1
Cu	63	2	72	0.274	ppb	28.16151421	5061	1
Zn	66	2	72	2.105	ppb	26.78262577	647	5
As	75	2	72	0.046	ppb	74.1062017	13	1
Se	78	1	72	0.017	ppb	339.7403804	64	1
Sr	88	2	72	0.389	ppb	63.67781306	120	0.5
Zr	90	2	72	6.541	ppb	31.82394855	77	1
Nb	93	2	72	0.135	ppb	3.388053553	580	2
Mo	95	2	115	0.263	ppb	31.20421676	273	0.5
Pd	105	2	115	0.087	ppb	48.04704826	180	1
Ag	107	2	115	0.006	ppb	45.4138498	30	1
Cd	111	2	115	-0.011	ppb	-1.48951E-06	0	0.5
Sn	120	2	115	0.298	ppb	21.16267027	280	1
Sb	121	2	115	0.019	ppb	48.94658516	23	0.6
Ba	137	2	115	0.651	ppb	20.89432511	130	0.5
W	182	2	165	0.092	ppb	16.72779724	1040	1
Pt	195	2	165	0.014	ppb	63.07551537	270	1
Tl	205	2	165	0.042	ppb	19.46489767	600	0.1
Pb	208	2	165	0.116	ppb	14.63418068	3067	0.5
Th	232	2	165	0.119	ppb	11.7435631	1900	1
U	238	2	165	0.012	ppb	16.33042465	253	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1070156	2.48	1030374	103.86	60	120	
Sc (IS)	45	1	HMI H2	53338428	0.52	50049516	106.57	60	120	
Sc (IS)	45	2	HMI He	493536	1.86	455282	108.40	60	120	
Sc (IS)	45	3	No Gas	133457148	0.93	129118738	103.36	60	120	
Ge Internal Standard	72	1	HMI H2	26654102	0.79	25231850	105.64	60	120	
Ge Internal Standard	72	2	HMI He	771710	0.63	724676	106.49	60	120	
In Internal Standard	115	2	HMI He	1908783	1.29	1743517	109.48	60	120	
Ho-165	165	2	HMI He	16063679	0.81	14982339	107.22	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-349333/2-a
Data File Name	054LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:38:38-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	349333 SOIL 6020A
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	189.166	189.166	ppb	2.355	66084	200	94.6	80	120	
Na	23	2	45	162.780	162.780	ppb	0.932	26951	200	81.4	80	120	
Mg	24	2	45	32.858	32.858	ppb	16.780	2370	200000	0.0	80	120	NewName Main CR1 Failed
Al	27	2	45	1984.273	1984.273	ppb	4.245	20976	200000	1.0	80	120	NewName Main CR1 Failed
K	39	2	45	-8.073	-8.073	ppb	-201.772	4537	200000	0.0	80	120	NewName Main CR1 Failed
Ca	44	2	45	1640.451	1640.451	ppb	22.308	2270	200000	0.8	80	120	NewName Main CR1 Failed
V	51	2	72	198.448	198.448	ppb	1.510	172657	200	99.2	80	120	
Cr	52	2	72	198.981	198.981	ppb	0.589	232428	200	99.5	80	120	
(Cr)	53	2	72	195.816	195.816	ppb	1.373	28540	200	97.9	80	120	
Mn	55	2	72	196.901	196.901	ppb	1.910	59426	200	98.5	80	120	
Fe	57	2	72	1973.467	1973.467	ppb	0.148	41125	200000	1.0	80	120	NewName Main CR1 Failed
Co	59	2	72	193.706	193.706	ppb	0.749	517629	200	96.9	80	120	
Ni	60	2	72	195.789	195.789	ppb	0.940	159049	200	97.9	80	120	
Cu	63	2	72	188.481	188.481	ppb	1.048	466655	200	94.2	80	120	
Zn	66	2	72	192.937	192.937	ppb	1.151	37975	200	96.5	80	120	
As	75	2	72	189.405	189.405	ppb	0.720	22419	200	94.7	80	120	
Se	78	1	72	188.710	188.710	ppb	1.541	116649	200	94.4	80	120	
(Se)	82	1	72	191.276	191.276	ppb	2.362	54803	200	95.6	80	120	
Nb	93	2	72	0.121	0.121	ppb	18.123	533	400	0.0	80	120	NewName Main CR1 Failed
Mo	95	2	115	198.820	198.820	ppb	1.222	192224	200	99.4	80	120	
Pd	105	2	115	0.077	0.077	ppb	25.245	160	200	0.0	80	120	NewName Main CR1 Failed
Ag	107	2	115	185.699	185.699	ppb	1.190	734981	200	92.8	80	120	
Cd	111	2	115	190.565	190.565	ppb	1.717	61491	200	95.3	80	120	
(Cd)	114	2	115	186.015	186.015	ppb	0.626	162442	200	93.0	80	120	
Sn	120	2	115	188.127	188.127	ppb	0.592	139761	200	94.1	80	120	
Sb	121	2	115	190.438	190.438	ppb	1.702	123594	200	95.2	80	110	
Ba	137	2	115	192.843	192.843	ppb	4.169	35051	200	96.4	80	120	
W	182	2	165	180.078	180.078	ppb	0.839	1422961	200	90.0	80	120	
Pt	195	2	165	0.022	0.022	ppb	6.578	340	200	0.0	80	120	NewName Main CR1 Failed
Tl	205	2	165	188.577	188.577	ppb	0.907	1920651	200	94.3	80	120	
(Pb)	206	2	165	188.428	188.428	ppb	0.238	596882	200	94.2	80	120	
(Pb)	207	2	165	188.012	188.012	ppb	1.529	547554	200	94.0	80	120	
Pb	208	2	165	188.925	188.925	ppb	1.090	2491435	200	94.5	80	120	
Th	232	2	165	184.776	184.776	ppb	0.804	2941563	200	92.4	80	120	
U	238	2	165	185.105	185.105	ppb	0.250	3399479	200	92.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1070280	1.66	1030374	103.87	60	120	
Sc (IS)	45	1	HMI H2	53766579	0.83	50049516	107.43	60	120	
Sc (IS)	45	2	HMI He	490827	0.73	455282	107.81	60	120	
Sc (IS)	45	3	No Gas	133158295	0.27	129118738	103.13	60	120	
Ge Internal Standard	72	1	HMI H2	26677698	0.53	25231850	105.73	60	120	
Ge Internal Standard	72	2	HMI He	776747	0.77	724676	107.19	60	120	
In Internal Standard	115	2	HMI He	1900404	0.81	1743517	109.00	60	120	
Ho-165	165	2	HMI He	16275341	0.71	14982339	108.63	60	120	

Sample Table

Sample Name	280-90300-c-1-d
Data File Name	055SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:42:28-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	144.356	ppb	144.356	2.48	139150	500000	
Li	7	2	45	136.046	ppb	136.046	12.72	6912	500000	
Li	7	3	45	146.405	ppb	146.405	2.27	6984665	50000	
Be	9	1	6	6.793	ppb	6.793	6.59	2267	2000	
B	11	1	6	-6.362	ppb	-6.362	-9.83	25956	2000	
Na	23	1	45	626.339	ppb	626.339	1.46	2838904	2000	
Na	23	2	45	587.901	ppb	587.901	2.13	85992	400000	
Mg	24	2	45	26534.767	ppb	26534.767	2.14	1529267	400000	
Al	27	2	45	125365.163	ppb	125365.163	2.29	1357415	400000	
K	39	1	45	10056.900	ppb	10056.900	2.00	58977197	400000	
K	39	2	45	10990.609	ppb	10990.609	1.69	232706	400000	
Ca	40	1	45	8107.606	ppb	8107.606	0.51	65483864	400000	
Ca	44	2	45	7693.861	ppb	7693.861	4.86	10814	400000	
Ti	47	2	45	112022106.576	ppb	112022106.576	0.42	49516	4000	>LDR
V	51	2	72	260.140	ppb	260.140	1.00	225955	2000	
Cr	52	2	72	86.259	ppb	86.259	0.18	100782	5000	
Mn	55	2	72	854.797	ppb	854.797	0.97	257505	10000	
Fe	57	2	72	145084.527	ppb	145084.527	0.76	3013349	400000	
Co	59	2	72	47.969	ppb	47.969	1.31	128004	2000	
Ni	60	2	72	67.941	ppb	67.941	1.47	55170	5000	
Cu	63	2	72	449.230	ppb	449.230	0.73	1104434	5000	
Zn	66	2	72	623.011	ppb	623.011	2.11	121907	5000	
As	75	2	72	19.587	ppb	19.587	3.63	2322	2000	
Se	78	1	72	2.191	ppb	2.191	3.49	1369	2000	
Sr	88	2	72	44.055	ppb	44.055	1.50	11638	4000	
Zr	90	2	72	10494.381	ppb	10494.381	0.86	77868	1000	>LDR
Nb	93	2	72	3.358	ppb	3.358	5.63	12312	200	
Mo	95	2	115	3.384	ppb	3.384	6.76	3280	2000	
Pd	105	2	115	0.319	ppb	0.319	18.10	617	100	
Ag	107	2	115	0.161	ppb	0.161	12.62	640	100	
Cd	111	2	115	0.332	ppb	0.332	35.63	110	2000	
Sn	120	2	115	1.936	ppb	1.936	13.98	1490	2000	
Sb	121	2	115	0.034	ppb	0.034	65.61	33	1000	
Ba	137	2	115	275.937	ppb	275.937	2.33	50035	5000	
W	182	2	165	0.208	ppb	0.208	14.45	1970	100	
Pt	195	2	165	0.018	ppb	0.018	41.52	310	100	
Tl	205	2	165	1.614	ppb	1.614	4.25	16626	2000	
Pb	208	2	165	85.676	ppb	85.676	0.19	1131439	5000	
Th	232	2	165	264.782	ppb	264.782	0.84	4217939	2000	
U	238	2	165	58.178	ppb	58.178	0.82	1069138	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1021265	2.49	1030374	99.12	60	120	
Sc (IS)	45	1	HMI H2	53637036	0.91	50049516	107.17	60	120	
Sc (IS)	45	2	HMI He	503727	1.77	455282	110.64	60	120	
Sc (IS)	45	3	No Gas	134475661	0.36	129118738	104.15	60	120	
Ge Internal Standard	72	1	HMI H2	25960648	0.32	25231850	102.89	60	120	
Ge Internal Standard	72	2	HMI He	775534	0.54	724676	107.02	60	120	
In Internal Standard	115	2	HMI He	1896498	2.19	1743517	108.77	60	120	
Ho-165	165	2	HMI He	16285639	0.79	14982339	108.70	60	120	

Sample Table

Sample Name	280-90300-c-1-dSD@5
Data File Name	056SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:46:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	29.826	ppb	29.826	2.03	95675	500000	
Li	7	2	45	18.993	ppb	18.993	71.95	4497	500000	
Li	7	3	45	24.519	ppb	24.519	7.11	4863795	50000	
Be	9	1	6	1.256	ppb	1.256	17.04	443	2000	
B	11	1	6	-20.194	ppb	-20.194	-8.20	21847	2000	
Na	23	1	45	150.575	ppb	150.575	1.44	778065	2000	
Na	23	2	45	144.717	ppb	144.717	2.54	24811	400000	
Mg	24	2	45	5294.365	ppb	5294.365	1.35	301133	400000	
Al	27	2	45	24687.602	ppb	24687.602	1.25	263466	400000	
K	39	1	45	1874.663	ppb	1874.663	3.34	19970370	400000	
K	39	2	45	2188.114	ppb	2188.114	2.90	49455	400000	
Ca	40	1	45	1630.783	ppb	1630.783	1.06	13366113	400000	
Ca	44	2	45	1637.430	ppb	1637.430	15.52	2294	400000	
Ti	47	2	45	21856294.220	ppb	21856294.220	5.83	9526	4000	>LDR
V	51	2	72	50.017	ppb	50.017	2.51	43532	2000	
Cr	52	2	72	16.703	ppb	16.703	0.46	19772	5000	
Mn	55	2	72	166.562	ppb	166.562	1.16	50195	10000	
Fe	57	2	72	28178.659	ppb	28178.659	0.20	585403	400000	
Co	59	2	72	9.666	ppb	9.666	0.95	25820	2000	
Ni	60	2	72	13.892	ppb	13.892	3.61	11357	5000	
Cu	63	2	72	91.476	ppb	91.476	0.37	228440	5000	
Zn	66	2	72	128.524	ppb	128.524	1.69	25342	5000	
As	75	2	72	4.056	ppb	4.056	7.08	487	2000	
Se	78	1	72	0.449	ppb	0.449	13.87	335	2000	
Sr	88	2	72	7.967	ppb	7.967	12.42	2120	4000	
Zr	90	2	72	1985.172	ppb	1985.172	2.92	14754	1000	
Nb	93	2	72	0.667	ppb	0.667	8.26	2520	200	
Mo	95	2	115	0.791	ppb	0.791	17.59	767	2000	
Pd	105	2	115	0.039	ppb	0.039	46.21	87	100	
Ag	107	2	115	0.054	ppb	0.054	34.21	217	100	
Cd	111	2	115	0.053	ppb	0.053	64.71	20	2000	
Sn	120	2	115	0.600	ppb	0.600	21.74	493	2000	
Sb	121	2	115	0.063	ppb	0.063	80.08	50	1000	
Ba	137	2	115	55.011	ppb	55.011	9.48	9807	5000	
W	182	2	165	0.061	ppb	0.061	5.31	797	100	
Pt	195	2	165	0.003	ppb	0.003	320.32	180	100	
Tl	205	2	165	0.338	ppb	0.338	4.65	3571	2000	
Pb	208	2	165	17.441	ppb	17.441	0.85	228262	5000	
Th	232	2	165	52.978	ppb	52.978	0.75	831867	2000	
U	238	2	165	11.705	ppb	11.705	1.80	212021	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1079887	1.41	1030374	104.81	60	120	
Sc (IS)	45	1	HMI H2	54170116	1.33	50049516	108.23	60	120	
Sc (IS)	45	2	HMI He	496371	1.25	455282	109.02	60	120	
Sc (IS)	45	3	No Gas	140084578	0.14	129118738	108.49	60	120	
Ge Internal Standard	72	1	HMI H2	26958266	0.82	25231850	106.84	60	120	
Ge Internal Standard	72	2	HMI He	775653	0.57	724676	107.03	60	120	
In Internal Standard	115	2	HMI He	1867011	4.18	1743517	107.08	60	120	
Ho-165	165	2	HMI He	16053081	1.49	14982339	107.15	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-1-e ms
Data File Name	057SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:50:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	509.288	ppb	509.288	1.06	278042	500000	
Li	7	2	45	497.505	ppb	497.505	3.97	13876	500000	
Li	7	3	45	516.675	ppb	516.675	0.24	13998662	50000	
Be	9	1	6	214.402	ppb	214.402	2.51	69711	2000	
B	11	1	6	111.141	ppb	111.141	2.98	69169	2000	
Na	23	1	45	696.173	ppb	696.173	2.31	3113572	2000	
Na	23	2	45	663.816	ppb	663.816	1.76	94514	400000	
Mg	24	2	45	29213.585	ppb	29213.585	0.68	1650648	400000	
Al	27	2	45	145380.696	ppb	145380.696	0.56	1543240	400000	
K	39	1	45	10871.293	ppb	10871.293	1.17	62291166	400000	
K	39	2	45	11763.377	ppb	11763.377	0.84	243839	400000	
Ca	40	1	45	8884.033	ppb	8884.033	0.61	71071826	400000	
Ca	44	2	45	10402.924	ppb	10402.924	1.92	14323	400000	
Ti	47	2	45	137494651.020	ppb	137494651.020	1.36	59573	4000	>LDR
V	51	2	72	507.039	ppb	507.039	0.64	431618	2000	
Cr	52	2	72	289.772	ppb	289.772	0.15	331136	5000	
Mn	55	2	72	1109.517	ppb	1109.517	2.27	327603	10000	
Fe	57	2	72	164022.022	ppb	164022.022	1.25	3339271	400000	
Co	59	2	72	249.575	ppb	249.575	1.21	652708	2000	
Ni	60	2	72	276.627	ppb	276.627	1.31	219894	5000	
Cu	63	2	72	682.193	ppb	682.193	0.73	1641786	5000	
Zn	66	2	72	856.669	ppb	856.669	1.56	164228	5000	
As	75	2	72	208.865	ppb	208.865	2.12	24196	2000	
Se	78	1	72	182.756	ppb	182.756	1.17	109542	2000	
Sr	88	2	72	240.224	ppb	240.224	1.48	62122	4000	
Zr	90	2	72	38414.669	ppb	38414.669	1.55	279325	1000	>LDR
Nb	93	2	72	3.359	ppb	3.359	4.20	12075	200	
Mo	95	2	115	162.026	ppb	162.026	1.30	151762	2000	
Pd	105	2	115	0.151	ppb	0.151	24.41	290	100	
Ag	107	2	115	178.946	ppb	178.946	0.80	686183	100	
Cd	111	2	115	192.689	ppb	192.689	1.30	60250	2000	
Sn	120	2	115	60.540	ppb	60.540	1.62	43610	2000	
Sb	121	2	115	10.066	ppb	10.066	3.11	6338	1000	
Ba	137	2	115	506.234	ppb	506.234	2.03	89114	5000	
W	182	2	165	35.716	ppb	35.716	0.87	274200	100	
Pt	195	2	165	0.014	ppb	0.014	39.39	267	100	
Tl	205	2	165	191.231	ppb	191.231	0.38	1890562	2000	
Pb	208	2	165	283.665	ppb	283.665	0.39	3630341	5000	
Th	232	2	165	489.095	ppb	489.095	1.04	7557494	2000	
U	238	2	165	250.532	ppb	250.532	0.42	4465965	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	996180	1.78	1030374	96.68	60	120	
Sc (IS)	45	1	HMI H2	53133149	0.85	50049516	106.16	60	120	
Sc (IS)	45	2	HMI He	493748	1.03	455282	108.45	60	120	
Sc (IS)	45	3	No Gas	134282178	0.40	129118738	104.00	60	120	
Ge Internal Standard	72	1	HMI H2	25868035	0.59	25231850	102.52	60	120	
Ge Internal Standard	72	2	HMI He	760195	0.54	724676	104.90	60	120	
In Internal Standard	115	2	HMI He	1841197	1.63	1743517	105.60	60	120	
Ho-165	165	2	HMI He	15797662	1.08	14982339	105.44	60	120	

Sample Table

Sample Name	280-90300-c-1-f msd
Data File Name	058SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:53:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	528.285	ppb	528.285	1.37	281611	500000	
Li	7	2	45	496.089	ppb	496.089	4.33	13515	500000	
Li	7	3	45	544.816	ppb	544.816	0.53	14119558	50000	
Be	9	1	6	214.178	ppb	214.178	1.82	69079	2000	
B	11	1	6	110.341	ppb	110.341	3.49	68310	2000	
Na	23	1	45	733.568	ppb	733.568	1.57	3231340	2000	
Na	23	2	45	721.968	ppb	721.968	0.99	99860	400000	
Mg	24	2	45	32677.366	ppb	32677.366	0.90	1801510	400000	
Al	27	2	45	158228.733	ppb	158228.733	0.92	1638864	400000	
K	39	1	45	11843.662	ppb	11843.662	0.77	66034727	400000	
K	39	2	45	12765.681	ppb	12765.681	0.99	257796	400000	
Ca	40	1	45	11770.178	ppb	11770.178	0.13	92906505	400000	
Ca	44	2	45	12806.817	ppb	12806.817	0.43	17199	400000	
Ti	47	2	45	162365842.168	ppb	162365842.168	1.32	68642	4000	>LDR
V	51	2	72	564.680	ppb	564.680	0.92	471452	2000	
Cr	52	2	72	305.042	ppb	305.042	0.36	341892	5000	
Mn	55	2	72	1258.228	ppb	1258.228	0.89	364382	10000	
Fe	57	2	72	184159.034	ppb	184159.034	2.10	3676789	400000	
Co	59	2	72	260.303	ppb	260.303	0.44	667708	2000	
Ni	60	2	72	286.190	ppb	286.190	1.95	223097	5000	
Cu	63	2	72	763.419	ppb	763.419	0.92	1801414	5000	
Zn	66	2	72	921.224	ppb	921.224	0.54	173192	5000	
As	75	2	72	210.020	ppb	210.020	1.45	23866	2000	
Se	78	1	72	179.530	ppb	179.530	0.44	106194	2000	
Sr	88	2	72	242.364	ppb	242.364	0.99	61483	4000	
Zr	90	2	72	40053.010	ppb	40053.010	2.27	285627	1000	>LDR
Nb	93	2	72	4.093	ppb	4.093	0.57	14410	200	
Mo	95	2	115	159.270	ppb	159.270	0.45	145159	2000	
Pd	105	2	115	0.146	ppb	0.146	56.15	273	100	
Ag	107	2	115	177.457	ppb	177.457	0.76	662124	100	
Cd	111	2	115	195.777	ppb	195.777	0.69	59554	2000	
Sn	120	2	115	61.970	ppb	61.970	1.00	43433	2000	
Sb	121	2	115	9.385	ppb	9.385	4.22	5751	1000	
Ba	137	2	115	548.414	ppb	548.414	1.67	93946	5000	
W	182	2	165	34.730	ppb	34.730	1.46	262538	100	
Pt	195	2	165	0.013	ppb	0.013	45.62	257	100	
Tl	205	2	165	186.174	ppb	186.174	2.70	1812016	2000	
Pb	208	2	165	295.795	ppb	295.795	1.25	3727257	5000	
Th	232	2	165	481.564	ppb	481.564	0.19	7327853	2000	
U	238	2	165	258.664	ppb	258.664	1.26	4540031	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	988050	1.42	1030374	95.89	60	120	
Sc (IS)	45	1	HMI H2	52438881	0.54	50049516	104.77	60	120	
Sc (IS)	45	2	HMI He	481763	0.50	455282	105.82	60	120	
Sc (IS)	45	3	No Gas	130464785	0.94	129118738	101.04	60	120	
Ge Internal Standard	72	1	HMI H2	25526404	0.78	25231850	101.17	60	120	
Ge Internal Standard	72	2	HMI He	745652	1.41	724676	102.89	60	120	
In Internal Standard	115	2	HMI He	1791366	0.68	1743517	102.74	60	120	
Ho-165	165	2	HMI He	15556079	1.37	14982339	103.83	60	120	

Sample Table

Sample Name	280-90300-c-1-d PDS
Data File Name	059SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T18:57:36-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	145.515	ppb	145.515	2.03	135401	500000	
Li	7	2	45	142.986	ppb	142.986	9.38	6618	500000	
Li	7	3	45	140.283	ppb	140.283	3.68	6698829	50000	
Be	9	1	6	207.379	ppb	207.379	3.44	67871	2000	
B	11	1	6	-11.499	ppb	-11.499	-14.60	23546	2000	
Na	23	1	45	622.577	ppb	622.577	1.23	2737810	2000	
Na	23	2	45	614.948	ppb	614.948	0.89	84191	400000	
Mg	24	2	45	26918.688	ppb	26918.688	0.52	1456032	400000	
Al	27	2	45	129710.686	ppb	129710.686	1.85	1318073	400000	
K	39	1	45	9986.025	ppb	9986.025	0.70	56877402	400000	
K	39	2	45	10876.611	ppb	10876.611	1.06	216155	400000	
Ca	40	1	45	8019.470	ppb	8019.470	0.18	62823519	400000	
Ca	44	2	45	8105.879	ppb	8105.879	2.90	10690	400000	
Ti	47	2	45	114319086.164	ppb	114319086.164	3.87	47424	4000	>LDR
V	51	2	72	464.425	ppb	464.425	0.99	385221	2000	
Cr	52	2	72	294.158	ppb	294.158	0.98	327506	5000	
Mn	55	2	72	1040.785	ppb	1040.785	0.42	299434	10000	
Fe	57	2	72	145120.941	ppb	145120.941	1.25	2878485	400000	
Co	59	2	72	251.406	ppb	251.406	1.55	640558	2000	
Ni	60	2	72	273.469	ppb	273.469	0.77	211803	5000	
Cu	63	2	72	658.454	ppb	658.454	0.49	1544125	5000	
Zn	66	2	72	817.389	ppb	817.389	0.36	152687	5000	
As	75	2	72	225.321	ppb	225.321	1.55	25431	2000	
Se	78	1	72	200.204	ppb	200.204	1.31	118336	2000	
Sr	88	2	72	40.874	ppb	40.874	1.27	10313	4000	
Zr	90	2	72	42322.769	ppb	42322.769	0.85	299846	1000	>LDR
Nb	93	2	72	3.278	ppb	3.278	2.10	11481	200	
Mo	95	2	115	208.797	ppb	208.797	1.05	189718	2000	
Pd	105	2	115	0.084	ppb	0.084	61.74	163	100	
Ag	107	2	115	21.976	ppb	21.976	2.48	81738	100	
Cd	111	2	115	201.531	ppb	201.531	1.58	61114	2000	
Sn	120	2	115	200.622	ppb	200.622	0.27	140094	2000	
Sb	121	2	115	198.787	ppb	198.787	1.55	121246	1000	
Ba	137	2	115	475.399	ppb	475.399	2.49	81173	5000	
W	182	2	165	191.509	ppb	191.509	0.82	1443136	100	
Pt	195	2	165	0.014	ppb	0.014	108.67	260	100	
Tl	205	2	165	199.662	ppb	199.662	0.93	1939273	2000	
Pb	208	2	165	282.108	ppb	282.108	0.48	3547147	5000	
Th	232	2	165	265.484	ppb	265.484	0.72	4030762	2000	
U	238	2	165	253.151	ppb	253.151	0.39	4433646	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1002681	1.19	1030374	97.31	60	120	
Sc (IS)	45	1	HMI H2	52023099	0.64	50049516	103.94	60	120	
Sc (IS)	45	2	HMI He	472665	0.64	455282	103.82	60	120	
Sc (IS)	45	3	No Gas	131156038	0.82	129118738	101.58	60	120	
Ge Internal Standard	72	1	HMI H2	25510754	0.76	25231850	101.11	60	120	
Ge Internal Standard	72	2	HMI He	740707	0.88	724676	102.21	60	120	
In Internal Standard	115	2	HMI He	1786220	2.17	1743517	102.45	60	120	
Ho-165	165	2	HMI He	15521061	0.81	14982339	103.60	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-2-b
Data File Name	060SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:01:21-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.598	ppb	85.598	3.60	112343	500000	
Li	7	2	45	90.209	ppb	90.209	15.60	5714	500000	
Li	7	3	45	78.487	ppb	78.487	0.90	5475974	50000	
Be	9	1	6	5.601	ppb	5.601	10.86	1807	2000	
B	11	1	6	-17.396	ppb	-17.396	-23.73	21026	2000	
Na	23	1	45	518.168	ppb	518.168	0.82	2286997	2000	
Na	23	2	45	499.504	ppb	499.504	1.39	70442	400000	
Mg	24	2	45	19868.633	ppb	19868.633	1.31	1092234	400000	
Al	27	2	45	92950.076	ppb	92950.076	0.75	959855	400000	
K	39	1	45	7954.466	ppb	7954.466	1.01	47221916	400000	
K	39	2	45	8901.926	ppb	8901.926	0.72	180612	400000	
Ca	40	1	45	7832.752	ppb	7832.752	0.52	61081984	400000	
Ca	44	2	45	7404.472	ppb	7404.472	5.44	9926	400000	
Ti	47	2	45	53583305.385	ppb	53583305.385	3.33	22588	4000	>LDR
V	51	2	72	161.646	ppb	161.646	0.72	135292	2000	
Cr	52	2	72	54.637	ppb	54.637	1.71	61603	5000	
Mn	55	2	72	1311.321	ppb	1311.321	0.75	380501	10000	
Fe	57	2	72	127573.982	ppb	127573.982	0.42	2552330	400000	
Co	59	2	72	64.398	ppb	64.398	1.47	165523	2000	
Ni	60	2	72	48.694	ppb	48.694	2.06	38109	5000	
Cu	63	2	72	281.270	ppb	281.270	1.42	667641	5000	
Zn	66	2	72	320.871	ppb	320.871	0.38	60594	5000	
As	75	2	72	22.254	ppb	22.254	4.11	2541	2000	
Se	78	1	72	1.839	ppb	1.839	12.75	1149	2000	
Sr	88	2	72	62.135	ppb	62.135	0.68	15804	4000	
Zr	90	2	72	6968.180	ppb	6968.180	0.57	49813	1000	>LDR
Nb	93	2	72	2.984	ppb	2.984	2.08	10550	200	
Mo	95	2	115	5.577	ppb	5.577	5.59	5134	2000	
Pd	105	2	115	0.137	ppb	0.137	19.91	260	100	
Ag	107	2	115	0.105	ppb	0.105	21.45	400	100	
Cd	111	2	115	0.229	ppb	0.229	54.46	73	2000	
Sn	120	2	115	1.133	ppb	1.133	13.05	853	2000	
Sb	121	2	115	0.205	ppb	0.205	25.75	137	1000	
Ba	137	2	115	291.045	ppb	291.045	1.99	50226	5000	
W	182	2	165	0.235	ppb	0.235	10.62	2087	100	
Pt	195	2	165	0.016	ppb	0.016	24.13	280	100	
Tl	205	2	165	1.206	ppb	1.206	2.02	11918	2000	
Pb	208	2	165	55.227	ppb	55.227	0.45	697664	5000	
Th	232	2	165	274.979	ppb	274.979	0.22	4187070	2000	
U	238	2	165	35.847	ppb	35.847	0.18	629691	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	989074	1.87	1030374	95.99	60	120	
Sc (IS)	45	1	HMI H2	51785624	0.60	50049516	103.47	60	120	
Sc (IS)	45	2	HMI He	480291	0.72	455282	105.49	60	120	
Sc (IS)	45	3	No Gas	129319881	0.04	129118738	100.16	60	120	
Ge Internal Standard	72	1	HMI H2	25777835	0.26	25231850	102.16	60	120	
Ge Internal Standard	72	2	HMI He	747085	1.38	724676	103.09	60	120	
In Internal Standard	115	2	HMI He	1804639	1.38	1743517	103.51	60	120	
Ho-165	165	2	HMI He	15566684	0.82	14982339	103.90	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	061_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:05:08-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	480.110	ppb	0.790	264277	500	96.0	90	110	
Li	7	2	45	465.969	ppb	1.858	12625	500	93.2	90	110	
Li	7	3	45	474.168	ppb	0.888	12871545	500	94.8	90	110	
Be	9	1	6	50.514	ppb	0.273	16995	50	101.0	90	110	
B	11	1	6	5.965	ppb	28.784	30950	50	11.9	90	110	>+\-10%
Na	23	1	45	5027.246	ppb	0.289	21559356	5000	100.5	90	110	
Na	23	2	45	5000.596	ppb	0.641	645541	5000	100.0	90	110	
Mg	24	2	45	5054.802	ppb	1.433	272351	5000	101.1	90	110	
Al	27	2	45	5060.588	ppb	1.575	51179	5000	101.2	90	110	
K	39	1	45	4920.067	ppb	1.409	33719489	5000	98.4	90	110	
K	39	2	45	5115.718	ppb	0.770	103511	5000	102.3	90	110	
Ca	40	1	45	5064.731	ppb	0.442	40163434	5000	101.3	90	110	
Ca	44	2	45	5083.530	ppb	2.819	6681	5000	101.7	90	110	
Ti	47	2	45	24059.480	ppb	116.863	13	50	48119.0	90	110	>+\-10%
V	51	2	72	52.171	ppb	2.315	43863	50	104.3	90	110	
Cr	52	2	72	50.866	ppb	2.952	57550	50	101.7	90	110	
Mn	55	2	72	53.755	ppb	2.231	15664	50	107.5	90	110	
Fe	57	2	72	5013.870	ppb	2.907	100704	5000	100.3	90	110	
Co	59	2	72	52.096	ppb	0.984	134352	50	104.2	90	110	
Ni	60	2	72	52.442	ppb	2.862	41168	50	104.9	90	110	
Cu	63	2	72	51.120	ppb	1.791	125244	50	102.2	90	110	
Zn	66	2	72	50.421	ppb	3.575	9746	50	100.8	90	110	
As	75	2	72	52.056	ppb	0.192	5952	50	104.1	90	110	
Se	78	1	72	52.218	ppb	1.054	32004	50	104.4	90	110	
Sr	88	2	72	49.719	ppb	2.086	12695	50	99.4	90	110	
Zr	90	2	72	110.328	ppb	21.639	817	50	220.7	90	110	>+\-10%
Nb	93	2	72	98.981	ppb	0.887	348231	100	99.0	90	110	
Mo	95	2	115	51.666	ppb	2.053	47219	50	103.3	90	110	
Pd	105	2	115	50.802	ppb	0.891	90491	50	101.6	90	110	
Ag	107	2	115	51.010	ppb	1.527	190764	50	102.0	90	110	
Cd	111	2	115	51.179	ppb	2.746	15604	50	102.4	90	110	
Sn	120	2	115	50.637	ppb	1.955	35585	50	101.3	90	110	
Sb	121	2	115	50.531	ppb	2.499	30992	50	101.1	90	110	
Ba	137	2	115	51.559	ppb	1.503	8863	50	103.1	90	110	
W	182	2	165	47.657	ppb	1.616	359374	50	95.3	90	110	
Pt	195	2	165	47.850	ppb	1.033	382196	50	95.7	90	110	
Tl	205	2	165	50.721	ppb	0.657	492824	50	101.4	90	110	
Pb	208	2	165	50.340	ppb	0.966	634237	50	100.7	90	110	
Th	232	2	165	50.361	ppb	0.732	764665	50	100.7	90	110	
U	238	2	165	49.299	ppb	1.152	863501	50	98.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1030509	0.71	1030374	100.01	60	120	
Sc (IS)	45	1	HMI H2	52623959	0.81	50049516	105.14	60	120	
Sc (IS)	45	2	HMI He	470123	0.78	455282	103.26	60	120	
Sc (IS)	45	3	No Gas	131018108	0.42	129118738	101.47	60	120	
Ge Internal Standard	72	1	HMI H2	26417481	0.55	25231850	104.70	60	120	
Ge Internal Standard	72	2	HMI He	749604	1.66	724676	103.44	60	120	
In Internal Standard	115	2	HMI He	1795710	1.62	1743517	102.99	60	120	
Ho-165	165	2	HMI He	15522531	0.92	14982339	103.61	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	062_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:08:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-10.622	ppb	-14.7	3950356	10	
Be	9	1	6	0.019	ppb	86.6	7	0.5	
B	11	1	6	-31.150	ppb	-4.7	17229	0.5	
Na	23	1	45	23.871	ppb	2.9	216495	25	
Na	23	2	45	23.803	ppb	5.8	8089	25	
Mg	24	2	45	-1.006	ppb	-40.5	453	25	
Al	27	2	45	10.932	ppb	35.3	147	15	
K	39	1	45	-114.544	ppb	-10.8	10101113	50	
K	39	2	45	6.504	ppb	185.3	4674	50	
Ca	40	1	45	8.502	ppb	5.9	146779	50	
Ca	44	2	45	-16.102	ppb	-46.9	10	25	
Ti	47	2	45	15362.542	ppb	154.2	10	0.5	>RL
V	51	2	72	0.077	ppb	275.8	156	1	
Cr	52	2	72	-0.068	ppb	-95.6	227	1	
Mn	55	2	72	0.158	ppb	62.3	63	0.5	
Fe	57	2	72	11.462	ppb	34.4	303	25	
Co	59	2	72	0.014	ppb	117.4	63	0.5	
Ni	60	2	72	0.047	ppb	98.9	130	1	
Cu	63	2	72	-0.132	ppb	-75.8	3961	1	
Zn	66	2	72	0.169	ppb	187.8	263	5	
As	75	2	72	0.003	ppb	503.6	8	1	
Se	78	1	72	0.065	ppb	76.2	93	1	
Sr	88	2	72	-0.002	ppb	-2644.1	17	0.5	
Zr	90	2	72	4.501	ppb	81.5	60	1	>RL
Nb	93	2	72	0.916	ppb	2.8	3317	2	
Mo	95	2	115	0.081	ppb	29.5	93	0.5	
Pd	105	2	115	0.103	ppb	25.8	203	1	
Ag	107	2	115	0.023	ppb	56.1	97	1	
Cd	111	2	115	0.031	ppb	56.6	13	0.5	
Sn	120	2	115	0.089	ppb	46.0	120	1	
Sb	121	2	115	0.094	ppb	60.4	70	0.6	
Ba	137	2	115	0.016	ppb	412.9	13	0.5	
W	182	2	165	0.060	ppb	21.2	770	1	
Pt	195	2	165	0.010	ppb	31.6	227	1	
Tl	205	2	165	0.048	ppb	3.4	643	0.1	
Pb	208	2	165	0.024	ppb	39.9	1803	0.5	
Th	232	2	165	0.097	ppb	14.3	1510	1	
U	238	2	165	0.032	ppb	23.1	587	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1068658	1.10	1030374	103.72	60	120	
Sc (IS)	45	1	HMI H2	52885786	0.79	50049516	105.67	60	120	
Sc (IS)	45	2	HMI He	474856	1.49	455282	104.30	60	120	
Sc (IS)	45	3	No Gas	132751958	1.08	129118738	102.81	60	120	
Ge Internal Standard	72	1	HMI H2	26509941	0.09	25231850	105.07	60	120	
Ge Internal Standard	72	2	HMI He	750954	0.54	724676	103.63	60	120	
In Internal Standard	115	2	HMI He	1849621	2.33	1743517	106.09	60	120	
Ho-165	165	2	HMI He	15560711	1.62	14982339	103.86	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	063LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:12:43-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	37.517	ppb	10.660	4817790	50	75.0	70	130	
Be	9	1	6	0.999	ppb	20.779	340	1	99.9	70	130	
Na	23	2	45	74.636	ppb	3.495	14516	50	149.3	70	130	>+/-30%
Mg	24	2	45	46.724	ppb	7.064	3014	50	93.4	70	130	
Al	27	2	45	36.892	ppb	27.868	407	30	123.0	70	130	
K	39	2	45	110.318	ppb	6.842	6635	100	110.3	70	130	
Ca	44	2	45	52.962	ppb	90.467	100	50	105.9	70	130	
V	51	2	72	5.164	ppb	4.578	4427	5	103.3	70	130	
Cr	52	2	72	2.094	ppb	4.891	2664	2	104.7	70	130	
Mn	55	2	72	1.120	ppb	13.842	343	1	112.0	70	130	
Fe	57	2	72	57.313	ppb	5.310	1223	50	114.6	70	130	
Co	59	2	72	1.054	ppb	6.241	2747	1	105.4	70	130	
Ni	60	2	72	2.187	ppb	8.746	1807	2	109.4	70	130	
Cu	63	2	72	1.952	ppb	9.074	8896	2	97.6	70	130	
Zn	66	2	72	11.080	ppb	10.140	2324	10	110.8	70	130	
As	75	2	72	5.061	ppb	6.404	586	5	101.2	70	130	
Se	78	1	72	5.207	ppb	4.351	3214	5	104.1	70	130	
Sr	88	2	72	1.054	ppb	26.833	287	1	105.4	70	130	
Zr	90	2	72	38.152	ppb	43.041	300	0.5	7630.5	70	130	>+/-30%
Nb	93	2	72	0.939	ppb	20.219	3387	2	46.9	70	130	>+/-30%
Mo	95	2	115	2.025	ppb	17.005	1914	2	101.2	70	130	
Pd	105	2	115	0.034	ppb	45.056	77	1	3.4	70	130	>+/-30%
Ag	107	2	115	5.105	ppb	3.028	19608	5	102.1	70	130	
Cd	111	2	115	1.178	ppb	20.179	373	1	117.8	70	130	
Sn	120	2	115	10.047	ppb	2.174	7295	10	100.5	70	130	
Sb	121	2	115	2.038	ppb	5.445	1293	2	101.9	70	130	
Ba	137	2	115	1.059	ppb	22.839	197	1	105.9	70	130	
W	182	2	165	4.813	ppb	2.969	36619	1	481.3	70	130	>+/-30%
Pt	195	2	165	0.008	ppb	109.697	217	1	0.8	70	130	>+/-30%
Tl	205	2	165	1.087	ppb	1.191	10744	1	108.7	70	130	
Pb	208	2	165	0.977	ppb	1.128	13790	1	97.7	70	130	
Th	232	2	165	2.184	ppb	0.602	33230	2	109.2	70	130	
U	238	2	165	1.011	ppb	2.726	17754	1	101.1	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1042989	2.49	1030374	101.22	60	120	
Sc (IS)	45	1	HMI H2	51874389	0.91	50049516	103.65	60	120	
Sc (IS)	45	2	HMI He	469918	0.87	455282	103.21	60	120	
Sc (IS)	45	3	No Gas	131805555	1.14	129118738	102.08	60	120	
Ge Internal Standard	72	1	HMI H2	26213235	0.23	25231850	103.89	60	120	
Ge Internal Standard	72	2	HMI He	750312	1.77	724676	103.54	60	120	
In Internal Standard	115	2	HMI He	1844301	2.17	1743517	105.78	60	120	
Ho-165	165	2	HMI He	15538607	0.38	14982339	103.71	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-3-b
Data File Name	064SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:16:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	113.026	ppb	113.026	4.80	121104	500000	
Li	7	2	45	112.105	ppb	112.105	9.21	5978	500000	
Li	7	3	45	112.384	ppb	112.384	5.71	5899360	50000	
Be	9	1	6	7.060	ppb	7.060	7.60	2260	2000	
B	11	1	6	-16.540	ppb	-16.540	-9.91	21173	2000	
Na	23	1	45	556.465	ppb	556.465	11.77	2417787	2000	
Na	23	2	45	515.776	ppb	515.776	2.26	70706	400000	
Mg	24	2	45	22245.237	ppb	22245.237	2.31	1191569	400000	
Al	27	2	45	99631.537	ppb	99631.537	0.97	1002567	400000	
K	39	1	45	12059.361	ppb	12059.361	0.44	65390364	400000	
K	39	2	45	13189.633	ppb	13189.633	1.89	258601	400000	
Ca	40	1	45	17124.771	ppb	17124.771	0.82	131802328	400000	
Ca	44	2	45	16755.790	ppb	16755.790	1.32	21854	400000	
Ti	47	2	45	63285089.774	ppb	63285089.774	0.51	25996	4000	>LDR
V	51	2	72	204.958	ppb	204.958	0.43	167577	2000	
Cr	52	2	72	74.683	ppb	74.683	1.62	82154	5000	
Mn	55	2	72	3265.254	ppb	3265.254	0.95	925634	10000	
Fe	57	2	72	127236.017	ppb	127236.017	2.05	2486777	400000	
Co	59	2	72	64.207	ppb	64.207	1.05	161230	2000	
Ni	60	2	72	60.874	ppb	60.874	1.64	46528	5000	
Cu	63	2	72	382.353	ppb	382.353	0.53	885309	5000	
Zn	66	2	72	424.198	ppb	424.198	0.57	78196	5000	
As	75	2	72	27.245	ppb	27.245	3.10	3038	2000	
Se	78	1	72	2.182	ppb	2.182	7.30	1319	2000	
Sr	88	2	72	123.813	ppb	123.813	2.74	30748	4000	
Zr	90	2	72	4107.521	ppb	4107.521	1.77	28701	1000	
Nb	93	2	72	5.847	ppb	5.847	8.56	20110	200	
Mo	95	2	115	5.975	ppb	5.975	5.88	5408	2000	
Pd	105	2	115	0.307	ppb	0.307	6.80	553	100	
Ag	107	2	115	0.476	ppb	0.476	5.86	1763	100	
Cd	111	2	115	0.642	ppb	0.642	40.30	197	2000	
Sn	120	2	115	0.899	ppb	0.899	9.66	677	2000	
Sb	121	2	115	0.099	ppb	0.099	33.36	70	1000	
Ba	137	2	115	459.210	ppb	459.210	1.54	77895	5000	
W	182	2	165	0.183	ppb	0.183	4.28	1690	100	
Pt	195	2	165	0.016	ppb	0.016	68.41	277	100	
Tl	205	2	165	1.371	ppb	1.371	0.83	13460	2000	
Pb	208	2	165	78.198	ppb	78.198	0.50	982336	5000	
Th	232	2	165	191.081	ppb	191.081	1.07	2895020	2000	
U	238	2	165	39.940	ppb	39.940	1.23	698072	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	980329	0.50	1030374	95.14	60	120	
Sc (IS)	45	1	HMI H2	51143054	0.72	50049516	102.18	60	120	
Sc (IS)	45	2	HMI He	468059	1.48	455282	102.81	60	120	
Sc (IS)	45	3	No Gas	125184245	1.58	129118738	96.95	60	120	
Ge Internal Standard	72	1	HMI H2	25107485	0.79	25231850	99.51	60	120	
Ge Internal Standard	72	2	HMI He	729922	1.39	724676	100.72	60	120	
In Internal Standard	115	2	HMI He	1773824	0.25	1743517	101.74	60	120	
Ho-165	165	2	HMI He	15489468	0.90	14982339	103.38	60	120	

Sample Table

Sample Name	280-90300-c-4-b
Data File Name	065SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:20:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	102.904	ppb	102.904	2.89	116501	500000	
Li	7	2	45	111.661	ppb	111.661	17.18	5881	500000	
Li	7	3	45	99.111	ppb	99.111	2.16	5595519	50000	
Be	9	1	6	3.989	ppb	3.989	7.40	1273	2000	
B	11	1	6	-11.087	ppb	-11.087	-26.27	23125	2000	
Na	23	1	45	585.333	ppb	585.333	1.90	2518810	2000	
Na	23	2	45	562.665	ppb	562.665	2.22	75594	400000	
Mg	24	2	45	24708.684	ppb	24708.684	1.04	1304564	400000	
Al	27	2	45	93700.091	ppb	93700.091	1.31	929367	400000	
K	39	1	45	13048.657	ppb	13048.657	0.84	69395116	400000	
K	39	2	45	14092.121	ppb	14092.121	2.44	272021	400000	
Ca	40	1	45	24924.339	ppb	24924.339	0.30	190385310	400000	
Ca	44	2	45	24740.990	ppb	24740.990	0.90	31789	400000	
Ti	47	2	45	81631540.504	ppb	81631540.504	3.34	33045	4000	>LDR
V	51	2	72	217.609	ppb	217.609	1.25	175772	2000	
Cr	52	2	72	81.911	ppb	81.911	1.11	89004	5000	
Mn	55	2	72	2516.433	ppb	2516.433	0.75	704857	10000	
Fe	57	2	72	129276.197	ppb	129276.197	1.18	2496762	400000	
Co	59	2	72	54.157	ppb	54.157	2.05	134383	2000	
Ni	60	2	72	63.005	ppb	63.005	1.86	47581	5000	
Cu	63	2	72	103.521	ppb	103.521	0.25	239819	5000	
Zn	66	2	72	439.301	ppb	439.301	1.91	79994	5000	
As	75	2	72	31.564	ppb	31.564	1.45	3475	2000	
Se	78	1	72	1.520	ppb	1.520	6.54	933	2000	
Sr	88	2	72	167.614	ppb	167.614	1.97	41126	4000	
Zr	90	2	72	4738.051	ppb	4738.051	2.69	32705	1000	
Nb	93	2	72	8.544	ppb	8.544	2.40	29002	200	
Mo	95	2	115	3.840	ppb	3.840	7.30	3474	2000	
Pd	105	2	115	0.219	ppb	0.219	14.48	397	100	
Ag	107	2	115	0.342	ppb	0.342	8.49	1267	100	
Cd	111	2	115	1.642	ppb	1.642	28.90	497	2000	
Sn	120	2	115	1.577	ppb	1.577	1.11	1143	2000	
Sb	121	2	115	0.160	ppb	0.160	48.43	107	1000	
Ba	137	2	115	1055.668	ppb	1055.668	1.32	178509	5000	
W	182	2	165	0.271	ppb	0.271	0.55	2320	100	
Pt	195	2	165	0.018	ppb	0.018	60.13	290	100	
Tl	205	2	165	1.388	ppb	1.388	5.59	13439	2000	
Pb	208	2	165	199.082	ppb	199.082	0.84	2464856	5000	
Th	232	2	165	134.106	ppb	134.106	0.50	2004504	2000	
U	238	2	165	14.867	ppb	14.867	1.03	256375	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	977888	1.14	1030374	94.91	60	120	
Sc (IS)	45	1	HMI H2	50768934	0.88	50049516	101.44	60	120	
Sc (IS)	45	2	HMI He	461365	1.09	455282	101.34	60	120	
Sc (IS)	45	3	No Gas	123637935	0.45	129118738	95.76	60	120	
Ge Internal Standard	72	1	HMI H2	25082826	0.17	25231850	99.41	60	120	
Ge Internal Standard	72	2	HMI He	721156	0.26	724676	99.51	60	120	
In Internal Standard	115	2	HMI He	1768679	2.29	1743517	101.44	60	120	
Ho-165	165	2	HMI He	15280589	0.48	14982339	101.99	60	120	

Sample Table

Sample Name	280-90300-c-5-b
Data File Name	066SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:24:04-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	111.499	ppb	111.499	4.54	116679	500000	
Li	7	2	45	131.219	ppb	131.219	12.96	6178	500000	
Li	7	3	45	114.106	ppb	114.106	0.48	5682898	50000	
Be	9	1	6	7.060	ppb	7.060	6.64	2104	2000	
B	11	1	6	2.492	ppb	2.492	125.99	26226	2000	
Na	23	1	45	640.590	ppb	640.590	1.90	2677982	2000	
Na	23	2	45	613.478	ppb	613.478	0.91	81126	400000	
Mg	24	2	45	30940.765	ppb	30940.765	0.66	1616233	400000	
Al	27	2	45	121405.345	ppb	121405.345	1.52	1191535	400000	
K	39	1	45	21328.507	ppb	21328.507	0.74	104300582	400000	
K	39	2	45	22216.914	ppb	22216.914	0.20	421854	400000	
Ca	40	1	45	45664.680	ppb	45664.680	1.01	340101048	400000	
Ca	44	2	45	44383.476	ppb	44383.476	1.48	56399	400000	
Ti	47	2	45	136286189.238	ppb	136286189.238	2.25	54584	4000	>LDR
V	51	2	72	365.397	ppb	365.397	1.10	290140	2000	
Cr	52	2	72	108.229	ppb	108.229	1.77	115537	5000	
Mn	55	2	72	6103.304	ppb	6103.304	0.56	1680814	10000	
Fe	57	2	72	191298.001	ppb	191298.001	0.70	3632285	400000	
Co	59	2	72	93.804	ppb	93.804	1.78	228809	2000	
Ni	60	2	72	90.198	ppb	90.198	1.93	66937	5000	
Cu	63	2	72	295.486	ppb	295.486	0.63	665530	5000	
Zn	66	2	72	663.311	ppb	663.311	1.67	118641	5000	
As	75	2	72	30.147	ppb	30.147	2.09	3263	2000	
Se	78	1	72	2.509	ppb	2.509	5.98	1471	2000	
Sr	88	2	72	235.164	ppb	235.164	0.83	56723	4000	
Zr	90	2	72	8149.333	ppb	8149.333	0.77	55286	1000	>LDR
Nb	93	2	72	11.022	ppb	11.022	2.69	36757	200	
Mo	95	2	115	5.529	ppb	5.529	4.50	4908	2000	
Pd	105	2	115	0.230	ppb	0.230	10.84	410	100	
Ag	107	2	115	0.369	ppb	0.369	1.27	1343	100	
Cd	111	2	115	2.076	ppb	2.076	12.98	617	2000	
Sn	120	2	115	2.604	ppb	2.604	15.59	1824	2000	
Sb	121	2	115	0.174	ppb	0.174	19.39	113	1000	
Ba	137	2	115	944.492	ppb	944.492	1.06	157076	5000	
W	182	2	165	0.276	ppb	0.276	7.19	2334	100	
Pt	195	2	165	0.015	ppb	0.015	25.93	263	100	
Tl	205	2	165	1.640	ppb	1.640	3.22	15685	2000	
Pb	208	2	165	167.306	ppb	167.306	0.28	2050455	5000	
Th	232	2	165	208.278	ppb	208.278	0.30	3081226	2000	
U	238	2	165	32.639	ppb	32.639	0.62	557035	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	913158	1.30	1030374	88.62	60	120	
Sc (IS)	45	1	HMI H2	49510663	0.50	50049516	98.92	60	120	
Sc (IS)	45	2	HMI He	456467	0.79	455282	100.26	60	120	
Sc (IS)	45	3	No Gas	119952538	0.38	129118738	92.90	60	120	
Ge Internal Standard	72	1	HMI H2	24460081	0.14	25231850	96.94	60	120	
Ge Internal Standard	72	2	HMI He	709030	0.62	724676	97.84	60	120	
In Internal Standard	115	2	HMI He	1739299	0.77	1743517	99.76	60	120	
Ho-165	165	2	HMI He	15123773	0.12	14982339	100.94	60	120	

Sample Report

Sample Table

Sample Name	280-90300-a-6-b
Data File Name	067SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:27:50-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	139.940	ppb	139.940	3.88	126945	500000	
Li	7	2	45	152.037	ppb	152.037	21.81	6455	500000	
Li	7	3	45	138.107	ppb	138.107	2.58	6100808	50000	
Be	9	1	6	8.423	ppb	8.423	5.23	2500	2000	
B	11	1	6	-11.121	ppb	-11.121	-15.23	21470	2000	
Na	23	1	45	654.769	ppb	654.769	0.56	2736465	2000	
Na	23	2	45	652.027	ppb	652.027	3.19	84719	400000	
Mg	24	2	45	30733.979	ppb	30733.979	1.99	1582740	400000	
Al	27	2	45	134408.068	ppb	134408.068	2.08	1300556	400000	
K	39	1	45	14808.678	ppb	14808.678	0.34	75509012	400000	
K	39	2	45	15943.692	ppb	15943.692	1.81	299724	400000	
Ca	40	1	45	28833.120	ppb	28833.120	0.40	214907283	400000	
Ca	44	2	45	28568.623	ppb	28568.623	1.32	35813	400000	
Ti	47	2	45	137297815.829	ppb	137297815.829	2.91	54213	4000	>LDR
V	51	2	72	316.430	ppb	316.430	0.64	249148	2000	
Cr	52	2	72	93.544	ppb	93.544	1.31	99060	5000	
Mn	55	2	72	6040.016	ppb	6040.016	1.12	1649400	10000	
Fe	57	2	72	187094.147	ppb	187094.147	0.62	3522623	400000	
Co	59	2	72	88.257	ppb	88.257	0.18	213473	2000	
Ni	60	2	72	78.829	ppb	78.829	1.11	58016	5000	
Cu	63	2	72	426.872	ppb	426.872	0.25	951561	5000	
Zn	66	2	72	503.902	ppb	503.902	0.57	89422	5000	
As	75	2	72	36.263	ppb	36.263	3.32	3891	2000	
Se	78	1	72	2.938	ppb	2.938	1.40	1704	2000	
Sr	88	2	72	216.467	ppb	216.467	2.59	51771	4000	
Zr	90	2	72	8675.424	ppb	8675.424	1.97	58354	1000	>LDR
Nb	93	2	72	6.920	ppb	6.920	1.32	22913	200	
Mo	95	2	115	8.144	ppb	8.144	3.73	7132	2000	
Pd	105	2	115	0.092	ppb	0.092	48.97	170	100	
Ag	107	2	115	0.396	ppb	0.396	12.45	1423	100	
Cd	111	2	115	1.385	ppb	1.385	27.91	407	2000	
Sn	120	2	115	1.274	ppb	1.274	9.88	907	2000	
Sb	121	2	115	0.148	ppb	0.148	52.11	97	1000	
Ba	137	2	115	726.845	ppb	726.845	2.25	119396	5000	
W	182	2	165	0.220	ppb	0.220	16.22	1900	100	
Pt	195	2	165	0.018	ppb	0.018	51.47	280	100	
Tl	205	2	165	1.909	ppb	1.909	4.33	18018	2000	
Pb	208	2	165	167.123	ppb	167.123	0.56	2023796	5000	
Th	232	2	165	194.144	ppb	194.144	0.48	2837959	2000	
U	238	2	165	45.118	ppb	45.118	0.05	760819	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	908879	1.55	1030374	88.21	60	120	
Sc (IS)	45	1	HMI H2	49541664	0.52	50049516	98.99	60	120	
Sc (IS)	45	2	HMI He	450160	2.41	455282	98.88	60	120	
Sc (IS)	45	3	No Gas	120176845	0.57	129118738	93.07	60	120	
Ge Internal Standard	72	1	HMI H2	24324455	0.38	25231850	96.40	60	120	
Ge Internal Standard	72	2	HMI He	703050	0.69	724676	97.02	60	120	
In Internal Standard	115	2	HMI He	1718036	1.30	1743517	98.54	60	120	
Ho-165	165	2	HMI He	14943519	0.76	14982339	99.74	60	120	

Sample Table

Sample Name	280-90300-c-7-b
Data File Name	068SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:31:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	98.767	ppb	98.767	1.80	113463	500000	
Li	7	2	45	99.327	ppb	99.327	15.67	5628	500000	
Li	7	3	45	94.132	ppb	94.132	3.11	5552326	50000	
Be	9	1	6	4.762	ppb	4.762	16.44	1460	2000	
B	11	1	6	-25.005	ppb	-25.005	-7.51	17322	2000	
Na	23	1	45	567.895	ppb	567.895	1.39	2414539	2000	
Na	23	2	45	550.387	ppb	550.387	1.00	73631	400000	
Mg	24	2	45	20373.581	ppb	20373.581	1.04	1069548	400000	
Al	27	2	45	83808.402	ppb	83808.402	0.88	826535	400000	
K	39	1	45	6553.530	ppb	6553.530	1.41	39413438	400000	
K	39	2	45	7591.719	ppb	7591.719	1.01	147746	400000	
Ca	40	1	45	9708.489	ppb	9708.489	1.01	73228392	400000	
Ca	44	2	45	9462.183	ppb	9462.183	2.19	12108	400000	
Ti	47	2	45	33496457.666	ppb	33496457.666	3.89	13492	4000	>LDR
V	51	2	72	126.232	ppb	126.232	1.39	101736	2000	
Cr	52	2	72	53.138	ppb	53.138	2.19	57694	5000	
Mn	55	2	72	961.104	ppb	961.104	1.03	268515	10000	
Fe	57	2	72	107580.597	ppb	107580.597	1.27	2072312	400000	
Co	59	2	72	39.496	ppb	39.496	1.10	97744	2000	
Ni	60	2	72	44.465	ppb	44.465	1.19	33516	5000	
Cu	63	2	72	344.641	ppb	344.641	0.27	786759	5000	
Zn	66	2	72	923.661	ppb	923.661	0.99	167512	5000	
As	75	2	72	14.837	ppb	14.837	1.80	1633	2000	
Se	78	1	72	0.962	ppb	0.962	19.26	608	2000	
Sr	88	2	72	37.301	ppb	37.301	3.61	9139	4000	
Zr	90	2	72	6694.780	ppb	6694.780	2.64	46079	1000	>LDR
Nb	93	2	72	1.031	ppb	1.031	8.42	3564	200	
Mo	95	2	115	2.947	ppb	2.947	4.67	2674	2000	
Pd	105	2	115	0.019	ppb	0.019	75.11	47	100	
Ag	107	2	115	0.136	ppb	0.136	11.53	510	100	
Cd	111	2	115	0.188	ppb	0.188	62.97	60	2000	
Sn	120	2	115	3.807	ppb	3.807	9.15	2687	2000	
Sb	121	2	115	0.016	ppb	0.016	205.10	20	1000	
Ba	137	2	115	134.935	ppb	134.935	5.74	22870	5000	
W	182	2	165	0.101	ppb	0.101	14.38	1047	100	
Pt	195	2	165	0.008	ppb	0.008	187.84	207	100	
Tl	205	2	165	0.822	ppb	0.822	4.84	7962	2000	
Pb	208	2	165	37.526	ppb	37.526	0.79	461777	5000	
Th	232	2	165	286.040	ppb	286.040	0.85	4238361	2000	
U	238	2	165	44.401	ppb	44.401	0.88	758970	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	940316	1.04	1030374	91.26	60	120	
Sc (IS)	45	1	HMI H2	50100818	0.26	50049516	100.10	60	120	
Sc (IS)	45	2	HMI He	458731	1.76	455282	100.76	60	120	
Sc (IS)	45	3	No Gas	124618535	0.24	129118738	96.51	60	120	
Ge Internal Standard	72	1	HMI H2	25058612	0.47	25231850	99.31	60	120	
Ge Internal Standard	72	2	HMI He	719252	0.59	724676	99.25	60	120	
In Internal Standard	115	2	HMI He	1771850	1.91	1743517	101.63	60	120	
Ho-165	165	2	HMI He	15148803	1.05	14982339	101.11	60	120	

Sample Table

Sample Name	280-90300-c-8-b
Data File Name	069SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:35:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	92.429	ppb	92.429	2.38	112112	500000	
Li	7	2	45	90.638	ppb	90.638	12.30	5474	500000	
Li	7	3	45	89.315	ppb	89.315	2.34	5443992	50000	
Be	9	1	6	4.326	ppb	4.326	5.88	1360	2000	
B	11	1	6	-25.562	ppb	-25.562	-7.75	17546	2000	
Na	23	1	45	458.139	ppb	458.139	2.27	1985688	2000	
Na	23	2	45	444.654	ppb	444.654	3.26	60500	400000	
Mg	24	2	45	18986.260	ppb	18986.260	1.11	998099	400000	
Al	27	2	45	75984.093	ppb	75984.093	0.82	750360	400000	
K	39	1	45	5654.141	ppb	5654.141	0.10	35690222	400000	
K	39	2	45	6786.081	ppb	6786.081	2.18	132693	400000	
Ca	40	1	45	5351.028	ppb	5351.028	1.20	40738830	400000	
Ca	44	2	45	5181.314	ppb	5181.314	1.30	6651	400000	
Ti	47	2	45	39718205.578	ppb	39718205.578	3.29	16014	4000	>LDR
V	51	2	72	108.614	ppb	108.614	1.11	88183	2000	
Cr	52	2	72	45.417	ppb	45.417	2.29	49703	5000	
Mn	55	2	72	660.278	ppb	660.278	0.35	185808	10000	
Fe	57	2	72	95414.674	ppb	95414.674	0.28	1851253	400000	
Co	59	2	72	32.510	ppb	32.510	0.36	81048	2000	
Ni	60	2	72	39.944	ppb	39.944	0.47	30337	5000	
Cu	63	2	72	352.323	ppb	352.323	0.76	810016	5000	
Zn	66	2	72	1226.110	ppb	1226.110	1.35	223916	5000	
As	75	2	72	12.005	ppb	12.005	1.32	1332	2000	
Se	78	1	72	1.468	ppb	1.468	10.93	907	2000	
Sr	88	2	72	37.160	ppb	37.160	2.34	9173	4000	
Zr	90	2	72	5291.150	ppb	5291.150	1.87	36693	1000	>LDR
Nb	93	2	72	1.556	ppb	1.556	2.24	5378	200	
Mo	95	2	115	2.574	ppb	2.574	10.97	2327	2000	
Pd	105	2	115	0.023	ppb	0.023	77.75	53	100	
Ag	107	2	115	0.496	ppb	0.496	8.99	1830	100	
Cd	111	2	115	0.478	ppb	0.478	13.97	147	2000	
Sn	120	2	115	8.648	ppb	8.648	0.74	6018	2000	
Sb	121	2	115	0.022	ppb	0.022	157.00	23	1000	
Ba	137	2	115	162.541	ppb	162.541	3.52	27433	5000	
W	182	2	165	0.087	ppb	0.087	23.80	953	100	
Pt	195	2	165	0.007	ppb	0.007	62.87	200	100	
Tl	205	2	165	0.684	ppb	0.684	5.99	6682	2000	
Pb	208	2	165	43.034	ppb	43.034	1.07	531789	5000	
Th	232	2	165	213.936	ppb	213.936	0.74	3184660	2000	
U	238	2	165	39.315	ppb	39.315	0.89	675148	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	963742	2.43	1030374	93.53	60	120	
Sc (IS)	45	1	HMI H2	50527701	0.38	50049516	100.96	60	120	
Sc (IS)	45	2	HMI He	459314	1.08	455282	100.89	60	120	
Sc (IS)	45	3	No Gas	124082178	0.24	129118738	96.10	60	120	
Ge Internal Standard	72	1	HMI H2	25173914	0.28	25231850	99.77	60	120	
Ge Internal Standard	72	2	HMI He	724487	1.02	724676	99.97	60	120	
In Internal Standard	115	2	HMI He	1764801	0.68	1743517	101.22	60	120	
Ho-165	165	2	HMI He	15218200	0.28	14982339	101.57	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-9-b
Data File Name	070SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:39:11-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	160.966	ppb	160.966	1.03	137066	500000	
Li	7	2	45	187.481	ppb	187.481	7.60	7208	500000	
Li	7	3	45	161.899	ppb	161.899	0.11	6702926	50000	
Be	9	1	6	9.960	ppb	9.960	12.32	2990	2000	
B	11	1	6	-22.048	ppb	-22.048	-9.92	17979	2000	
Na	23	1	45	897.950	ppb	897.950	1.37	3784270	2000	
Na	23	2	45	876.854	ppb	876.854	0.60	114015	400000	
Mg	24	2	45	34524.740	ppb	34524.740	0.23	1805457	400000	
Al	27	2	45	154826.201	ppb	154826.201	1.17	1521194	400000	
K	39	1	45	7908.269	ppb	7908.269	1.84	45830953	400000	
K	39	2	45	8966.384	ppb	8966.384	0.75	173058	400000	
Ca	40	1	45	10685.374	ppb	10685.374	1.25	81217860	400000	
Ca	44	2	45	10388.287	ppb	10388.287	3.44	13242	400000	
Ti	47	2	45	129325427.690	ppb	129325427.690	1.85	51870	4000	>LDR
V	51	2	72	345.655	ppb	345.655	0.51	276417	2000	
Cr	52	2	72	92.188	ppb	92.188	2.36	99160	5000	
Mn	55	2	72	1810.413	ppb	1810.413	1.70	502125	10000	
Fe	57	2	72	208946.531	ppb	208946.531	1.79	3995474	400000	
Co	59	2	72	81.186	ppb	81.186	2.03	199451	2000	
Ni	60	2	72	82.371	ppb	82.371	2.77	61561	5000	
Cu	63	2	72	808.959	ppb	808.959	1.50	1827928	5000	
Zn	66	2	72	1007.278	ppb	1007.278	0.40	181340	5000	
As	75	2	72	27.089	ppb	27.089	4.94	2955	2000	
Se	78	1	72	2.673	ppb	2.673	1.91	1587	2000	
Sr	88	2	72	49.866	ppb	49.866	4.30	12128	4000	
Zr	90	2	72	16144.348	ppb	16144.348	1.66	110272	1000	>LDR
Nb	93	2	72	0.879	ppb	0.879	9.01	3027	200	
Mo	95	2	115	6.064	ppb	6.064	2.63	5304	2000	
Pd	105	2	115	0.039	ppb	0.039	45.56	80	100	
Ag	107	2	115	0.123	ppb	0.123	28.86	447	100	
Cd	111	2	115	0.310	ppb	0.310	23.18	93	2000	
Sn	120	2	115	2.098	ppb	2.098	14.18	1457	2000	
Sb	121	2	115	0.029	ppb	0.029	89.92	27	1000	
Ba	137	2	115	272.472	ppb	272.472	2.13	44677	5000	
W	182	2	165	0.102	ppb	0.102	13.77	1053	100	
Pt	195	2	165	0.005	ppb	0.005	93.88	187	100	
Tl	205	2	165	1.008	ppb	1.008	5.21	9717	2000	
Pb	208	2	165	98.250	ppb	98.250	0.14	1205762	5000	
Th	232	2	165	390.432	ppb	390.432	0.18	5780880	2000	
U	238	2	165	116.299	ppb	116.299	1.57	1986575	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	921131	2.90	1030374	89.40	60	120	
Sc (IS)	45	1	HMI H2	50495616	1.13	50049516	100.89	60	120	
Sc (IS)	45	2	HMI He	457008	0.92	455282	100.38	60	120	
Sc (IS)	45	3	No Gas	123834041	0.48	129118738	95.91	60	120	
Ge Internal Standard	72	1	HMI H2	24822423	0.74	25231850	98.38	60	120	
Ge Internal Standard	72	2	HMI He	714108	1.33	724676	98.54	60	120	
In Internal Standard	115	2	HMI He	1714508	0.89	1743517	98.34	60	120	
Ho-165	165	2	HMI He	15136608	0.80	14982339	101.03	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-10-b
Data File Name	071SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:42:57-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	64.812	ppb	64.812	3.79	100865	500000	
Li	7	2	45	71.907	ppb	71.907	6.01	5048	500000	
Li	7	3	45	58.672	ppb	58.672	5.10	4819220	50000	
Be	9	1	6	3.448	ppb	3.448	19.60	1060	2000	
B	11	1	6	-21.951	ppb	-21.951	-7.40	18463	2000	
Na	23	1	45	465.555	ppb	465.555	1.70	1992942	2000	
Na	23	2	45	452.493	ppb	452.493	1.68	60485	400000	
Mg	24	2	45	15888.397	ppb	15888.397	0.51	821742	400000	
Al	27	2	45	68746.959	ppb	68746.959	0.31	667869	400000	
K	39	1	45	10729.392	ppb	10729.392	1.11	57929151	400000	
K	39	2	45	11876.185	ppb	11876.185	0.31	225238	400000	
Ca	40	1	45	11788.001	ppb	11788.001	0.76	88631662	400000	
Ca	44	2	45	11355.294	ppb	11355.294	0.75	14306	400000	
Ti	47	2	45	57786476.763	ppb	57786476.763	6.52	22906	4000	>LDR
V	51	2	72	148.605	ppb	148.605	1.51	117497	2000	
Cr	52	2	72	55.851	ppb	55.851	2.76	59476	5000	
Mn	55	2	72	1437.833	ppb	1437.833	1.66	394130	10000	
Fe	57	2	72	96298.251	ppb	96298.251	0.49	1820226	400000	
Co	59	2	72	34.243	ppb	34.243	1.43	83164	2000	
Ni	60	2	72	46.132	ppb	46.132	0.45	34120	5000	
Cu	63	2	72	104.043	ppb	104.043	0.70	235894	5000	
Zn	66	2	72	296.765	ppb	296.765	3.40	52950	5000	
As	75	2	72	17.051	ppb	17.051	6.62	1840	2000	
Se	78	1	72	1.036	ppb	1.036	10.24	652	2000	
Sr	88	2	72	90.497	ppb	90.497	0.89	21738	4000	
Zr	90	2	72	3338.721	ppb	3338.721	2.14	22562	1000	
Nb	93	2	72	5.443	ppb	5.443	2.95	18113	200	
Mo	95	2	115	2.498	ppb	2.498	2.06	2227	2000	
Pd	105	2	115	0.019	ppb	0.019	75.22	47	100	
Ag	107	2	115	0.144	ppb	0.144	19.18	530	100	
Cd	111	2	115	0.619	ppb	0.619	42.99	187	2000	
Sn	120	2	115	1.027	ppb	1.027	9.59	750	2000	
Sb	121	2	115	0.095	ppb	0.095	87.54	67	1000	
Ba	137	2	115	517.853	ppb	517.853	2.59	86105	5000	
W	182	2	165	0.142	ppb	0.142	6.07	1327	100	
Pt	195	2	165	0.006	ppb	0.006	171.73	187	100	
Tl	205	2	165	1.129	ppb	1.129	2.97	10687	2000	
Pb	208	2	165	68.839	ppb	68.839	1.22	831834	5000	
Th	232	2	165	141.370	ppb	141.370	0.69	2059960	2000	
U	238	2	165	17.586	ppb	17.586	0.18	295642	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	943206	1.33	1030374	91.54	60	120	
Sc (IS)	45	1	HMI H2	49952059	0.72	50049516	99.81	60	120	
Sc (IS)	45	2	HMI He	451847	0.94	455282	99.25	60	120	
Sc (IS)	45	3	No Gas	121874432	1.12	129118738	94.39	60	120	
Ge Internal Standard	72	1	HMI H2	25063701	0.75	25231850	99.33	60	120	
Ge Internal Standard	72	2	HMI He	705823	1.23	724676	97.40	60	120	
In Internal Standard	115	2	HMI He	1739238	1.67	1743517	99.75	60	120	
Ho-165	165	2	HMI He	14896426	0.37	14982339	99.43	60	120	

Sample Table

Sample Name	280-90300-b-11-b
Data File Name	072SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:46:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	89.878	ppb	89.878	4.32	109238	500000	
Li	7	2	45	107.467	ppb	107.467	13.38	5674	500000	
Li	7	3	45	82.001	ppb	82.001	3.62	5138168	50000	
Be	9	1	6	3.692	ppb	3.692	3.50	1097	2000	
B	11	1	6	-21.635	ppb	-21.635	-0.90	17909	2000	
Na	23	1	45	545.259	ppb	545.259	1.16	2301666	2000	
Na	23	2	45	514.844	ppb	514.844	2.23	68014	400000	
Mg	24	2	45	19980.799	ppb	19980.799	1.09	1031165	400000	
Al	27	2	45	87308.718	ppb	87308.718	0.56	846428	400000	
K	39	1	45	12328.911	ppb	12328.911	2.04	64667166	400000	
K	39	2	45	13385.525	ppb	13385.525	0.47	252782	400000	
Ca	40	1	45	11281.144	ppb	11281.144	0.62	84306445	400000	
Ca	44	2	45	11217.002	ppb	11217.002	4.80	14103	400000	
Ti	47	2	45	67175658.275	ppb	67175658.275	1.89	26580	4000	>LDR
V	51	2	72	212.309	ppb	212.309	1.65	168943	2000	
Cr	52	2	72	73.707	ppb	73.707	1.88	78934	5000	
Mn	55	2	72	2330.431	ppb	2330.431	0.74	643109	10000	
Fe	57	2	72	127121.189	ppb	127121.189	1.05	2418720	400000	
Co	59	2	72	48.864	ppb	48.864	1.88	119454	2000	
Ni	60	2	72	63.055	ppb	63.055	1.92	46909	5000	
Cu	63	2	72	125.091	ppb	125.091	1.16	284659	5000	
Zn	66	2	72	360.855	ppb	360.855	1.75	64772	5000	
As	75	2	72	24.238	ppb	24.238	1.72	2630	2000	
Se	78	1	72	1.246	ppb	1.246	10.50	763	2000	
Sr	88	2	72	90.145	ppb	90.145	2.61	21798	4000	
Zr	90	2	72	4214.617	ppb	4214.617	3.10	28665	1000	
Nb	93	2	72	5.182	ppb	5.182	3.33	17363	200	
Mo	95	2	115	3.178	ppb	3.178	4.94	2774	2000	
Pd	105	2	115	0.033	ppb	0.033	92.19	70	100	
Ag	107	2	115	0.208	ppb	0.208	11.71	747	100	
Cd	111	2	115	0.587	ppb	0.587	13.83	173	2000	
Sn	120	2	115	1.094	ppb	1.094	20.73	780	2000	
Sb	121	2	115	0.064	ppb	0.064	42.87	47	1000	
Ba	137	2	115	731.830	ppb	731.830	1.13	119305	5000	
W	182	2	165	0.184	ppb	0.184	11.65	1640	100	
Pt	195	2	165	0.004	ppb	0.004	63.28	173	100	
Tl	205	2	165	1.250	ppb	1.250	1.52	11898	2000	
Pb	208	2	165	82.078	ppb	82.078	0.96	997963	5000	
Th	232	2	165	173.960	ppb	173.960	0.50	2551348	2000	
U	238	2	165	19.481	ppb	19.481	2.25	329581	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	909588	1.05	1030374	88.28	60	120	
Sc (IS)	45	1	HMI H2	49646733	0.63	50049516	99.20	60	120	
Sc (IS)	45	2	HMI He	450908	0.39	455282	99.04	60	120	
Sc (IS)	45	3	No Gas	119936465	0.19	129118738	92.89	60	120	
Ge Internal Standard	72	1	HMI H2	24721663	0.69	25231850	97.98	60	120	
Ge Internal Standard	72	2	HMI He	710490	0.90	724676	98.04	60	120	
In Internal Standard	115	2	HMI He	1704913	1.48	1743517	97.79	60	120	
Ho-165	165	2	HMI He	14993693	1.32	14982339	100.08	60	120	

Sample Report

Sample Table

Sample Name	280-90300-c-12-b
Data File Name	073SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:50:30-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349333 SOIL 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	144.568	ppb	144.568	2.02	127985	500000	
Li	7	2	45	162.243	ppb	162.243	11.37	6591	500000	
Li	7	3	45	144.706	ppb	144.706	1.98	6168064	50000	
Be	9	1	6	6.336	ppb	6.336	9.60	1817	2000	
B	11	1	6	-25.112	ppb	-25.112	-5.22	16151	2000	
Na	23	1	45	593.070	ppb	593.070	0.88	2476734	2000	
Na	23	2	45	571.801	ppb	571.801	1.66	74221	400000	
Mg	24	2	45	30402.318	ppb	30402.318	0.56	1552327	400000	
Al	27	2	45	114356.460	ppb	114356.460	0.94	1096968	400000	
K	39	1	45	10842.207	ppb	10842.207	1.70	57671121	400000	
K	39	2	45	11980.264	ppb	11980.264	0.24	224322	400000	
Ca	40	1	45	14694.555	ppb	14694.555	0.50	109031712	400000	
Ca	44	2	45	14338.887	ppb	14338.887	5.45	17823	400000	
Ti	47	2	45	88574590.436	ppb	88574590.436	2.07	34675	4000	>LDR
V	51	2	72	246.969	ppb	246.969	1.14	192811	2000	
Cr	52	2	72	88.294	ppb	88.294	0.79	92710	5000	
Mn	55	2	72	2331.664	ppb	2331.664	0.51	631265	10000	
Fe	57	2	72	164497.521	ppb	164497.521	0.69	3070701	400000	
Co	59	2	72	63.380	ppb	63.380	0.26	151997	2000	
Ni	60	2	72	74.250	ppb	74.250	1.05	54184	5000	
Cu	63	2	72	472.333	ppb	472.333	0.48	1043474	5000	
Zn	66	2	72	708.679	ppb	708.679	0.32	124603	5000	
As	75	2	72	26.294	ppb	26.294	1.64	2799	2000	
Se	78	1	72	2.280	ppb	2.280	5.59	1339	2000	
Sr	88	2	72	99.334	ppb	99.334	1.33	23563	4000	
Zr	90	2	72	8015.410	ppb	8015.410	1.66	53463	1000	>LDR
Nb	93	2	72	4.978	ppb	4.978	1.08	16365	200	
Mo	95	2	115	8.921	ppb	8.921	2.83	7685	2000	
Pd	105	2	115	0.036	ppb	0.036	51.17	73	100	
Ag	107	2	115	0.258	ppb	0.258	5.31	917	100	
Cd	111	2	115	0.757	ppb	0.757	25.45	220	2000	
Sn	120	2	115	1.139	ppb	1.139	18.41	803	2000	
Sb	121	2	115	0.064	ppb	0.064	68.68	47	1000	
Ba	137	2	115	366.302	ppb	366.302	1.89	59202	5000	
W	182	2	165	0.152	ppb	0.152	11.70	1393	100	
Pt	195	2	165	0.009	ppb	0.009	127.68	213	100	
Tl	205	2	165	1.551	ppb	1.551	4.70	14581	2000	
Pb	208	2	165	75.508	ppb	75.508	0.93	909359	5000	
Th	232	2	165	239.723	ppb	239.723	0.42	3482098	2000	
U	238	2	165	44.546	ppb	44.546	0.50	746434	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	878429	0.32	1030374	85.25	60	120	
Sc (IS)	45	1	HMI H2	49302321	0.77	50049516	98.51	60	120	
Sc (IS)	45	2	HMI He	446187	1.45	455282	98.00	60	120	
Sc (IS)	45	3	No Gas	119308028	0.48	129118738	92.40	60	120	
Ge Internal Standard	72	1	HMI H2	24422919	0.51	25231850	96.79	60	120	
Ge Internal Standard	72	2	HMI He	697035	0.66	724676	96.19	60	120	
In Internal Standard	115	2	HMI He	1690430	1.75	1743517	96.96	60	120	
Ho-165	165	2	HMI He	14849452	0.94	14982339	99.11	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	074_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:54:16-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	461.602	ppb	1.292	243340	500	92.3	90	110	
Li	7	2	45	479.217	ppb	1.280	12134	500	95.8	90	110	
Li	7	3	45	448.974	ppb	0.597	11573164	500	89.8	90	110	>+\-10%
Be	9	1	6	51.330	ppb	1.540	16261	50	102.7	90	110	
B	11	1	6	-2.985	ppb	-7.330	25886	50	-6.0	90	110	>+\-10%
Na	23	1	45	4947.280	ppb	0.402	20071281	5000	98.9	90	110	
Na	23	2	45	4936.003	ppb	1.352	600681	5000	98.7	90	110	
Mg	24	2	45	4976.866	ppb	1.958	252770	5000	99.5	90	110	
Al	27	2	45	4980.471	ppb	3.500	47469	5000	99.6	90	110	
K	39	1	45	4885.218	ppb	1.229	31742398	5000	97.7	90	110	
K	39	2	45	5129.440	ppb	0.473	97827	5000	102.6	90	110	
Ca	40	1	45	5057.205	ppb	1.174	37936442	5000	101.1	90	110	
Ca	44	2	45	5026.811	ppb	0.239	6228	5000	100.5	90	110	
Ti	47	2	45	42952.136	ppb	118.278	20	50	85904.3	90	110	>+\-10%
V	51	2	72	53.282	ppb	0.663	42480	50	106.6	90	110	
Cr	52	2	72	52.246	ppb	1.556	56052	50	104.5	90	110	
Mn	55	2	72	51.817	ppb	3.258	14320	50	103.6	90	110	
Fe	57	2	72	5079.902	ppb	1.931	96752	5000	101.6	90	110	
Co	59	2	72	51.362	ppb	0.352	125596	50	102.7	90	110	
Ni	60	2	72	52.100	ppb	1.451	38790	50	104.2	90	110	
Cu	63	2	72	51.251	ppb	1.315	119050	50	102.5	90	110	
Zn	66	2	72	53.648	ppb	0.445	9820	50	107.3	90	110	
As	75	2	72	53.291	ppb	1.324	5777	50	106.6	90	110	
Se	78	1	72	50.608	ppb	0.701	29931	50	101.2	90	110	
Sr	88	2	72	50.289	ppb	4.749	12171	50	100.6	90	110	
Zr	90	2	72	76.574	ppb	14.298	547	50	153.1	90	110	>+\-10%
Nb	93	2	72	100.007	ppb	0.688	333604	100	100.0	90	110	
Mo	95	2	115	50.629	ppb	0.748	44712	50	101.3	90	110	
Pd	105	2	115	50.719	ppb	3.330	87275	50	101.4	90	110	
Ag	107	2	115	51.063	ppb	2.372	184516	50	102.1	90	110	
Cd	111	2	115	50.903	ppb	0.985	15004	50	101.8	90	110	
Sn	120	2	115	50.552	ppb	0.995	34332	50	101.1	90	110	
Sb	121	2	115	49.796	ppb	1.511	29517	50	99.6	90	110	
Ba	137	2	115	49.796	ppb	3.492	8272	50	99.6	90	110	
W	182	2	165	48.033	ppb	0.822	349376	50	96.1	90	110	
Pt	195	2	165	48.098	ppb	0.958	370544	50	96.2	90	110	
Tl	205	2	165	50.467	ppb	1.614	472952	50	100.9	90	110	
Pb	208	2	165	50.853	ppb	0.794	617960	50	101.7	90	110	
Th	232	2	165	50.393	ppb	0.402	738008	50	100.8	90	110	
U	238	2	165	49.625	ppb	0.978	838345	50	99.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	970321	0.27	1030374	94.17	60	120	
Sc (IS)	45	1	HMI H2	49779828	0.28	50049516	99.46	60	120	
Sc (IS)	45	2	HMI He	443196	1.77	455282	97.35	60	120	
Sc (IS)	45	3	No Gas	122232002	0.74	129118738	94.67	60	120	
Ge Internal Standard	72	1	HMI H2	25492431	0.65	25231850	101.03	60	120	
Ge Internal Standard	72	2	HMI He	710696	0.12	724676	98.07	60	120	
In Internal Standard	115	2	HMI He	1735532	2.53	1743517	99.54	60	120	
Ho-165	165	2	HMI He	14971720	0.92	14982339	99.93	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	075_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T19:58:03-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-19.009	ppb	-5.5	3605456	10	
Be	9	1	6	0.042	ppb	86.6	13	0.5	
B	11	1	6	-36.676	ppb	-3.0	13729	0.5	
Na	23	1	45	17.292	ppb	7.2	178311	25	
Na	23	2	45	20.298	ppb	7.0	7178	25	
Mg	24	2	45	2.404	ppb	122.9	600	25	
Al	27	2	45	8.667	ppb	126.4	117	15	
K	39	1	45	-166.767	ppb	-1.4	9332619	50	
K	39	2	45	19.007	ppb	50.6	4624	50	
Ca	40	1	45	7.241	ppb	3.6	129496	50	
Ca	44	2	45	32.843	ppb	74.2	70	25	>RL
Ti	47	2	45	8620.501	ppb	342.1	7	0.5	>RL
V	51	2	72	-0.052	ppb	-282.8	46	1	
Cr	52	2	72	0.012	ppb	1120.4	303	1	
Mn	55	2	72	0.192	ppb	49.0	70	0.5	
Fe	57	2	72	19.274	ppb	24.0	440	25	
Co	59	2	72	0.003	ppb	220.3	33	0.5	
Ni	60	2	72	-0.017	ppb	-202.6	77	1	
Cu	63	2	72	-0.179	ppb	-34.5	3681	1	
Zn	66	2	72	0.343	ppb	134.3	283	5	
As	75	2	72	0.072	ppb	76.1	15	1	
Se	78	1	72	-0.021	ppb	-203.5	39	1	
Sr	88	2	72	0.001	ppb	9886.0	17	0.5	
Zr	90	2	72	3.432	ppb	41.8	50	1	>RL
Nb	93	2	72	0.957	ppb	5.5	3310	2	
Mo	95	2	115	0.059	ppb	30.7	70	0.5	
Pd	105	2	115	0.058	ppb	21.9	117	1	
Ag	107	2	115	0.018	ppb	20.2	73	1	
Cd	111	2	115	0.011	ppb	342.0	7	0.5	
Sn	120	2	115	0.116	ppb	35.5	133	1	
Sb	121	2	115	0.121	ppb	57.8	83	0.6	
Ba	137	2	115	0.058	ppb	103.9	20	0.5	
W	182	2	165	0.076	ppb	41.1	860	1	
Pt	195	2	165	0.005	ppb	55.7	180	1	
Tl	205	2	165	0.033	ppb	31.9	480	0.1	
Pb	208	2	165	0.034	ppb	28.3	1883	0.5	
Th	232	2	165	0.074	ppb	16.6	1120	1	
U	238	2	165	0.025	ppb	32.4	453	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	976885	0.24	1030374	94.81	60	120	
Sc (IS)	45	1	HMI H2	50084034	0.21	50049516	100.07	60	120	
Sc (IS)	45	2	HMI He	446401	1.18	455282	98.05	60	120	
Sc (IS)	45	3	No Gas	126191705	0.31	129118738	97.73	60	120	
Ge Internal Standard	72	1	HMI H2	25607031	0.67	25231850	101.49	60	120	
Ge Internal Standard	72	2	HMI He	717824	0.34	724676	99.05	60	120	
In Internal Standard	115	2	HMI He	1771983	2.74	1743517	101.63	60	120	
Ho-165	165	2	HMI He	15122403	1.32	14982339	100.93	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	076LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:01:50-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	27.483	ppb	4.357	4349300	50	55.0	70	130	>+/-30%
Be	9	1	6	1.124	ppb	5.506	357	1	112.4	70	130	
Na	23	2	45	68.750	ppb	4.392	12918	50	137.5	70	130	>+/-30%
Mg	24	2	45	46.544	ppb	6.392	2820	50	93.1	70	130	
Al	27	2	45	36.626	ppb	11.655	380	30	122.1	70	130	
K	39	2	45	127.343	ppb	19.829	6538	100	127.3	70	130	
Ca	44	2	45	28.107	ppb	122.338	63	50	56.2	70	130	>+/-30%
V	51	2	72	5.222	ppb	8.847	4229	5	104.4	70	130	
Cr	52	2	72	2.097	ppb	9.682	2517	2	104.8	70	130	
Mn	55	2	72	1.227	ppb	27.605	353	1	122.7	70	130	
Fe	57	2	72	62.281	ppb	11.630	1250	50	124.6	70	130	
Co	59	2	72	1.042	ppb	15.060	2567	1	104.2	70	130	
Ni	60	2	72	2.308	ppb	9.489	1797	2	115.4	70	130	
Cu	63	2	72	2.050	ppb	0.995	8619	2	102.5	70	130	
Zn	66	2	72	9.970	ppb	10.697	1997	10	99.7	70	130	
As	75	2	72	5.174	ppb	8.424	565	5	103.5	70	130	
Se	78	1	72	5.164	ppb	1.638	3074	5	103.3	70	130	
Sr	88	2	72	0.957	ppb	29.425	247	1	95.7	70	130	
Zr	90	2	72	17.294	ppb	16.970	143	0.5	3458.7	70	130	>+/-30%
Nb	93	2	72	0.999	ppb	13.073	3404	2	49.9	70	130	>+/-30%
Mo	95	2	115	2.160	ppb	6.060	1930	2	108.0	70	130	
Pd	105	2	115	0.033	ppb	47.667	70	1	3.3	70	130	>+/-30%
Ag	107	2	115	5.026	ppb	4.324	18237	5	100.5	70	130	
Cd	111	2	115	1.039	ppb	28.491	310	1	103.9	70	130	
Sn	120	2	115	9.773	ppb	6.568	6705	10	97.7	70	130	
Sb	121	2	115	2.074	ppb	6.473	1243	2	103.7	70	130	
Ba	137	2	115	1.380	ppb	28.127	240	1	138.0	70	130	>+/-30%
W	182	2	165	4.793	ppb	0.409	35303	1	479.3	70	130	>+/-30%
Pt	195	2	165	0.007	ppb	79.047	197	1	0.7	70	130	>+/-30%
Tl	205	2	165	1.061	ppb	4.137	10150	1	106.1	70	130	
Pb	208	2	165	1.065	ppb	1.682	14430	1	106.5	70	130	
Th	232	2	165	2.137	ppb	5.405	31476	2	106.9	70	130	
U	238	2	165	1.015	ppb	2.261	17260	1	101.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	971691	1.58	1030374	94.30	60	120	
Sc (IS)	45	1	HMI H2	49484451	0.23	50049516	98.87	60	120	
Sc (IS)	45	2	HMI He	441192	0.84	455282	96.91	60	120	
Sc (IS)	45	3	No Gas	123774551	0.88	129118738	95.86	60	120	
Ge Internal Standard	72	1	HMI H2	25276531	0.54	25231850	100.18	60	120	
Ge Internal Standard	72	2	HMI He	708463	0.79	724676	97.76	60	120	
In Internal Standard	115	2	HMI He	1741228	0.88	1743517	99.87	60	120	
Ho-165	165	2	HMI He	15043032	0.89	14982339	100.41	60	120	

Blank Report

Sample Table

Sample Name	mb 280-349784/1-a
Data File Name	077_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:05:36-07:00
Sample Type	Blank
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-17.714	ppb	-5.771462541	69577	0.5
Li	7	2	45	8.970	ppb	191.6892069	3801	0.5
Li	7	3	45	-20.219	ppb	-3.342079602	3479315	10
Be	9	1	6	0.011	ppb	173.2050808	3	0.5
B	11	1	6	-32.793	ppb	-4.908082135	14670	0.5
Na	23	1	45	39.987	ppb	1.921518881	264133	25
Na	23	2	45	40.652	ppb	11.89746415	9493	25
Mg	24	2	45	-2.843	ppb	-41.90639663	327	25
Al	27	2	45	11.063	ppb	21.35001949	137	15
K	39	1	45	-1056.323	ppb	-1.769853489	5227601	50
K	39	2	45	8.240	ppb	116.4811251	4351	50
Ca	40	1	45	24.788	ppb	2.697275419	255536	50
Ca	44	2	45	-7.342	ppb	-292.1147472	20	25
Ti	47	2	45	8935.500	ppb	336.1624142	7	0.5
V	51	2	72	-0.132	ppb	-143.6808088	-19	1
Cr	52	2	72	2.892	ppb	10.00602669	3370	1
Mn	55	2	72	0.727	ppb	21.10368441	217	0.5
Fe	57	2	72	43.881	ppb	15.75330403	903	25
Co	59	2	72	0.014	ppb	104.2466578	60	0.5
Ni	60	2	72	0.052	ppb	88.38034701	127	1
Cu	63	2	72	0.914	ppb	5.721669041	6088	1
Zn	66	2	72	2.036	ppb	22.86099674	583	5
As	75	2	72	0.019	ppb	139.4641714	9	1
Se	78	1	72	-0.016	ppb	-49.55470274	41	1
Sr	88	2	72	0.057	ppb	2.657952877	30	0.5
Zr	90	2	72	3.000	ppb	148.0072175	47	1
Nb	93	2	72	0.116	ppb	19.6264328	470	2
Mo	95	2	115	0.063	ppb	49.2980879	73	0.5
Pd	105	2	115	0.017	ppb	51.53345194	43	1
Ag	107	2	115	0.009	ppb	52.35087735	40	1
Cd	111	2	115	0.012	ppb	335.1349098	7	0.5
Sn	120	2	115	0.237	ppb	38.8003072	217	1
Sb	121	2	115	0.006	ppb	176.6772737	13	0.6
Ba	137	2	115	0.018	ppb	487.1472399	13	0.5
W	182	2	165	0.062	ppb	11.80053959	753	1
Pt	195	2	165	0.007	ppb	111.2533886	193	1
Tl	205	2	165	0.037	ppb	10.80858912	517	0.1
Pb	208	2	165	0.035	ppb	90.45162816	1863	0.5
Th	232	2	165	0.096	ppb	3.558593595	1433	1
U	238	2	165	0.012	ppb	11.14459365	237	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	946067	1.38	1030374	91.82	60	120	
Sc (IS)	45	1	HMI H2	48914241	0.54	50049516	97.73	60	120	
Sc (IS)	45	2	HMI He	438741	0.86	455282	96.37	60	120	
Sc (IS)	45	3	No Gas	122511678	0.83	129118738	94.88	60	120	
Ge Internal Standard	72	1	HMI H2	25068602	0.68	25231850	99.35	60	120	
Ge Internal Standard	72	2	HMI He	709655	1.20	724676	97.93	60	120	
In Internal Standard	115	2	HMI He	1753508	2.36	1743517	100.57	60	120	
Ho-165	165	2	HMI He	14939847	0.59	14982339	99.72	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-349784/2-a
Data File Name	078_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:09:24-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	349784 6020A DOD 5
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	62.339	62.339	ppb	5.335	98473	400	15.6	80	120	>+/-20%
Li	7	2	45	65.134	65.134	ppb	18.911	4814	400	16.3	80	120	>+/-20%
Li	7	3	45	55.667	55.667	ppb	4.254	4777336	400	13.9	80	120	>+/-20%
Be	9	1	6	38.556	38.556	ppb	6.448	12104	40	96.4	80	120	
Na	23	2	45	26.779	26.779	ppb	5.137	7882	40	66.9	80	120	>+/-20%
Mg	24	2	45	-3.417	-3.417	ppb	-66.443	300	40	-8.5	80	120	>+/-20%
Al	27	2	45	414.667	414.667	ppb	8.870	3967	40	1036.7	80	120	>+/-20%
K	39	2	45	16.446	16.446	ppb	107.493	4531	40	41.1	80	120	>+/-20%
Ca	44	2	45	310.586	310.586	ppb	24.163	410	40	776.5	80	120	>+/-20%
V	51	2	72	40.943	40.943	ppb	3.825	32437	40	102.4	80	120	
Cr	52	2	72	41.845	41.845	ppb	1.543	44640	40	104.6	80	120	
Mn	55	2	72	42.565	42.565	ppb	3.485	11684	40	106.4	80	120	
Fe	57	2	72	437.423	437.423	ppb	1.905	8336	40	1093.6	80	120	>+/-20%
Co	59	2	72	40.857	40.857	ppb	1.958	99225	40	102.1	80	120	
Ni	60	2	72	41.055	41.055	ppb	3.711	30370	40	102.6	80	120	
Cu	63	2	72	40.039	40.039	ppb	0.977	93244	40	100.1	80	120	
Zn	66	2	72	40.806	40.806	ppb	4.598	7469	40	102.0	80	120	
As	75	2	72	39.401	39.401	ppb	2.660	4243	40	98.5	80	120	
Se	78	1	72	39.232	39.232	ppb	2.121	22738	40	98.1	80	120	
Nb	93	2	72	0.093	0.093	ppb	29.101	393	40	0.2	80	120	>+/-20%
Mo	95	2	115	42.522	42.522	ppb	2.244	37314	40	106.3	80	120	
Pd	105	2	115	0.002	0.002	ppb	477.044	17	40	0.0	80	120	>+/-20%
Ag	107	2	115	40.827	40.827	ppb	1.644	146615	40	102.1	80	120	
Cd	111	2	115	39.030	39.030	ppb	3.695	11428	40	97.6	80	120	
Sn	120	2	115	40.795	40.795	ppb	3.988	27533	40	102.0	80	120	
Sb	121	2	115	39.138	39.138	ppb	4.340	23050	40	97.8	80	120	
Ba	137	2	115	43.386	43.386	ppb	6.085	7165	40	108.5	80	120	
W	182	2	165	38.178	38.178	ppb	0.859	281696	40	95.4	80	120	
Pt	195	2	165	0.008	0.008	ppb	56.154	207	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.359	39.359	ppb	0.896	374140	40	98.4	80	120	
Pb	208	2	165	39.907	39.907	ppb	1.237	492134	40	99.8	80	120	
Th	232	2	165	39.082	39.082	ppb	0.709	580493	40	97.7	80	120	
U	238	2	165	39.212	39.212	ppb	1.317	671868	40	98.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	961750	0.73	1030374	93.34	60	120	
Sc (IS)	45	1	HMI H2	49206671	0.53	50049516	98.32	60	120	
Sc (IS)	45	2	HMI He	441668	1.18	455282	97.01	60	120	
Sc (IS)	45	3	No Gas	122122655	0.77	129118738	94.58	60	120	
Ge Internal Standard	72	1	HMI H2	24970568	0.56	25231850	98.96	60	120	
Ge Internal Standard	72	2	HMI He	705814	0.74	724676	97.40	60	120	
In Internal Standard	115	2	HMI He	1724263	1.02	1743517	98.90	60	120	
Ho-165	165	2	HMI He	15184821	1.15	14982339	101.35	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-a
Data File Name	079SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:13:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-13.046	ppb	-13.046	-35.31	70343	500000	
Li	7	2	45	-19.337	ppb	-19.337	-39.44	3247	500000	
Li	7	3	45	-15.505	ppb	-15.505	-8.93	3384159	50000	
Be	9	1	6	0.044	ppb	0.044	86.63	13	2000	
B	11	1	6	11.911	ppb	11.911	9.52	30029	2000	
Na	23	1	45	3302.199	ppb	3302.199	0.33	13036300	2000	
Na	23	2	45	3291.856	ppb	3291.856	0.25	390882	400000	
Mg	24	2	45	7545.941	ppb	7545.941	0.24	372263	400000	
Al	27	2	45	27.200	ppb	27.200	53.04	283	400000	
K	39	1	45	257.781	ppb	257.781	8.16	10833951	400000	
K	39	2	45	1314.339	ppb	1314.339	4.87	27428	400000	
Ca	40	1	45	23563.318	ppb	23563.318	0.76	171279297	400000	
Ca	44	2	45	22466.362	ppb	22466.362	3.21	26951	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	1.106	ppb	1.106	44.34	952	2000	
Cr	52	2	72	15.228	ppb	15.228	3.56	16288	5000	
Mn	55	2	72	4.110	ppb	4.110	2.49	1133	10000	
Fe	57	2	72	270.552	ppb	270.552	4.16	5138	400000	
Co	59	2	72	0.065	ppb	0.065	4.66	183	2000	
Ni	60	2	72	2.196	ppb	2.196	5.38	1693	5000	
Cu	63	2	72	1.595	ppb	1.595	19.24	7509	5000	
Zn	66	2	72	3.885	ppb	3.885	39.32	900	5000	
As	75	2	72	0.198	ppb	0.198	43.01	28	2000	
Se	78	1	72	0.366	ppb	0.366	7.43	261	2000	
Sr	88	2	72	62.264	ppb	62.264	3.77	14833	4000	
Zr	90	2	72	63.485	ppb	63.485	27.75	450	1000	
Nb	93	2	72	0.074	ppb	0.074	29.98	327	200	
Mo	95	2	115	0.084	ppb	0.084	37.89	90	2000	
Pd	105	2	115	0.006	ppb	0.006	52.86	23	100	
Ag	107	2	115	0.017	ppb	0.017	60.14	67	100	
Cd	111	2	115	0.035	ppb	0.035	151.14	13	2000	
Sn	120	2	115	0.289	ppb	0.289	52.84	247	2000	
Sb	121	2	115	0.720	ppb	0.720	24.08	433	1000	
Ba	137	2	115	16.408	ppb	16.408	7.81	2727	5000	
W	182	2	165	0.163	ppb	0.163	16.39	1480	100	
Pt	195	2	165	0.005	ppb	0.005	183.10	183	100	
Tl	205	2	165	0.058	ppb	0.058	25.95	703	2000	
Pb	208	2	165	0.190	ppb	0.190	6.17	3730	5000	
Th	232	2	165	0.169	ppb	0.169	14.73	2497	2000	
U	238	2	165	0.028	ppb	0.028	7.78	503	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	930700	2.02	1030374	90.33	60	120	
Sc (IS)	45	1	HMI H2	48309774	0.54	50049516	96.52	60	120	
Sc (IS)	45	2	HMI He	430705	0.36	455282	94.60	60	120	
Sc (IS)	45	3	No Gas	116434262	0.80	129118738	90.18	60	120	
Ge Internal Standard	72	1	HMI H2	24907309	0.37	25231850	98.71	60	120	
Ge Internal Standard	72	2	HMI He	699859	0.84	724676	96.58	60	120	
In Internal Standard	115	2	HMI He	1729888	2.42	1743517	99.22	60	120	
Ho-165	165	2	HMI He	14912661	0.54	14982339	99.53	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-aSD@5
Data File Name	080SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:16:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.968	ppb	-6.968	-29.51	72033	500000	
Li	7	2	45	11.608	ppb	11.608	108.26	3747	500000	
Li	7	3	45	-13.756	ppb	-13.756	-16.45	3456503	50000	
Be	9	1	6	0.032	ppb	0.032	100.84	10	2000	
B	11	1	6	-30.043	ppb	-30.043	-5.18	15924	2000	
Na	23	1	45	692.149	ppb	692.149	1.09	2797795	2000	
Na	23	2	45	671.266	ppb	671.266	2.07	82657	400000	
Mg	24	2	45	1492.417	ppb	1492.417	3.42	73394	400000	
Al	27	2	45	3.110	ppb	3.110	125.19	60	400000	
K	39	1	45	-122.235	ppb	-122.235	-12.88	9138413	400000	
K	39	2	45	266.520	ppb	266.520	8.20	8779	400000	
Ca	40	1	45	4707.048	ppb	4707.048	0.46	34064808	400000	
Ca	44	2	45	4411.603	ppb	4411.603	4.17	5274	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.425	ppb	0.425	57.52	414	2000	
Cr	52	2	72	3.663	ppb	3.663	3.56	4084	5000	
Mn	55	2	72	0.636	ppb	0.636	9.40	187	10000	
Fe	57	2	72	40.336	ppb	40.336	10.29	813	400000	
Co	59	2	72	0.023	ppb	0.023	48.05	80	2000	
Ni	60	2	72	0.319	ppb	0.319	34.72	317	5000	
Cu	63	2	72	0.102	ppb	0.102	139.91	4161	5000	
Zn	66	2	72	0.884	ppb	0.884	50.40	367	5000	
As	75	2	72	0.034	ppb	0.034	60.97	10	2000	
Se	78	1	72	0.049	ppb	0.049	84.65	77	2000	
Sr	88	2	72	12.767	ppb	12.767	2.15	3017	4000	
Zr	90	2	72	7.729	ppb	7.729	91.99	77	1000	
Nb	93	2	72	0.023	ppb	0.023	17.53	157	200	
Mo	95	2	115	0.028	ppb	0.028	149.18	40	2000	
Pd	105	2	115	0.022	ppb	0.022	71.54	50	100	
Ag	107	2	115	0.003	ppb	0.003	112.01	17	100	
Cd	111	2	115	0.001	ppb	0.001	3817.09	3	2000	
Sn	120	2	115	0.099	ppb	0.099	33.18	117	2000	
Sb	121	2	115	0.174	ppb	0.174	29.56	110	1000	
Ba	137	2	115	3.463	ppb	3.463	6.05	570	5000	
W	182	2	165	0.055	ppb	0.055	32.73	693	100	
Pt	195	2	165	-0.007	ppb	-0.007	-58.60	87	100	
Tl	205	2	165	0.022	ppb	0.022	4.81	370	2000	
Pb	208	2	165	0.032	ppb	0.032	41.34	1807	5000	
Th	232	2	165	0.023	ppb	0.023	37.66	363	2000	
U	238	2	165	0.009	ppb	0.009	53.96	187	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	963021	1.25	1030374	93.46	60	120	
Sc (IS)	45	1	HMI H2	48017826	0.56	50049516	95.94	60	120	
Sc (IS)	45	2	HMI He	427296	0.92	455282	93.85	60	120	
Sc (IS)	45	3	No Gas	117929362	1.48	129118738	91.33	60	120	
Ge Internal Standard	72	1	HMI H2	24585495	0.66	25231850	97.44	60	120	
Ge Internal Standard	72	2	HMI He	691311	0.92	724676	95.40	60	120	
In Internal Standard	115	2	HMI He	1692159	0.78	1743517	97.05	60	120	
Ho-165	165	2	HMI He	14769381	0.43	14982339	98.58	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-b ms
Data File Name	081SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:20:46-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	61.182	ppb	61.182	7.66	94137	500000	
Li	7	2	45	75.971	ppb	75.971	24.70	4757	500000	
Li	7	3	45	59.198	ppb	59.198	4.64	4575200	50000	
Be	9	1	6	41.637	ppb	41.637	6.67	12335	2000	
B	11	1	6	41.242	ppb	41.242	5.30	39272	2000	
Na	23	1	45	3491.131	ppb	3491.131	1.10	13468657	2000	
Na	23	2	45	3498.520	ppb	3498.520	0.53	404749	400000	
Mg	24	2	45	7934.093	ppb	7934.093	1.30	381559	400000	
Al	27	2	45	428.147	ppb	428.147	6.75	3894	400000	
K	39	1	45	323.510	ppb	323.510	7.51	10869807	400000	
K	39	2	45	1410.488	ppb	1410.488	1.35	28403	400000	
Ca	40	1	45	24888.604	ppb	24888.604	1.10	176869124	400000	
Ca	44	2	45	24118.583	ppb	24118.583	1.53	28206	400000	
Ti	47	2	45	36987.280	ppb	36987.280	152.74	17	4000	>LDR
V	51	2	72	41.236	ppb	41.236	1.02	31679	2000	
Cr	52	2	72	42.229	ppb	42.229	3.34	43674	5000	
Mn	55	2	72	42.846	ppb	42.846	3.66	11404	10000	
Fe	57	2	72	438.881	ppb	438.881	4.51	8112	400000	
Co	59	2	72	41.418	ppb	41.418	1.16	97534	2000	
Ni	60	2	72	42.751	ppb	42.751	1.24	30664	5000	
Cu	63	2	72	41.020	ppb	41.020	2.03	92540	5000	
Zn	66	2	72	44.016	ppb	44.016	2.65	7795	5000	
As	75	2	72	42.814	ppb	42.814	0.94	4471	2000	
Se	78	1	72	40.036	ppb	40.036	1.48	22717	2000	
Sr	88	2	72	109.675	ppb	109.675	4.52	25540	4000	
Zr	90	2	72	6315.525	ppb	6315.525	1.66	41367	1000	>LDR
Nb	93	2	72	0.037	ppb	0.037	43.58	200	200	
Mo	95	2	115	42.721	ppb	42.721	1.12	37057	2000	
Pd	105	2	115	0.002	ppb	0.002	616.50	17	100	
Ag	107	2	115	41.286	ppb	41.286	1.73	146571	100	
Cd	111	2	115	41.608	ppb	41.608	1.57	12045	2000	
Sn	120	2	115	40.986	ppb	40.986	0.63	27350	2000	
Sb	121	2	115	40.177	ppb	40.177	3.94	23397	1000	
Ba	137	2	115	60.058	ppb	60.058	3.21	9797	5000	
W	182	2	165	39.772	ppb	39.772	1.62	289273	100	
Pt	195	2	165	-0.005	ppb	-0.005	-114.64	107	100	
Tl	205	2	165	40.917	ppb	40.917	0.41	383422	2000	
Pb	208	2	165	41.121	ppb	41.121	0.66	499886	5000	
Th	232	2	165	40.057	ppb	40.057	1.21	586526	2000	
U	238	2	165	40.470	ppb	40.470	1.55	683564	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	908312	2.35	1030374	88.15	60	120	
Sc (IS)	45	1	HMI H2	47233368	0.61	50049516	94.37	60	120	
Sc (IS)	45	2	HMI He	419936	1.44	455282	92.24	60	120	
Sc (IS)	45	3	No Gas	115481325	0.39	129118738	89.44	60	120	
Ge Internal Standard	72	1	HMI H2	24446806	0.28	25231850	96.89	60	120	
Ge Internal Standard	72	2	HMI He	684404	0.95	724676	94.44	60	120	
In Internal Standard	115	2	HMI He	1704402	0.31	1743517	97.76	60	120	
Ho-165	165	2	HMI He	14968824	0.85	14982339	99.91	60	120	

Sample Table

Sample Name	280-90288-p-1-c msd
Data File Name	082SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:24:33-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.482	ppb	60.482	3.28	93588	500000	
Li	7	2	45	82.996	ppb	82.996	14.31	4887	500000	
Li	7	3	45	59.391	ppb	59.391	1.69	4535466	50000	
Be	9	1	6	41.998	ppb	41.998	3.23	12128	2000	
B	11	1	6	44.286	ppb	44.286	3.76	39262	2000	
Na	23	1	45	3394.234	ppb	3394.234	0.61	13055730	2000	
Na	23	2	45	3414.267	ppb	3414.267	1.59	396161	400000	
Mg	24	2	45	7758.051	ppb	7758.051	2.28	374104	400000	
Al	27	2	45	406.107	ppb	406.107	3.05	3707	400000	
K	39	1	45	302.168	ppb	302.168	7.71	10744912	400000	
K	39	2	45	1376.718	ppb	1376.718	1.88	27896	400000	
Ca	40	1	45	24277.632	ppb	24277.632	0.03	171974444	400000	
Ca	44	2	45	22742.683	ppb	22742.683	1.06	26681	400000	
Ti	47	2	45	56069.743	ppb	56069.743	159.55	23	4000	>LDR
V	51	2	72	40.221	ppb	40.221	10.79	30936	2000	
Cr	52	2	72	40.912	ppb	40.912	3.09	42381	5000	
Mn	55	2	72	40.943	ppb	40.943	3.22	10914	10000	
Fe	57	2	72	418.738	ppb	418.738	2.58	7752	400000	
Co	59	2	72	40.207	ppb	40.207	1.56	94810	2000	
Ni	60	2	72	42.275	ppb	42.275	6.32	30357	5000	
Cu	63	2	72	39.297	ppb	39.297	1.57	88926	5000	
Zn	66	2	72	42.328	ppb	42.328	3.65	7515	5000	
As	75	2	72	41.004	ppb	41.004	1.33	4287	2000	
Se	78	1	72	39.556	ppb	39.556	0.47	22444	2000	
Sr	88	2	72	105.400	ppb	105.400	2.69	24581	4000	
Zr	90	2	72	6288.849	ppb	6288.849	1.53	41244	1000	>LDR
Nb	93	2	72	0.018	ppb	0.018	123.89	140	200	
Mo	95	2	115	41.995	ppb	41.995	3.99	36904	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-270.70	10	100	
Ag	107	2	115	39.276	ppb	39.276	3.08	141276	100	
Cd	111	2	115	40.012	ppb	40.012	2.28	11738	2000	
Sn	120	2	115	39.183	ppb	39.183	2.89	26498	2000	
Sb	121	2	115	38.126	ppb	38.126	6.95	22479	1000	
Ba	137	2	115	55.384	ppb	55.384	9.99	9146	5000	
W	182	2	165	38.346	ppb	38.346	3.32	278648	100	
Pt	195	2	165	0.000	ppb	0.000	13506.56	143	100	
Tl	205	2	165	39.141	ppb	39.141	2.55	366456	2000	
Pb	208	2	165	39.699	ppb	39.699	3.47	482163	5000	
Th	232	2	165	39.183	ppb	39.183	2.90	573201	2000	
U	238	2	165	39.338	ppb	39.338	2.42	663889	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	884515	0.30	1030374	85.84	60	120	
Sc (IS)	45	1	HMI H2	47079801	0.29	50049516	94.07	60	120	
Sc (IS)	45	2	HMI He	421143	2.22	455282	92.50	60	120	
Sc (IS)	45	3	No Gas	114397335	0.07	129118738	88.60	60	120	
Ge Internal Standard	72	1	HMI H2	24444297	0.19	25231850	96.88	60	120	
Ge Internal Standard	72	2	HMI He	685352	1.12	724676	94.57	60	120	
In Internal Standard	115	2	HMI He	1727765	2.61	1743517	99.10	60	120	
Ho-165	165	2	HMI He	14959910	1.89	14982339	99.85	60	120	

Sample Table

Sample Name	280-90288-p-1-aPDS
Data File Name	083SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:28:20-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-12.145	ppb	-12.145	-18.31	68239	500000	
Li	7	2	45	13.309	ppb	13.309	197.54	3674	500000	
Li	7	3	45	-15.966	ppb	-15.966	-10.52	3314845	50000	
Be	9	1	6	203.673	ppb	203.673	1.93	58225	2000	
B	11	1	6	11.288	ppb	11.288	38.80	28032	2000	
Na	23	1	45	3217.619	ppb	3217.619	0.42	12269485	2000	
Na	23	2	45	3199.282	ppb	3199.282	1.49	366810	400000	
Mg	24	2	45	7297.844	ppb	7297.844	0.17	347533	400000	
Al	27	2	45	1984.233	ppb	1984.233	0.40	17766	400000	
K	39	1	45	235.422	ppb	235.422	8.99	10369422	400000	
K	39	2	45	1319.973	ppb	1319.973	3.35	26574	400000	
Ca	40	1	45	22814.147	ppb	22814.147	1.33	160142021	400000	
Ca	44	2	45	22358.110	ppb	22358.110	1.80	25889	400000	
Ti	47	2	45	284381.801	ppb	284381.801	63.17	107	4000	>LDR
V	51	2	72	206.289	ppb	206.289	2.66	157948	2000	
Cr	52	2	72	206.315	ppb	206.315	0.37	212112	5000	
Mn	55	2	72	204.419	ppb	204.419	1.83	54296	10000	
Fe	57	2	72	2154.527	ppb	2154.527	0.95	39508	400000	
Co	59	2	72	197.286	ppb	197.286	0.63	463975	2000	
Ni	60	2	72	200.749	ppb	200.749	0.41	143536	5000	
Cu	63	2	72	196.769	ppb	196.769	0.95	428608	5000	
Zn	66	2	72	203.790	ppb	203.790	1.58	35289	5000	
As	75	2	72	200.831	ppb	200.831	1.17	20922	2000	
Se	78	1	72	195.146	ppb	195.146	1.40	109108	2000	
Sr	88	2	72	61.832	ppb	61.832	3.80	14393	4000	
Zr	90	2	72	31687.379	ppb	31687.379	1.33	207184	1000	>LDR
Nb	93	2	72	0.566	ppb	0.566	2.72	1897	200	
Mo	95	2	115	201.143	ppb	201.143	0.88	173370	2000	
Pd	105	2	115	0.006	ppb	0.006	150.07	23	100	
Ag	107	2	115	40.110	ppb	40.110	0.45	141529	100	
Cd	111	2	115	202.747	ppb	202.747	0.89	58327	2000	
Sn	120	2	115	198.700	ppb	198.700	0.90	131585	2000	
Sb	121	2	115	198.662	ppb	198.662	0.80	114944	1000	
Ba	137	2	115	219.985	ppb	219.985	1.97	35639	5000	
W	182	2	165	193.021	ppb	193.021	0.83	1391944	100	
Pt	195	2	165	0.081	ppb	0.081	30.14	763	100	
Tl	205	2	165	205.572	ppb	205.572	0.62	1910806	2000	
Pb	208	2	165	197.367	ppb	197.367	0.39	2375275	5000	
Th	232	2	165	0.639	ppb	0.639	7.55	9310	2000	
U	238	2	165	198.874	ppb	198.874	0.64	3333055	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	875487	1.15	1030374	84.97	60	120	
Sc (IS)	45	1	HMI H2	46654456	0.69	50049516	93.22	60	120	
Sc (IS)	45	2	HMI He	415741	0.51	455282	91.32	60	120	
Sc (IS)	45	3	No Gas	114300488	0.31	129118738	88.52	60	120	
Ge Internal Standard	72	1	HMI H2	24130342	0.49	25231850	95.63	60	120	
Ge Internal Standard	72	2	HMI He	683653	1.35	724676	94.34	60	120	
In Internal Standard	115	2	HMI He	1694110	1.07	1743517	97.17	60	120	
Ho-165	165	2	HMI He	14852509	0.72	14982339	99.13	60	120	

Sample Report

Sample Table

Sample Name	280-90288-e-3-a
Data File Name	084SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:32:07-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-13.502	ppb	-13.502	-29.80	67864	500000	
Li	7	2	45	7.646	ppb	7.646	94.29	3611	500000	
Li	7	3	45	-17.262	ppb	-17.262	-31.95	3315546	50000	
Be	9	1	6	0.045	ppb	0.045	112.10	13	2000	
B	11	1	6	11.850	ppb	11.850	21.70	28593	2000	
Na	23	1	45	3387.253	ppb	3387.253	0.94	12926799	2000	
Na	23	2	45	3406.499	ppb	3406.499	0.95	393559	400000	
Mg	24	2	45	7849.404	ppb	7849.404	0.77	376921	400000	
Al	27	2	45	16.534	ppb	16.534	16.52	180	400000	
K	39	1	45	282.722	ppb	282.722	5.65	10578992	400000	
K	39	2	45	1389.204	ppb	1389.204	2.77	27986	400000	
Ca	40	1	45	24453.504	ppb	24453.504	0.04	171854984	400000	
Ca	44	2	45	22858.145	ppb	22858.145	1.77	26691	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.634	ppb	0.634	37.53	565	2000	
Cr	52	2	72	13.369	ppb	13.369	0.90	13912	5000	
Mn	55	2	72	3.451	ppb	3.451	16.63	927	10000	
Fe	57	2	72	187.157	ppb	187.157	3.76	3470	400000	
Co	59	2	72	0.072	ppb	0.072	17.92	193	2000	
Ni	60	2	72	2.633	ppb	2.633	1.65	1954	5000	
Cu	63	2	72	0.788	ppb	0.788	16.54	5554	5000	
Zn	66	2	72	3.005	ppb	3.005	2.73	723	5000	
As	75	2	72	0.175	ppb	0.175	60.02	25	2000	
Se	78	1	72	0.465	ppb	0.465	13.95	308	2000	
Sr	88	2	72	65.478	ppb	65.478	3.76	15137	4000	
Zr	90	2	72	6.915	ppb	6.915	101.98	70	1000	
Nb	93	2	72	0.024	ppb	0.024	32.29	157	200	
Mo	95	2	115	0.178	ppb	0.178	24.75	170	2000	
Pd	105	2	115	0.002	ppb	0.002	606.97	17	100	
Ag	107	2	115	0.020	ppb	0.020	36.49	77	100	
Cd	111	2	115	0.070	ppb	0.070	116.03	23	2000	
Sn	120	2	115	0.233	ppb	0.233	8.85	207	2000	
Sb	121	2	115	0.595	ppb	0.595	8.69	357	1000	
Ba	137	2	115	18.049	ppb	18.049	9.42	2954	5000	
W	182	2	165	0.106	ppb	0.106	19.54	1073	100	
Pt	195	2	165	-0.003	ppb	-0.003	-154.92	120	100	
Tl	205	2	165	0.092	ppb	0.092	8.54	1023	2000	
Pb	208	2	165	0.058	ppb	0.058	60.43	2147	5000	
Th	232	2	165	0.021	ppb	0.021	10.25	330	2000	
U	238	2	165	0.061	ppb	0.061	10.94	1067	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	887576	3.39	1030374	86.14	60	120	
Sc (IS)	45	1	HMI H2	46708878	0.72	50049516	93.33	60	120	
Sc (IS)	45	2	HMI He	419268	1.81	455282	92.09	60	120	
Sc (IS)	45	3	No Gas	115079332	1.52	129118738	89.13	60	120	
Ge Internal Standard	72	1	HMI H2	24091994	0.20	25231850	95.48	60	120	
Ge Internal Standard	72	2	HMI He	679202	1.03	724676	93.72	60	120	
In Internal Standard	115	2	HMI He	1704991	2.21	1743517	97.79	60	120	
Ho-165	165	2	HMI He	14961771	0.53	14982339	99.86	60	120	

Sample Report

Sample Table

Sample Name	280-90337-c-1-a
Data File Name	085SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:35:54-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.760	ppb	7.760	3.65	74378	500000	
Li	7	2	45	18.449	ppb	18.449	16.97	3741	500000	
Li	7	3	45	4.530	ppb	4.530	62.91	3690928	50000	
Be	9	1	6	0.120	ppb	0.120	74.56	33	2000	
B	11	1	6	-5.290	ppb	-5.290	-34.31	21917	2000	
Na	23	1	45	1802.067	ppb	1802.067	0.81	6862646	2000	
Na	23	2	45	1806.340	ppb	1806.340	1.40	207956	400000	
Mg	24	2	45	20381.210	ppb	20381.210	0.59	964803	400000	
Al	27	2	45	64.755	ppb	64.755	14.67	607	400000	
K	39	1	45	4200.709	ppb	4200.709	1.15	26688305	400000	
K	39	2	45	5351.070	ppb	5351.070	1.50	95072	400000	
Ca	40	1	45	203133.074	ppb	203133.074	0.47	1414420512	400000	
Ca	44	2	45	189800.537	ppb	189800.537	0.23	218452	400000	
Ti	47	2	45	10051.837	ppb	10051.837	159.04	7	4000	
V	51	2	72	-0.162	ppb	-0.162	-67.21	-40	2000	
Cr	52	2	72	0.338	ppb	0.338	8.02	610	5000	
Mn	55	2	72	741.775	ppb	741.775	1.02	192600	10000	
Fe	57	2	72	95.821	ppb	95.821	6.97	1780	400000	
Co	59	2	72	0.068	ppb	0.068	17.34	180	2000	
Ni	60	2	72	9.575	ppb	9.575	8.96	6775	5000	
Cu	63	2	72	1.829	ppb	1.829	7.65	7665	5000	
Zn	66	2	72	4.260	ppb	4.260	16.05	923	5000	
As	75	2	72	0.140	ppb	0.140	104.48	21	2000	
Se	78	1	72	0.066	ppb	0.066	71.67	84	2000	
Sr	88	2	72	174.176	ppb	174.176	2.46	39609	4000	
Zr	90	2	72	9.195	ppb	9.195	43.37	83	1000	
Nb	93	2	72	-0.004	ppb	-0.004	-154.27	67	200	
Mo	95	2	115	0.065	ppb	0.065	2.12	70	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-332.64	10	100	
Ag	107	2	115	0.016	ppb	0.016	43.25	63	100	
Cd	111	2	115	0.061	ppb	0.061	119.50	20	2000	
Sn	120	2	115	0.139	ppb	0.139	42.22	140	2000	
Sb	121	2	115	0.118	ppb	0.118	69.09	77	1000	
Ba	137	2	115	10.842	ppb	10.842	11.47	1727	5000	
W	182	2	165	0.078	ppb	0.078	17.93	853	100	
Pt	195	2	165	-0.002	ppb	-0.002	-346.89	127	100	
Tl	205	2	165	0.281	ppb	0.281	6.53	2754	2000	
Pb	208	2	165	0.169	ppb	0.169	11.09	3444	5000	
Th	232	2	165	0.025	ppb	0.025	8.58	390	2000	
U	238	2	165	0.444	ppb	0.444	2.80	7412	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	849234	1.35	1030374	82.42	60	120	
Sc (IS)	45	1	HMI H2	46294093	0.46	50049516	92.50	60	120	
Sc (IS)	45	2	HMI He	413606	0.93	455282	90.85	60	120	
Sc (IS)	45	3	No Gas	115721828	0.57	129118738	89.62	60	120	
Ge Internal Standard	72	1	HMI H2	23798221	0.38	25231850	94.32	60	120	
Ge Internal Standard	72	2	HMI He	668476	0.46	724676	92.24	60	120	
In Internal Standard	115	2	HMI He	1658455	1.63	1743517	95.12	60	120	
Ho-165	165	2	HMI He	14741521	0.24	14982339	98.39	60	120	

Sample Table

Sample Name	280-90337-c-2-a
Data File Name	086SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:39:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	6.540	ppb	6.540	117.49	74154	500000	
Li	7	2	45	13.989	ppb	13.989	193.30	3677	500000	
Li	7	3	45	2.568	ppb	2.568	5.58	3696429	50000	
Be	9	1	6	0.097	ppb	0.097	22.01	27	2000	
B	11	1	6	-15.760	ppb	-15.760	-2.76	18410	2000	
Na	23	1	45	14255.029	ppb	14255.029	1.06	53730224	2000	>LDR
Na	23	2	45	14813.146	ppb	14813.146	0.83	1679315	400000	
Mg	24	2	45	54367.944	ppb	54367.944	1.16	2581285	400000	
Al	27	2	45	1187.859	ppb	1187.859	2.35	10627	400000	
K	39	1	45	843.704	ppb	843.704	0.15	12837302	400000	
K	39	2	45	1925.935	ppb	1925.935	0.18	36875	400000	
Ca	40	1	45	223105.904	ppb	223105.904	0.53	1557349043	400000	
Ca	44	2	45	209782.772	ppb	209782.772	0.76	242253	400000	
Ti	47	2	45	705198.369	ppb	705198.369	47.75	260	4000	>LDR
V	51	2	72	2.199	ppb	2.199	21.09	1735	2000	
Cr	52	2	72	1.931	ppb	1.931	7.35	2220	5000	
Mn	55	2	72	546.192	ppb	546.192	1.45	142499	10000	
Fe	57	2	72	2230.453	ppb	2230.453	3.09	40180	400000	
Co	59	2	72	3.438	ppb	3.438	6.66	7972	2000	
Ni	60	2	72	9.839	ppb	9.839	9.66	6988	5000	
Cu	63	2	72	1.611	ppb	1.611	13.67	7238	5000	
Zn	66	2	72	9.204	ppb	9.204	5.81	1764	5000	
As	75	2	72	1.211	ppb	1.211	18.56	131	2000	
Se	78	1	72	0.210	ppb	0.210	6.39	164	2000	
Sr	88	2	72	352.785	ppb	352.785	1.24	80597	4000	
Zr	90	2	72	861.970	ppb	861.970	147.64	5593	1000	
Nb	93	2	72	0.079	ppb	0.079	73.06	330	200	
Mo	95	2	115	1.045	ppb	1.045	6.97	897	2000	
Pd	105	2	115	0.000	ppb	0.000	4315.38	13	100	
Ag	107	2	115	0.013	ppb	0.013	21.31	50	100	
Cd	111	2	115	0.142	ppb	0.142	71.29	43	2000	
Sn	120	2	115	0.128	ppb	0.128	27.07	133	2000	
Sb	121	2	115	0.130	ppb	0.130	42.40	83	1000	
Ba	137	2	115	34.238	ppb	34.238	5.97	5444	5000	
W	182	2	165	0.070	ppb	0.070	20.70	783	100	
Pt	195	2	165	0.004	ppb	0.004	236.03	167	100	
Tl	205	2	165	0.110	ppb	0.110	10.00	1157	2000	
Pb	208	2	165	0.796	ppb	0.796	10.14	10715	5000	
Th	232	2	165	0.358	ppb	0.358	2.84	5091	2000	
U	238	2	165	1.325	ppb	1.325	0.76	21663	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	840975	0.73	1030374	81.62	60	120	
Sc (IS)	45	1	HMI H2	46409501	0.28	50049516	92.73	60	120	
Sc (IS)	45	2	HMI He	414967	0.65	455282	91.15	60	120	
Sc (IS)	45	3	No Gas	116904532	0.67	129118738	90.54	60	120	
Ge Internal Standard	72	1	HMI H2	23838024	0.84	25231850	94.48	60	120	
Ge Internal Standard	72	2	HMI He	671677	0.73	724676	92.69	60	120	
In Internal Standard	115	2	HMI He	1659282	1.53	1743517	95.17	60	120	
Ho-165	165	2	HMI He	14464910	1.35	14982339	96.55	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	087_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:43:35-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	468.319	ppb	1.766	235751	500	93.7	90	110	
Li	7	2	45	503.741	ppb	2.001	11751	500	100.7	90	110	
Li	7	3	45	461.562	ppb	0.580	11417164	500	92.3	90	110	
Be	9	1	6	50.628	ppb	1.284	15297	50	101.3	90	110	
B	11	1	6	-2.098	ppb	-135.013	24998	50	-4.2	90	110	>+\-10%
Na	23	1	45	4948.246	ppb	0.577	19258210	5000	99.0	90	110	
Na	23	2	45	5037.266	ppb	0.990	573190	5000	100.7	90	110	
Mg	24	2	45	5074.318	ppb	0.444	241006	5000	101.5	90	110	
Al	27	2	45	5004.577	ppb	1.168	44619	5000	100.1	90	110	
K	39	1	45	4822.718	ppb	1.450	30182478	5000	96.5	90	110	
K	39	2	45	5020.187	ppb	1.584	89614	5000	100.4	90	110	
Ca	40	1	45	5126.420	ppb	0.871	36889383	5000	102.5	90	110	
Ca	44	2	45	5148.833	ppb	5.923	5965	5000	103.0	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	53.852	ppb	2.653	40928	50	107.7	90	110	
Cr	52	2	72	52.648	ppb	0.837	53852	50	105.3	90	110	
Mn	55	2	72	52.688	ppb	3.460	13879	50	105.4	90	110	
Fe	57	2	72	5015.624	ppb	1.076	91082	5000	100.3	90	110	
Co	59	2	72	51.768	ppb	0.383	120693	50	103.5	90	110	
Ni	60	2	72	51.831	ppb	0.821	36792	50	103.7	90	110	
Cu	63	2	72	51.312	ppb	0.701	113631	50	102.6	90	110	
Zn	66	2	72	51.523	ppb	1.452	8999	50	103.0	90	110	
As	75	2	72	52.436	ppb	4.278	5418	50	104.9	90	110	
Se	78	1	72	51.259	ppb	1.974	29301	50	102.5	90	110	
Sr	88	2	72	48.304	ppb	0.945	11147	50	96.6	90	110	
Zr	90	2	72	49.237	ppb	37.088	343	50	98.5	90	110	
Nb	93	2	72	99.407	ppb	0.649	316153	100	99.4	90	110	
Mo	95	2	115	50.551	ppb	3.896	43021	50	101.1	90	110	
Pd	105	2	115	51.246	ppb	1.653	85034	50	102.5	90	110	
Ag	107	2	115	51.264	ppb	0.815	178599	50	102.5	90	110	
Cd	111	2	115	51.198	ppb	4.236	14540	50	102.4	90	110	
Sn	120	2	115	49.767	ppb	0.325	32582	50	99.5	90	110	
Sb	121	2	115	50.046	ppb	1.833	28595	50	100.1	90	110	
Ba	137	2	115	51.856	ppb	6.484	8299	50	103.7	90	110	
W	182	2	165	48.974	ppb	0.527	346623	50	97.9	90	110	
Pt	195	2	165	49.014	ppb	0.429	367451	50	98.0	90	110	
Tl	205	2	165	51.208	ppb	0.932	466995	50	102.4	90	110	
Pb	208	2	165	50.933	ppb	0.735	602287	50	101.9	90	110	
Th	232	2	165	50.517	ppb	0.699	719914	50	101.0	90	110	
U	238	2	165	50.232	ppb	0.402	825801	50	100.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	925482	1.46	1030374	89.82	60	120	
Sc (IS)	45	1	HMI H2	47752939	0.45	50049516	95.41	60	120	
Sc (IS)	45	2	HMI He	414412	0.20	455282	91.02	60	120	
Sc (IS)	45	3	No Gas	118361895	0.97	129118738	91.67	60	120	
Ge Internal Standard	72	1	HMI H2	24635993	0.80	25231850	97.64	60	120	
Ge Internal Standard	72	2	HMI He	677587	1.00	724676	93.50	60	120	
In Internal Standard	115	2	HMI He	1672801	1.36	1743517	95.94	60	120	
Ho-165	165	2	HMI He	14568320	0.46	14982339	97.24	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	088_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:47:21-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-14.575	ppb	-17.8	3493018	10	
Be	9	1	6	0.054	ppb	90.9	17	0.5	
B	11	1	6	-40.238	ppb	-5.5	12121	0.5	
Na	23	1	45	18.283	ppb	2.4	173787	25	
Na	23	2	45	22.040	ppb	26.4	6895	25	
Mg	24	2	45	2.890	ppb	13.1	583	25	
Al	27	2	45	-0.432	ppb	-158.7	27	15	
K	39	1	45	-218.332	ppb	-2.5	8674901	50	
K	39	2	45	-0.348	ppb	-4408.6	3984	50	
Ca	40	1	45	17.175	ppb	4.5	194743	50	
Ca	44	2	45	2.268	ppb	1381.6	30	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.189	ppb	-33.8	-62	1	
Cr	52	2	72	-0.005	ppb	-408.2	270	1	
Mn	55	2	72	0.181	ppb	95.2	63	0.5	
Fe	57	2	72	6.446	ppb	33.4	183	25	
Co	59	2	72	0.012	ppb	41.0	53	0.5	
Ni	60	2	72	-0.016	ppb	-330.9	73	1	
Cu	63	2	72	-0.071	ppb	-228.4	3721	1	
Zn	66	2	72	0.119	ppb	184.5	230	5	
As	75	2	72	0.017	ppb	547.0	8	1	
Se	78	1	72	0.010	ppb	439.7	55	1	
Sr	88	2	72	-0.053	ppb	-47.3	3	0.5	
Zr	90	2	72	2.315	ppb	178.0	40	1	>RL
Nb	93	2	72	0.969	ppb	6.3	3174	2	
Mo	95	2	115	0.063	ppb	21.2	70	0.5	
Pd	105	2	115	0.056	ppb	56.4	107	1	
Ag	107	2	115	0.020	ppb	19.7	77	1	
Cd	111	2	115	0.070	ppb	27.0	23	0.5	
Sn	120	2	115	0.093	ppb	49.2	113	1	
Sb	121	2	115	0.121	ppb	13.9	80	0.6	
Ba	137	2	115	0.003	ppb	3455.0	10	0.5	
W	182	2	165	0.073	ppb	18.5	823	1	
Pt	195	2	165	0.005	ppb	89.9	180	1	
Tl	205	2	165	0.054	ppb	17.0	663	0.1	
Pb	208	2	165	0.033	ppb	30.8	1813	0.5	
Th	232	2	165	0.064	ppb	12.4	953	1	
U	238	2	165	0.019	ppb	21.8	347	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	952404	2.17	1030374	92.43	60	120	
Sc (IS)	45	1	HMI H2	47734759	0.42	50049516	95.38	60	120	
Sc (IS)	45	2	HMI He	416610	1.59	455282	91.51	60	120	
Sc (IS)	45	3	No Gas	119636385	0.17	129118738	92.66	60	120	
Ge Internal Standard	72	1	HMI H2	24502379	0.13	25231850	97.11	60	120	
Ge Internal Standard	72	2	HMI He	680439	0.74	724676	93.90	60	120	
In Internal Standard	115	2	HMI He	1699011	2.14	1743517	97.45	60	120	
Ho-165	165	2	HMI He	14720328	0.82	14982339	98.25	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	089LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:51:09-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	32.989	ppb	9.952	4255237	50	66.0	70	130	>+/-30%
Be	9	1	6	1.104	ppb	21.407	340	1	110.4	70	130	
Na	23	2	45	68.471	ppb	5.357	12031	50	136.9	70	130	>+/-30%
Mg	24	2	45	51.710	ppb	2.413	2877	50	103.4	70	130	
Al	27	2	45	25.940	ppb	22.860	260	30	86.5	70	130	
K	39	2	45	116.336	ppb	12.624	5918	100	116.3	70	130	
Ca	44	2	45	28.723	ppb	29.984	60	50	57.4	70	130	>+/-30%
V	51	2	72	4.499	ppb	16.738	3470	5	90.0	70	130	
Cr	52	2	72	2.170	ppb	7.388	2467	2	108.5	70	130	
Mn	55	2	72	1.024	ppb	9.963	283	1	102.4	70	130	
Fe	57	2	72	48.881	ppb	20.760	947	50	97.8	70	130	
Co	59	2	72	1.144	ppb	8.180	2674	1	114.4	70	130	
Ni	60	2	72	2.200	ppb	16.890	1630	2	110.0	70	130	
Cu	63	2	72	2.087	ppb	8.334	8272	2	104.4	70	130	
Zn	66	2	72	10.615	ppb	3.682	2007	10	106.2	70	130	
As	75	2	72	5.268	ppb	6.683	547	5	105.4	70	130	
Se	78	1	72	4.939	ppb	0.902	2860	5	98.8	70	130	
Sr	88	2	72	1.213	ppb	26.733	293	1	121.3	70	130	
Zr	90	2	72	19.405	ppb	40.793	150	0.5	3881.1	70	130	>+/-30%
Nb	93	2	72	1.061	ppb	10.682	3430	2	53.1	70	130	>+/-30%
Mo	95	2	115	1.856	ppb	12.983	1583	2	92.8	70	130	
Pd	105	2	115	0.035	ppb	60.537	70	1	3.5	70	130	>+/-30%
Ag	107	2	115	5.155	ppb	1.021	17853	5	103.1	70	130	
Cd	111	2	115	0.830	ppb	31.396	237	1	83.0	70	130	
Sn	120	2	115	10.261	ppb	7.253	6718	10	102.6	70	130	
Sb	121	2	115	2.108	ppb	5.129	1207	2	105.4	70	130	
Ba	137	2	115	1.261	ppb	9.029	210	1	126.1	70	130	
W	182	2	165	4.869	ppb	1.397	34401	1	486.9	70	130	>+/-30%
Pt	195	2	165	-0.001	ppb	-689.967	130	1	-0.1	70	130	>+/-30%
Tl	205	2	165	1.022	ppb	4.371	9393	1	102.2	70	130	
Pb	208	2	165	1.058	ppb	3.197	13756	1	105.8	70	130	
Th	232	2	165	2.090	ppb	2.469	29532	2	104.5	70	130	
U	238	2	165	0.973	ppb	3.128	15869	1	97.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	943972	0.84	1030374	91.61	60	120	
Sc (IS)	45	1	HMI H2	47577388	0.62	50049516	95.06	60	120	
Sc (IS)	45	2	HMI He	411873	0.31	455282	90.47	60	120	
Sc (IS)	45	3	No Gas	118464785	1.45	129118738	91.75	60	120	
Ge Internal Standard	72	1	HMI H2	24575055	0.75	25231850	97.40	60	120	
Ge Internal Standard	72	2	HMI He	673232	1.00	724676	92.90	60	120	
In Internal Standard	115	2	HMI He	1662361	1.23	1743517	95.35	60	120	
Ho-165	165	2	HMI He	14431541	0.27	14982339	96.32	60	120	

Sample Report

Sample Table

Sample Name	280-90337-c-3-a
Data File Name	090SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:54:57-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.650	ppb	-10.650	-20.20	68366	500000	
Li	7	2	45	-3.532	ppb	-3.532	-368.61	3390	500000	
Li	7	3	45	-14.999	ppb	-14.999	-15.49	3351566	50000	
Be	9	1	6	0.046	ppb	0.046	42.42	13	2000	
B	11	1	6	-25.820	ppb	-25.820	-5.81	15927	2000	
Na	23	1	45	5163.206	ppb	5163.206	1.42	19517447	2000	
Na	23	2	45	5199.195	ppb	5199.195	1.03	592520	400000	
Mg	24	2	45	9808.611	ppb	9808.611	1.01	466271	400000	
Al	27	2	45	65.600	ppb	65.600	21.97	617	400000	
K	39	1	45	-211.880	ppb	-211.880	-7.89	8457893	400000	
K	39	2	45	854.033	ppb	854.033	3.71	18574	400000	
Ca	40	1	45	57832.669	ppb	57832.669	0.46	403599581	400000	
Ca	44	2	45	54968.727	ppb	54968.727	1.28	63526	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.031	ppb	0.031	482.05	105	2000	
Cr	52	2	72	0.232	ppb	0.232	38.17	507	5000	
Mn	55	2	72	190.039	ppb	190.039	2.96	49684	10000	
Fe	57	2	72	942.228	ppb	942.228	1.68	17052	400000	
Co	59	2	72	0.299	ppb	0.299	17.00	717	2000	
Ni	60	2	72	0.189	ppb	0.189	28.01	217	5000	
Cu	63	2	72	-0.074	ppb	-0.074	-78.46	3674	5000	
Zn	66	2	72	1.079	ppb	1.079	25.19	390	5000	
As	75	2	72	4.832	ppb	4.832	8.77	503	2000	
Se	78	1	72	0.034	ppb	0.034	150.75	67	2000	
Sr	88	2	72	84.803	ppb	84.803	2.48	19432	4000	
Zr	90	2	72	7.048	ppb	7.048	46.00	70	1000	
Nb	93	2	72	0.121	ppb	0.121	15.62	463	200	
Mo	95	2	115	0.653	ppb	0.653	19.63	567	2000	
Pd	105	2	115	0.010	ppb	0.010	119.20	30	100	
Ag	107	2	115	0.009	ppb	0.009	37.50	37	100	
Cd	111	2	115	0.036	ppb	0.036	54.80	13	2000	
Sn	120	2	115	0.128	ppb	0.128	44.96	133	2000	
Sb	121	2	115	0.053	ppb	0.053	117.43	40	1000	
Ba	137	2	115	54.580	ppb	54.580	5.83	8683	5000	
W	182	2	165	0.049	ppb	0.049	44.39	633	100	
Pt	195	2	165	-0.001	ppb	-0.001	-1118.87	133	100	
Tl	205	2	165	0.045	ppb	0.045	7.06	563	2000	
Pb	208	2	165	0.215	ppb	0.215	9.96	3900	5000	
Th	232	2	165	0.082	ppb	0.082	11.54	1183	2000	
U	238	2	165	0.099	ppb	0.099	3.71	1647	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	879117	0.85	1030374	85.32	60	120	
Sc (IS)	45	1	HMI H2	46394391	0.60	50049516	92.70	60	120	
Sc (IS)	45	2	HMI He	415168	0.97	455282	91.19	60	120	
Sc (IS)	45	3	No Gas	115025438	1.39	129118738	89.09	60	120	
Ge Internal Standard	72	1	HMI H2	23821661	0.18	25231850	94.41	60	120	
Ge Internal Standard	72	2	HMI He	673111	1.56	724676	92.88	60	120	
In Internal Standard	115	2	HMI He	1661032	1.65	1743517	95.27	60	120	
Ho-165	165	2	HMI He	14413600	0.39	14982339	96.20	60	120	

Sample Report

Sample Table

Sample Name	280-90337-c-5-a
Data File Name	091SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T20:58:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.408	ppb	-3.408	-12.38	70992	500000	
Li	7	2	45	6.405	ppb	6.405	102.42	3544	500000	
Li	7	3	45	-8.422	ppb	-8.422	-20.09	3421190	50000	
Be	9	1	6	0.336	ppb	0.336	23.44	97	2000	
B	11	1	6	6.705	ppb	6.705	41.12	26657	2000	
Na	23	1	45	9090.762	ppb	9090.762	0.37	34385847	2000	
Na	23	2	45	9148.172	ppb	9148.172	0.94	1036006	400000	
Mg	24	2	45	5829.338	ppb	5829.338	0.90	276427	400000	
Al	27	2	45	1816.823	ppb	1816.823	3.67	16198	400000	
K	39	1	45	1738.462	ppb	1738.462	1.78	16587725	400000	
K	39	2	45	2794.944	ppb	2794.944	0.47	51581	400000	
Ca	40	1	45	27708.977	ppb	27708.977	0.59	193954370	400000	
Ca	44	2	45	26648.342	ppb	26648.342	3.08	30714	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.144	ppb	-0.144	-171.05	-28	2000	
Cr	52	2	72	0.474	ppb	0.474	0.79	750	5000	
Mn	55	2	72	748.575	ppb	748.575	1.73	195372	10000	
Fe	57	2	72	123.621	ppb	123.621	5.95	2290	400000	
Co	59	2	72	23.703	ppb	23.703	1.71	54812	2000	
Ni	60	2	72	61.155	ppb	61.155	1.48	43036	5000	
Cu	63	2	72	7.282	ppb	7.282	1.79	19274	5000	
Zn	66	2	72	58.407	ppb	58.407	3.82	10087	5000	
As	75	2	72	0.524	ppb	0.524	46.53	60	2000	
Se	78	1	72	0.089	ppb	0.089	28.73	97	2000	
Sr	88	2	72	81.630	ppb	81.630	3.41	18674	4000	
Zr	90	2	72	13.892	ppb	13.892	153.76	113	1000	
Nb	93	2	72	0.082	ppb	0.082	51.32	340	200	
Mo	95	2	115	0.103	ppb	0.103	34.69	103	2000	
Pd	105	2	115	0.006	ppb	0.006	52.08	23	100	
Ag	107	2	115	0.011	ppb	0.011	31.47	43	100	
Cd	111	2	115	1.317	ppb	1.317	27.83	380	2000	
Sn	120	2	115	0.071	ppb	0.071	114.45	97	2000	
Sb	121	2	115	0.105	ppb	0.105	43.91	70	1000	
Ba	137	2	115	17.178	ppb	17.178	14.16	2764	5000	
W	182	2	165	2.778	ppb	2.778	7.17	19783	100	
Pt	195	2	165	0.000	ppb	0.000	-3422.01	137	100	
Tl	205	2	165	0.190	ppb	0.190	5.27	1884	2000	
Pb	208	2	165	0.896	ppb	0.896	5.33	11886	5000	
Th	232	2	165	0.051	ppb	0.051	12.72	753	2000	
U	238	2	165	1.122	ppb	1.122	1.53	18325	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	879642	1.16	1030374	85.37	60	120	
Sc (IS)	45	1	HMI H2	46525048	0.50	50049516	92.96	60	120	
Sc (IS)	45	2	HMI He	413849	0.68	455282	90.90	60	120	
Sc (IS)	45	3	No Gas	113787695	0.39	129118738	88.13	60	120	
Ge Internal Standard	72	1	HMI H2	23971576	0.23	25231850	95.01	60	120	
Ge Internal Standard	72	2	HMI He	671939	1.24	724676	92.72	60	120	
In Internal Standard	115	2	HMI He	1679011	2.19	1743517	96.30	60	120	
Ho-165	165	2	HMI He	14453150	0.70	14982339	96.47	60	120	

Sample Report

Sample Table

Sample Name	280-90337-a-6-a
Data File Name	092SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:02:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	4.323	ppb	4.323	44.88	73452	500000	
Li	7	2	45	-1.569	ppb	-1.569	-212.66	3404	500000	
Li	7	3	45	0.461	ppb	0.461	331.49	3593346	50000	
Be	9	1	6	0.012	ppb	0.012	173.21	3	2000	
B	11	1	6	-26.757	ppb	-26.757	-3.56	15460	2000	
Na	23	1	45	4839.289	ppb	4839.289	1.33	18315118	2000	
Na	23	2	45	4861.879	ppb	4861.879	0.27	551189	400000	
Mg	24	2	45	29153.343	ppb	29153.343	0.98	1377014	400000	
Al	27	2	45	1.866	ppb	1.866	288.26	47	400000	
K	39	1	45	2953.704	ppb	2953.704	4.34	21593591	400000	
K	39	2	45	4114.794	ppb	4114.794	2.82	73881	400000	
Ca	40	1	45	52682.811	ppb	52682.811	0.68	367996075	400000	
Ca	44	2	45	49731.095	ppb	49731.095	0.97	57141	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.268	ppb	-0.268	-104.88	-119	2000	
Cr	52	2	72	1.375	ppb	1.375	11.51	1650	5000	
Mn	55	2	72	402.034	ppb	402.034	1.10	104340	10000	
Fe	57	2	72	1034.121	ppb	1034.121	1.12	18567	400000	
Co	59	2	72	0.198	ppb	0.198	20.98	480	2000	
Ni	60	2	72	1.008	ppb	1.008	21.35	787	5000	
Cu	63	2	72	-0.061	ppb	-0.061	-10.09	3674	5000	
Zn	66	2	72	1.094	ppb	1.094	14.17	390	5000	
As	75	2	72	3.608	ppb	3.608	3.85	374	2000	
Se	78	1	72	-0.022	ppb	-0.022	-97.32	36	2000	
Sr	88	2	72	131.379	ppb	131.379	3.58	29866	4000	
Zr	90	2	72	1.887	ppb	1.887	191.29	37	1000	
Nb	93	2	72	0.036	ppb	0.036	41.80	193	200	
Mo	95	2	115	0.418	ppb	0.418	10.17	367	2000	
Pd	105	2	115	0.000	ppb	0.000	1391.04	13	100	
Ag	107	2	115	0.011	ppb	0.011	132.75	43	100	
Cd	111	2	115	0.072	ppb	0.072	76.05	23	2000	
Sn	120	2	115	0.077	ppb	0.077	91.88	100	2000	
Sb	121	2	115	0.048	ppb	0.048	55.68	37	1000	
Ba	137	2	115	52.037	ppb	52.037	3.67	8236	5000	
W	182	2	165	0.050	ppb	0.050	16.75	647	100	
Pt	195	2	165	0.002	ppb	0.002	312.85	153	100	
Tl	205	2	165	0.017	ppb	0.017	50.30	317	2000	
Pb	208	2	165	0.039	ppb	0.039	37.25	1857	5000	
Th	232	2	165	0.024	ppb	0.024	23.56	377	2000	
U	238	2	165	0.023	ppb	0.023	38.20	400	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	870140	0.99	1030374	84.45	60	120	
Sc (IS)	45	1	HMI H2	46438459	1.56	50049516	92.79	60	120	
Sc (IS)	45	2	HMI He	412770	0.66	455282	90.66	60	120	
Sc (IS)	45	3	No Gas	114722688	0.37	129118738	88.85	60	120	
Ge Internal Standard	72	1	HMI H2	24028196	1.51	25231850	95.23	60	120	
Ge Internal Standard	72	2	HMI He	668111	0.12	724676	92.19	60	120	
In Internal Standard	115	2	HMI He	1653508	0.53	1743517	94.84	60	120	
Ho-165	165	2	HMI He	14521501	0.91	14982339	96.92	60	120	

Sample Report

Sample Table

Sample Name	280-90337-a-7-a
Data File Name	093SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:06:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	18.060	ppb	18.060	10.16	76862	500000	
Li	7	2	45	37.102	ppb	37.102	33.75	3987	500000	
Li	7	3	45	14.688	ppb	14.688	14.82	3710733	50000	
Be	9	1	6	0.459	ppb	0.459	37.43	127	2000	
B	11	1	6	-18.769	ppb	-18.769	-4.71	17536	2000	
Na	23	1	45	4985.341	ppb	4985.341	0.87	18575671	2000	
Na	23	2	45	4999.257	ppb	4999.257	1.95	559252	400000	
Mg	24	2	45	49490.005	ppb	49490.005	2.81	2306985	400000	
Al	27	2	45	7380.880	ppb	7380.880	0.18	64687	400000	
K	39	1	45	4884.384	ppb	4884.384	2.12	29150375	400000	
K	39	2	45	6022.175	ppb	6022.175	1.70	104907	400000	
Ca	40	1	45	100213.754	ppb	100213.754	0.85	689172763	400000	
Ca	44	2	45	97972.144	ppb	97972.144	0.87	111089	400000	
Ti	47	2	45	4270698.300	ppb	4270698.300	22.58	1527	4000	>LDR
V	51	2	72	13.545	ppb	13.545	5.70	10194	2000	
Cr	52	2	72	11.943	ppb	11.943	5.30	12228	5000	
Mn	55	2	72	948.909	ppb	948.909	1.89	245800	10000	
Fe	57	2	72	20387.576	ppb	20387.576	0.22	364152	400000	
Co	59	2	72	7.678	ppb	7.678	1.48	17636	2000	
Ni	60	2	72	18.245	ppb	18.245	4.16	12795	5000	
Cu	63	2	72	14.315	ppb	14.315	0.19	33937	5000	
Zn	66	2	72	47.335	ppb	47.335	2.37	8156	5000	
As	75	2	72	14.933	ppb	14.933	6.49	1523	2000	
Se	78	1	72	0.047	ppb	0.047	33.97	73	2000	
Sr	88	2	72	542.534	ppb	542.534	1.87	123066	4000	
Zr	90	2	72	527.187	ppb	527.187	4.87	3387	1000	
Nb	93	2	72	0.473	ppb	0.473	21.02	1557	200	
Mo	95	2	115	1.066	ppb	1.066	18.62	900	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-194.68	7	100	
Ag	107	2	115	0.030	ppb	0.030	21.18	107	100	
Cd	111	2	115	0.169	ppb	0.169	21.32	50	2000	
Sn	120	2	115	0.729	ppb	0.729	32.54	513	2000	
Sb	121	2	115	0.425	ppb	0.425	21.97	247	1000	
Ba	137	2	115	346.138	ppb	346.138	2.34	54101	5000	
W	182	2	165	0.271	ppb	0.271	14.63	2207	100	
Pt	195	2	165	0.005	ppb	0.005	175.37	173	100	
Tl	205	2	165	0.138	ppb	0.138	6.32	1420	2000	
Pb	208	2	165	8.231	ppb	8.231	0.80	98243	5000	
Th	232	2	165	2.923	ppb	2.923	2.15	41564	2000	
U	238	2	165	0.602	ppb	0.602	5.43	9897	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	844606	0.43	1030374	81.97	60	120	
Sc (IS)	45	1	HMI H2	45720359	0.14	50049516	91.35	60	120	
Sc (IS)	45	2	HMI He	407454	1.42	455282	89.50	60	120	
Sc (IS)	45	3	No Gas	111331385	0.53	129118738	86.22	60	120	
Ge Internal Standard	72	1	HMI H2	23686328	0.88	25231850	93.87	60	120	
Ge Internal Standard	72	2	HMI He	666857	1.23	724676	92.02	60	120	
In Internal Standard	115	2	HMI He	1634722	1.79	1743517	93.76	60	120	
Ho-165	165	2	HMI He	14528174	0.40	14982339	96.97	60	120	

Sample Report

Sample Table

Sample Name	280-90350-c-2-a
Data File Name	094SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:10:05-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-12.340	ppb	-12.340	-13.41	67366	500000	
Li	7	2	45	-12.590	ppb	-12.590	-94.27	3257	500000	
Li	7	3	45	-19.378	ppb	-19.378	-4.67	3266913	50000	
Be	9	1	6	0.024	ppb	0.024	173.21	7	2000	
B	11	1	6	-25.861	ppb	-25.861	-4.42	15427	2000	
Na	23	1	45	11034.129	ppb	11034.129	0.77	41333016	2000	>LDR
Na	23	2	45	11288.713	ppb	11288.713	0.75	1287759	400000	
Mg	24	2	45	33806.082	ppb	33806.082	1.53	1614055	400000	
Al	27	2	45	35.575	ppb	35.575	52.02	350	400000	
K	39	1	45	-256.134	ppb	-256.134	-6.92	8221489	400000	
K	39	2	45	803.674	ppb	803.674	4.91	17799	400000	
Ca	40	1	45	78942.689	ppb	78942.689	0.14	547386579	400000	
Ca	44	2	45	75649.125	ppb	75649.125	1.84	87851	400000	
Ti	47	2	45	18909.315	ppb	18909.315	0.99	10	4000	
V	51	2	72	0.419	ppb	0.419	103.93	397	2000	
Cr	52	2	72	3.645	ppb	3.645	1.83	3964	5000	
Mn	55	2	72	2583.102	ppb	2583.102	0.22	676570	10000	
Fe	57	2	72	357.495	ppb	357.495	0.81	6521	400000	
Co	59	2	72	0.257	ppb	0.257	24.12	620	2000	
Ni	60	2	72	4.714	ppb	4.714	4.86	3407	5000	
Cu	63	2	72	0.868	ppb	0.868	13.93	5688	5000	
Zn	66	2	72	8.529	ppb	8.529	9.64	1657	5000	
As	75	2	72	0.222	ppb	0.222	54.62	29	2000	
Se	78	1	72	0.042	ppb	0.042	85.28	71	2000	
Sr	88	2	72	150.544	ppb	150.544	1.17	34542	4000	
Zr	90	2	72	20.456	ppb	20.456	49.71	157	1000	
Nb	93	2	72	0.026	ppb	0.026	56.68	163	200	
Mo	95	2	115	0.561	ppb	0.561	17.97	497	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-59.06	3	100	
Ag	107	2	115	0.011	ppb	0.011	15.91	43	100	
Cd	111	2	115	0.222	ppb	0.222	16.58	67	2000	
Sn	120	2	115	0.099	ppb	0.099	33.41	117	2000	
Sb	121	2	115	0.070	ppb	0.070	44.62	50	1000	
Ba	137	2	115	65.151	ppb	65.151	1.90	10494	5000	
W	182	2	165	4.801	ppb	4.801	1.71	33930	100	
Pt	195	2	165	-0.003	ppb	-0.003	-99.12	117	100	
Tl	205	2	165	0.044	ppb	0.044	17.88	557	2000	
Pb	208	2	165	0.804	ppb	0.804	6.68	10785	5000	
Th	232	2	165	0.040	ppb	0.040	13.06	600	2000	
U	238	2	165	1.203	ppb	1.203	2.07	19616	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	852174	0.85	1030374	82.71	60	120	
Sc (IS)	45	1	HMI H2	46097839	0.75	50049516	92.10	60	120	
Sc (IS)	45	2	HMI He	417221	0.69	455282	91.64	60	120	
Sc (IS)	45	3	No Gas	114553615	0.37	129118738	88.72	60	120	
Ge Internal Standard	72	1	HMI H2	23747251	0.32	25231850	94.12	60	120	
Ge Internal Standard	72	2	HMI He	674356	0.69	724676	93.06	60	120	
In Internal Standard	115	2	HMI He	1682775	1.55	1743517	96.52	60	120	
Ho-165	165	2	HMI He	14433503	0.46	14982339	96.34	60	120	

Sample Report

Sample Table

Sample Name	280-90351-e-1-a
Data File Name	095SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:13:52-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-1.628	ppb	-1.628	-172.78	71809	500000	
Li	7	2	45	2.927	ppb	2.927	428.02	3567	500000	
Li	7	3	45	-7.595	ppb	-7.595	-26.72	3465342	50000	
Be	9	1	6	0.035	ppb	0.035	99.98	10	2000	
B	11	1	6	-0.171	ppb	-0.171	-114.98	24116	2000	
Na	23	1	45	2811.397	ppb	2811.397	0.59	10735825	2000	
Na	23	2	45	2804.501	ppb	2804.501	1.69	328037	400000	
Mg	24	2	45	10039.104	ppb	10039.104	2.40	486722	400000	
Al	27	2	45	7.196	ppb	7.196	46.41	97	400000	
K	39	1	45	-383.086	ppb	-383.086	-3.71	7793648	400000	
K	39	2	45	727.937	ppb	727.937	3.48	16745	400000	
Ca	40	1	45	26182.183	ppb	26182.183	0.28	183828824	400000	
Ca	44	2	45	24573.255	ppb	24573.255	1.51	28981	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.567	ppb	0.567	100.74	514	2000	
Cr	52	2	72	7.342	ppb	7.342	2.02	7785	5000	
Mn	55	2	72	106.172	ppb	106.172	0.41	28103	10000	
Fe	57	2	72	140.283	ppb	140.283	8.98	2624	400000	
Co	59	2	72	0.612	ppb	0.612	10.78	1460	2000	
Ni	60	2	72	4.265	ppb	4.265	3.77	3120	5000	
Cu	63	2	72	0.372	ppb	0.372	42.39	4677	5000	
Zn	66	2	72	1.730	ppb	1.730	3.78	507	5000	
As	75	2	72	0.174	ppb	0.174	53.52	25	2000	
Se	78	1	72	0.028	ppb	0.028	126.17	64	2000	
Sr	88	2	72	65.182	ppb	65.182	4.87	15114	4000	
Zr	90	2	72	6.880	ppb	6.880	58.27	70	1000	
Nb	93	2	72	0.025	ppb	0.025	68.74	160	200	
Mo	95	2	115	0.040	ppb	0.040	0.31	50	2000	
Pd	105	2	115	0.008	ppb	0.008	113.27	27	100	
Ag	107	2	115	0.010	ppb	0.010	59.37	40	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.119	ppb	0.119	22.23	130	2000	
Sb	121	2	115	0.035	ppb	0.035	49.06	30	1000	
Ba	137	2	115	4.394	ppb	4.394	6.45	720	5000	
W	182	2	165	0.172	ppb	0.172	17.46	1523	100	
Pt	195	2	165	-0.002	ppb	-0.002	-240.79	123	100	
Tl	205	2	165	0.029	ppb	0.029	19.45	430	2000	
Pb	208	2	165	0.042	ppb	0.042	23.40	1913	5000	
Th	232	2	165	0.016	ppb	0.016	11.35	260	2000	
U	238	2	165	0.032	ppb	0.032	5.14	563	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	869628	0.17	1030374	84.40	60	120	
Sc (IS)	45	1	HMI H2	46665399	0.39	50049516	93.24	60	120	
Sc (IS)	45	2	HMI He	423470	1.24	455282	93.01	60	120	
Sc (IS)	45	3	No Gas	114807058	0.64	129118738	88.92	60	120	
Ge Internal Standard	72	1	HMI H2	24005866	0.26	25231850	95.14	60	120	
Ge Internal Standard	72	2	HMI He	681122	0.73	724676	93.99	60	120	
In Internal Standard	115	2	HMI He	1690653	0.21	1743517	96.97	60	120	
Ho-165	165	2	HMI He	14669759	0.57	14982339	97.91	60	120	

Sample Table

Sample Name	280-90351-e-2-a
Data File Name	096SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:17:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-13.273	ppb	-13.273	-20.16	68303	500000	
Li	7	2	45	-11.077	ppb	-11.077	-194.05	3324	500000	
Li	7	3	45	-18.399	ppb	-18.399	-9.38	3290866	50000	
Be	9	1	6	0.023	ppb	0.023	173.21	7	2000	
B	11	1	6	-0.415	ppb	-0.415	-73.92	24160	2000	
Na	23	1	45	4597.625	ppb	4597.625	1.18	17602576	2000	
Na	23	2	45	4587.701	ppb	4587.701	1.19	532488	400000	
Mg	24	2	45	8362.184	ppb	8362.184	1.44	404525	400000	
Al	27	2	45	200.775	ppb	200.775	13.29	1854	400000	
K	39	1	45	-594.371	ppb	-594.371	-0.77	6956324	400000	
K	39	2	45	522.579	ppb	522.579	5.31	13132	400000	
Ca	40	1	45	34937.718	ppb	34937.718	0.28	246815543	400000	
Ca	44	2	45	33374.023	ppb	33374.023	2.19	39254	400000	
Ti	47	2	45	36445.659	ppb	36445.659	153.73	17	4000	>LDR
V	51	2	72	0.389	ppb	0.389	92.33	378	2000	
Cr	52	2	72	8.871	ppb	8.871	1.65	9336	5000	
Mn	55	2	72	7.110	ppb	7.110	0.81	1894	10000	
Fe	57	2	72	254.737	ppb	254.737	6.65	4704	400000	
Co	59	2	72	0.069	ppb	0.069	31.41	187	2000	
Ni	60	2	72	0.594	ppb	0.594	8.28	507	5000	
Cu	63	2	72	0.587	ppb	0.587	11.98	5131	5000	
Zn	66	2	72	1.150	ppb	1.150	29.59	407	5000	
As	75	2	72	0.420	ppb	0.420	30.95	50	2000	
Se	78	1	72	0.275	ppb	0.275	12.12	203	2000	
Sr	88	2	72	81.746	ppb	81.746	2.80	18921	4000	
Zr	90	2	72	30.553	ppb	30.553	71.06	223	1000	
Nb	93	2	72	0.032	ppb	0.032	48.48	183	200	
Mo	95	2	115	0.140	ppb	0.140	27.56	137	2000	
Pd	105	2	115	0.014	ppb	0.014	108.02	37	100	
Ag	107	2	115	0.009	ppb	0.009	77.27	37	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.165	ppb	0.165	38.78	160	2000	
Sb	121	2	115	0.276	ppb	0.276	26.04	170	1000	
Ba	137	2	115	22.607	ppb	22.607	6.04	3677	5000	
W	182	2	165	0.050	ppb	0.050	36.92	653	100	
Pt	195	2	165	0.007	ppb	0.007	81.69	197	100	
Tl	205	2	165	0.018	ppb	0.018	16.21	327	2000	
Pb	208	2	165	0.149	ppb	0.149	4.35	3194	5000	
Th	232	2	165	0.080	ppb	0.080	9.31	1183	2000	
U	238	2	165	0.069	ppb	0.069	9.33	1177	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	874077	0.44	1030374	84.83	60	120	
Sc (IS)	45	1	HMI H2	46958009	0.07	50049516	93.82	60	120	
Sc (IS)	45	2	HMI He	422393	0.48	455282	92.78	60	120	
Sc (IS)	45	3	No Gas	114841175	1.43	129118738	88.94	60	120	
Ge Internal Standard	72	1	HMI H2	24169711	0.27	25231850	95.79	60	120	
Ge Internal Standard	72	2	HMI He	680066	0.58	724676	93.84	60	120	
In Internal Standard	115	2	HMI He	1695240	2.82	1743517	97.23	60	120	
Ho-165	165	2	HMI He	14675131	0.43	14982339	97.95	60	120	

Sample Report

Sample Table

Sample Name	280-90351-e-3-a
Data File Name	097SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:21:27-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	29.842	ppb	29.842	14.98	83105	500000	
Li	7	2	45	47.194	ppb	47.194	9.69	4187	500000	
Li	7	3	45	26.449	ppb	26.449	5.04	3890175	50000	
Be	9	1	6	0.023	ppb	0.023	86.64	7	2000	
B	11	1	6	49.766	ppb	49.766	4.05	40689	2000	
Na	23	1	45	6369.902	ppb	6369.902	0.41	24397486	2000	
Na	23	2	45	6408.466	ppb	6408.466	0.31	722123	400000	
Mg	24	2	45	16064.989	ppb	16064.989	0.52	755869	400000	
Al	27	2	45	10.885	ppb	10.885	74.19	127	400000	
K	39	1	45	2716.083	ppb	2716.083	2.05	20884591	400000	
K	39	2	45	3911.322	ppb	3911.322	1.28	70123	400000	
Ca	40	1	45	32745.598	ppb	32745.598	0.05	231795030	400000	
Ca	44	2	45	31510.087	ppb	31510.087	1.26	36064	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.151	ppb	-0.151	-76.39	-33	2000	
Cr	52	2	72	0.154	ppb	0.154	53.21	427	5000	
Mn	55	2	72	1626.190	ppb	1626.190	0.64	423626	10000	
Fe	57	2	72	8898.419	ppb	8898.419	1.19	159899	400000	
Co	59	2	72	0.291	ppb	0.291	4.53	697	2000	
Ni	60	2	72	0.823	ppb	0.823	11.18	660	5000	
Cu	63	2	72	-0.074	ppb	-0.074	-14.55	3661	5000	
Zn	66	2	72	1.617	ppb	1.617	15.75	480	5000	
As	75	2	72	0.408	ppb	0.408	44.97	48	2000	
Se	78	1	72	-0.037	ppb	-0.037	-101.49	28	2000	
Sr	88	2	72	141.804	ppb	141.804	0.81	32361	4000	
Zr	90	2	72	3.433	ppb	3.433	69.75	47	1000	
Nb	93	2	72	0.006	ppb	0.006	85.67	100	200	
Mo	95	2	115	0.021	ppb	0.021	85.67	33	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-325.80	10	100	
Ag	107	2	115	0.002	ppb	0.002	218.10	13	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.086	ppb	0.086	42.75	107	2000	
Sb	121	2	115	0.054	ppb	0.054	119.74	40	1000	
Ba	137	2	115	206.824	ppb	206.824	1.26	32866	5000	
W	182	2	165	0.043	ppb	0.043	20.10	597	100	
Pt	195	2	165	0.001	ppb	0.001	557.89	150	100	
Tl	205	2	165	0.010	ppb	0.010	78.59	253	2000	
Pb	208	2	165	0.099	ppb	0.099	15.84	2574	5000	
Th	232	2	165	0.013	ppb	0.013	36.72	213	2000	
U	238	2	165	0.008	ppb	0.008	26.44	153	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	876311	2.30	1030374	85.05	60	120	
Sc (IS)	45	1	HMI H2	47051693	0.62	50049516	94.01	60	120	
Sc (IS)	45	2	HMI He	411050	0.65	455282	90.28	60	120	
Sc (IS)	45	3	No Gas	111168148	0.57	129118738	86.10	60	120	
Ge Internal Standard	72	1	HMI H2	24172285	0.51	25231850	95.80	60	120	
Ge Internal Standard	72	2	HMI He	670678	0.99	724676	92.55	60	120	
In Internal Standard	115	2	HMI He	1661569	1.70	1743517	95.30	60	120	
Ho-165	165	2	HMI He	14534726	0.81	14982339	97.01	60	120	

Sample Report

Sample Table

Sample Name	280-90351-e-4-a
Data File Name	098SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:25:15-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.580	ppb	-0.580	-730.22	71504	500000	
Li	7	2	45	8.182	ppb	8.182	27.68	3607	500000	
Li	7	3	45	-2.953	ppb	-2.953	-47.39	3471537	50000	
Be	9	1	6	0.024	ppb	0.024	86.61	7	2000	
B	11	1	6	-13.779	ppb	-13.779	-10.95	19317	2000	
Na	23	1	45	8764.208	ppb	8764.208	1.27	32954205	2000	
Na	23	2	45	8646.982	ppb	8646.982	0.97	988701	400000	
Mg	24	2	45	16410.021	ppb	16410.021	1.27	784672	400000	
Al	27	2	45	1088.943	ppb	1088.943	2.55	9810	400000	
K	39	1	45	19.898	ppb	19.898	91.65	9388153	400000	
K	39	2	45	1150.461	ppb	1150.461	0.89	23787	400000	
Ca	40	1	45	37521.697	ppb	37521.697	0.86	261035876	400000	
Ca	44	2	45	34836.520	ppb	34836.520	1.82	40520	400000	
Ti	47	2	45	927576.254	ppb	927576.254	47.08	343	4000	>LDR
V	51	2	72	1.675	ppb	1.675	36.14	1341	2000	
Cr	52	2	72	2.685	ppb	2.685	14.28	2980	5000	
Mn	55	2	72	729.557	ppb	729.557	0.65	190437	10000	
Fe	57	2	72	5543.780	ppb	5543.780	2.82	99834	400000	
Co	59	2	72	5.444	ppb	5.444	5.43	12608	2000	
Ni	60	2	72	4.889	ppb	4.889	4.36	3517	5000	
Cu	63	2	72	0.841	ppb	0.841	18.01	5611	5000	
Zn	66	2	72	5.690	ppb	5.690	2.04	1170	5000	
As	75	2	72	7.997	ppb	7.997	8.06	826	2000	
Se	78	1	72	0.012	ppb	0.012	239.51	55	2000	
Sr	88	2	72	66.325	ppb	66.325	4.70	15174	4000	
Zr	90	2	72	192.760	ppb	192.760	0.51	1264	1000	
Nb	93	2	72	0.169	ppb	0.169	26.30	614	200	
Mo	95	2	115	0.164	ppb	0.164	17.05	157	2000	
Pd	105	2	115	0.000	ppb	0.000	5450.02	13	100	
Ag	107	2	115	0.012	ppb	0.012	46.61	50	100	
Cd	111	2	115	0.094	ppb	0.094	98.66	30	2000	
Sn	120	2	115	0.090	ppb	0.090	51.90	110	2000	
Sb	121	2	115	0.082	ppb	0.082	85.33	57	1000	
Ba	137	2	115	22.735	ppb	22.735	8.73	3664	5000	
W	182	2	165	7.831	ppb	7.831	0.59	55439	100	
Pt	195	2	165	-0.003	ppb	-0.003	-187.50	120	100	
Tl	205	2	165	0.025	ppb	0.025	25.85	390	2000	
Pb	208	2	165	0.674	ppb	0.674	6.88	9311	5000	
Th	232	2	165	0.278	ppb	0.278	5.39	3978	2000	
U	238	2	165	0.099	ppb	0.099	11.12	1657	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	853496	0.75	1030374	82.83	60	120	
Sc (IS)	45	1	HMI H2	46244128	0.51	50049516	92.40	60	120	
Sc (IS)	45	2	HMI He	417748	0.26	455282	91.76	60	120	
Sc (IS)	45	3	No Gas	112568962	0.90	129118738	87.18	60	120	
Ge Internal Standard	72	1	HMI H2	23796735	0.64	25231850	94.31	60	120	
Ge Internal Standard	72	2	HMI He	672008	0.40	724676	92.73	60	120	
In Internal Standard	115	2	HMI He	1681848	0.78	1743517	96.46	60	120	
Ho-165	165	2	HMI He	14506476	0.54	14982339	96.82	60	120	

Sample Report

Sample Table

Sample Name	280-90368-n-1-a
Data File Name	099SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:29:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-15.484	ppb	-15.484	-4.85	66205	500000	
Li	7	2	45	-6.985	ppb	-6.985	-298.92	3330	500000	
Li	7	3	45	-19.593	ppb	-19.593	-11.21	3136411	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-30.177	ppb	-30.177	-4.07	14046	2000	
Na	23	1	45	2815.184	ppb	2815.184	0.33	10602043	2000	
Na	23	2	45	2780.522	ppb	2780.522	1.89	318324	400000	
Mg	24	2	45	6826.129	ppb	6826.129	0.98	324055	400000	
Al	27	2	45	226.035	ppb	226.035	4.20	2044	400000	
K	39	1	45	446.653	ppb	446.653	8.05	11097248	400000	
K	39	2	45	1516.849	ppb	1516.849	3.69	29839	400000	
Ca	40	1	45	26743.664	ppb	26743.664	1.55	185179051	400000	
Ca	44	2	45	25430.501	ppb	25430.501	1.58	29358	400000	
Ti	47	2	45	221497.816	ppb	221497.816	30.68	83	4000	>LDR
V	51	2	72	2.206	ppb	2.206	26.83	1745	2000	
Cr	52	2	72	4.479	ppb	4.479	6.63	4794	5000	
Mn	55	2	72	175.668	ppb	175.668	1.20	45900	10000	
Fe	57	2	72	25408.276	ppb	25408.276	1.23	457653	400000	
Co	59	2	72	3.672	ppb	3.672	4.98	8522	2000	
Ni	60	2	72	13.112	ppb	13.112	1.78	9299	5000	
Cu	63	2	72	16.249	ppb	16.249	3.10	38326	5000	
Zn	66	2	72	218.655	ppb	218.655	2.35	37240	5000	
As	75	2	72	8.570	ppb	8.570	10.61	885	2000	
Se	78	1	72	0.052	ppb	0.052	71.07	76	2000	
Sr	88	2	72	105.085	ppb	105.085	0.84	24051	4000	
Zr	90	2	72	34.133	ppb	34.133	53.61	243	1000	
Nb	93	2	72	0.036	ppb	0.036	43.07	193	200	
Mo	95	2	115	1.348	ppb	1.348	6.60	1170	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-59.19	3	100	
Ag	107	2	115	0.011	ppb	0.011	31.29	43	100	
Cd	111	2	115	0.619	ppb	0.619	15.11	180	2000	
Sn	120	2	115	1.777	ppb	1.777	10.12	1220	2000	
Sb	121	2	115	0.546	ppb	0.546	9.94	323	1000	
Ba	137	2	115	144.004	ppb	144.004	1.41	23180	5000	
W	182	2	165	0.074	ppb	0.074	22.58	817	100	
Pt	195	2	165	0.004	ppb	0.004	140.74	170	100	
Tl	205	2	165	0.035	ppb	0.035	8.11	480	2000	
Pb	208	2	165	21.385	ppb	21.385	1.44	253514	5000	
Th	232	2	165	0.256	ppb	0.256	4.36	3674	2000	
U	238	2	165	0.292	ppb	0.292	2.40	4834	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	851789	0.55	1030374	82.67	60	120	
Sc (IS)	45	1	HMI H2	46021718	0.45	50049516	91.95	60	120	
Sc (IS)	45	2	HMI He	414452	1.71	455282	91.03	60	120	
Sc (IS)	45	3	No Gas	110101605	1.02	129118738	85.27	60	120	
Ge Internal Standard	72	1	HMI H2	23703079	0.69	25231850	93.94	60	120	
Ge Internal Standard	72	2	HMI He	672573	1.36	724676	92.81	60	120	
In Internal Standard	115	2	HMI He	1682786	0.34	1743517	96.52	60	120	
Ho-165	165	2	HMI He	14558901	1.03	14982339	97.17	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	100_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:32:49-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	453.626	ppb	1.304	223606	500	90.7	90	110	
Li	7	2	45	472.979	ppb	5.783	11207	500	94.6	90	110	
Li	7	3	45	451.641	ppb	0.808	10811127	500	90.3	90	110	
Be	9	1	6	51.912	ppb	3.021	14713	50	103.8	90	110	
B	11	1	6	-4.013	ppb	-97.116	22821	50	-8.0	90	110	>+\-10%
Na	23	1	45	4914.818	ppb	1.333	18541061	5000	98.3	90	110	
Na	23	2	45	4940.579	ppb	1.480	560356	5000	98.8	90	110	
Mg	24	2	45	4969.335	ppb	0.435	235242	5000	99.4	90	110	
Al	27	2	45	4972.644	ppb	3.013	44184	5000	99.5	90	110	
K	39	1	45	4857.265	ppb	2.807	29397672	5000	97.1	90	110	
K	39	2	45	5174.372	ppb	2.196	91926	5000	103.5	90	110	
Ca	40	1	45	5093.399	ppb	0.467	35528564	5000	101.9	90	110	
Ca	44	2	45	4983.502	ppb	3.598	5754	5000	99.7	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	52.121	ppb	4.588	39423	50	104.2	90	110	
Cr	52	2	72	51.585	ppb	0.749	52511	50	103.2	90	110	
Mn	55	2	72	52.695	ppb	1.535	13816	50	105.4	90	110	
Fe	57	2	72	4994.010	ppb	1.572	90251	5000	99.9	90	110	
Co	59	2	72	50.568	ppb	1.405	117317	50	101.1	90	110	
Ni	60	2	72	51.710	ppb	2.190	36528	50	103.4	90	110	
Cu	63	2	72	49.897	ppb	1.876	110066	50	99.8	90	110	
Zn	66	2	72	53.409	ppb	1.568	9276	50	106.8	90	110	
As	75	2	72	51.458	ppb	0.710	5293	50	102.9	90	110	
Se	78	1	72	50.575	ppb	0.611	28141	50	101.2	90	110	
Sr	88	2	72	49.427	ppb	3.395	11351	50	98.9	90	110	
Zr	90	2	72	32.860	ppb	26.241	237	50	65.7	90	110	>+\-10%
Nb	93	2	72	99.419	ppb	1.029	314652	100	99.4	90	110	
Mo	95	2	115	49.666	ppb	1.022	42175	50	99.3	90	110	
Pd	105	2	115	49.923	ppb	1.951	82645	50	99.8	90	110	
Ag	107	2	115	50.339	ppb	2.035	174949	50	100.7	90	110	
Cd	111	2	115	50.440	ppb	2.533	14293	50	100.9	90	110	
Sn	120	2	115	49.950	ppb	2.625	32619	50	99.9	90	110	
Sb	121	2	115	49.018	ppb	3.010	27947	50	98.0	90	110	
Ba	137	2	115	49.390	ppb	2.455	7889	50	98.8	90	110	
W	182	2	165	48.547	ppb	0.711	340562	50	97.1	90	110	
Pt	195	2	165	48.306	ppb	0.153	358933	50	96.6	90	110	
Tl	205	2	165	50.983	ppb	0.741	460822	50	102.0	90	110	
Pb	208	2	165	50.888	ppb	0.097	596413	50	101.8	90	110	
Th	232	2	165	50.174	ppb	0.694	708679	50	100.3	90	110	
U	238	2	165	49.729	ppb	0.259	810273	50	99.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	868261	0.99	1030374	84.27	60	120	
Sc (IS)	45	1	HMI H2	46290668	1.18	50049516	92.49	60	120	
Sc (IS)	45	2	HMI He	413031	0.89	455282	90.72	60	120	
Sc (IS)	45	3	No Gas	113729322	0.46	129118738	88.08	60	120	
Ge Internal Standard	72	1	HMI H2	23983910	0.54	25231850	95.05	60	120	
Ge Internal Standard	72	2	HMI He	674315	0.73	724676	93.05	60	120	
In Internal Standard	115	2	HMI He	1668726	0.82	1743517	95.71	60	120	
Ho-165	165	2	HMI He	14439270	0.44	14982339	96.38	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	101_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:36:36-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-13.425	ppb	-9.8	3322630	10	
Be	9	1	6	0.068	ppb	86.7	20	0.5	
B	11	1	6	-40.963	ppb	-2.4	11130	0.5	
Na	23	1	45	14.209	ppb	3.8	153557	25	
Na	23	2	45	12.829	ppb	11.6	5801	25	
Mg	24	2	45	1.535	ppb	132.0	513	25	
Al	27	2	45	1.477	ppb	91.9	43	15	
K	39	1	45	-174.810	ppb	-13.5	8610087	50	
K	39	2	45	4.622	ppb	200.8	4034	50	
Ca	40	1	45	9.727	ppb	2.8	137282	50	
Ca	44	2	45	-17.773	ppb	-28.5	7	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.107	ppb	-235.1	1	1	
Cr	52	2	72	-0.044	ppb	-119.2	230	1	
Mn	55	2	72	0.042	ppb	274.7	27	0.5	
Fe	57	2	72	4.110	ppb	13.6	140	25	
Co	59	2	72	0.002	ppb	394.6	30	0.5	
Ni	60	2	72	0.008	ppb	1097.0	90	1	
Cu	63	2	72	-0.410	ppb	-21.1	2980	1	
Zn	66	2	72	0.125	ppb	208.7	230	5	
As	75	2	72	0.074	ppb	30.2	14	1	
Se	78	1	72	-0.007	ppb	-564.5	44	1	
Sr	88	2	72	0.019	ppb	392.4	20	0.5	
Zr	90	2	72	4.892	ppb	47.7	57	1	>RL
Nb	93	2	72	0.916	ppb	6.0	2994	2	
Mo	95	2	115	0.075	ppb	55.9	80	0.5	
Pd	105	2	115	0.075	ppb	13.7	137	1	
Ag	107	2	115	0.023	ppb	20.2	87	1	
Cd	111	2	115	-0.011	ppb	0.0	0	0.5	
Sn	120	2	115	0.019	ppb	254.4	63	1	
Sb	121	2	115	0.065	ppb	68.0	47	0.6	
Ba	137	2	115	-0.060	ppb	0.0	0	0.5	
W	182	2	165	0.055	ppb	24.3	673	1	
Pt	195	2	165	0.012	ppb	81.8	223	1	
Tl	205	2	165	0.034	ppb	36.4	463	0.1	
Pb	208	2	165	0.022	ppb	6.2	1647	0.5	
Th	232	2	165	0.056	ppb	13.3	817	1	
U	238	2	165	0.019	ppb	23.2	343	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	894569	3.05	1030374	86.82	60	120	
Sc (IS)	45	1	HMI H2	46388518	0.89	50049516	92.69	60	120	
Sc (IS)	45	2	HMI He	412952	1.55	455282	90.70	60	120	
Sc (IS)	45	3	No Gas	113170788	0.35	129118738	87.65	60	120	
Ge Internal Standard	72	1	HMI H2	23946680	0.59	25231850	94.91	60	120	
Ge Internal Standard	72	2	HMI He	677438	0.44	724676	93.48	60	120	
In Internal Standard	115	2	HMI He	1674237	1.47	1743517	96.03	60	120	
Ho-165	165	2	HMI He	14380183	1.98	14982339	95.98	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	102LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:40:25-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	30.012	ppb	4.871	4004965	50	60.0	70	130	>+/-30%
Be	9	1	6	1.038	ppb	30.842	307	1	103.8	70	130	
Na	23	2	45	59.431	ppb	6.897	11134	50	118.9	70	130	
Mg	24	2	45	45.248	ppb	3.163	2600	50	90.5	70	130	
Al	27	2	45	21.902	ppb	7.424	227	30	73.0	70	130	
K	39	2	45	100.130	ppb	5.705	5704	100	100.1	70	130	
Ca	44	2	45	33.952	ppb	16.019	67	50	67.9	70	130	>+/-30%
V	51	2	72	4.880	ppb	7.444	3767	5	97.6	70	130	
Cr	52	2	72	1.913	ppb	8.249	2210	2	95.6	70	130	
Mn	55	2	72	1.061	ppb	27.104	293	1	106.1	70	130	
Fe	57	2	72	55.283	ppb	9.768	1063	50	110.6	70	130	
Co	59	2	72	1.106	ppb	6.393	2590	1	110.6	70	130	
Ni	60	2	72	2.071	ppb	15.920	1543	2	103.6	70	130	
Cu	63	2	72	1.772	ppb	3.878	7612	2	88.6	70	130	
Zn	66	2	72	11.929	ppb	16.877	2234	10	119.3	70	130	
As	75	2	72	5.298	ppb	3.290	551	5	106.0	70	130	
Se	78	1	72	4.798	ppb	5.055	2730	5	96.0	70	130	
Sr	88	2	72	0.892	ppb	27.314	220	1	89.2	70	130	
Zr	90	2	72	12.168	ppb	62.651	103	0.5	2433.6	70	130	>+/-30%
Nb	93	2	72	1.069	ppb	7.909	3464	2	53.5	70	130	>+/-30%
Mo	95	2	115	2.262	ppb	4.797	1960	2	113.1	70	130	
Pd	105	2	115	0.046	ppb	13.392	90	1	4.6	70	130	>+/-30%
Ag	107	2	115	4.914	ppb	3.340	17303	5	98.3	70	130	
Cd	111	2	115	0.938	ppb	23.960	273	1	93.8	70	130	
Sn	120	2	115	10.017	ppb	2.159	6668	10	100.2	70	130	
Sb	121	2	115	1.915	ppb	9.579	1113	2	95.8	70	130	
Ba	137	2	115	0.869	ppb	13.725	150	1	86.9	70	130	
W	182	2	165	4.872	ppb	0.810	34952	1	487.2	70	130	>+/-30%
Pt	195	2	165	0.005	ppb	65.379	180	1	0.5	70	130	>+/-30%
Tl	205	2	165	1.046	ppb	1.736	9753	1	104.6	70	130	
Pb	208	2	165	1.012	ppb	4.666	13426	1	101.2	70	130	
Th	232	2	165	2.074	ppb	2.220	29759	2	103.7	70	130	
U	238	2	165	1.005	ppb	0.425	16639	1	100.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	907400	2.69	1030374	88.07	60	120	
Sc (IS)	45	1	HMI H2	46735373	0.46	50049516	93.38	60	120	
Sc (IS)	45	2	HMI He	416383	0.87	455282	91.46	60	120	
Sc (IS)	45	3	No Gas	112826498	0.40	129118738	87.38	60	120	
Ge Internal Standard	72	1	HMI H2	24129376	0.51	25231850	95.63	60	120	
Ge Internal Standard	72	2	HMI He	674336	0.14	724676	93.05	60	120	
In Internal Standard	115	2	HMI He	1690111	2.32	1743517	96.94	60	120	
Ho-165	165	2	HMI He	14652551	0.59	14982339	97.80	60	120	

Blank Report

Sample Table

Sample Name	mb 280-349785/1-a
Data File Name	103_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:44:14-07:00
Sample Type	Blank
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-16.546	ppb	-12.7647456	66894	0.5
Li	7	2	45	-10.943	ppb	-65.62573681	3307	0.5
Li	7	3	45	-20.807	ppb	-8.031559724	3198036	10
Be	9	1	6	0.023	ppb	173.2050808	7	0.5
B	11	1	6	-37.261	ppb	-5.491597508	12084	0.5
Na	23	1	45	17.974	ppb	3.298730044	169019	25
Na	23	2	45	18.959	ppb	4.554890295	6601	25
Mg	24	2	45	-2.896	ppb	-47.51816034	310	25
Al	27	2	45	3.970	ppb	64.66719133	67	15
K	39	1	45	-1032.271	ppb	-1.288830243	5096381	50
K	39	2	45	16.834	ppb	112.1260527	4314	50
Ca	40	1	45	11.042	ppb	6.549414223	147582	50
Ca	44	2	45	2.027	ppb	729.3407307	30	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	-0.043	ppb	-944.2694021	51	1
Cr	52	2	72	1.117	ppb	21.1153325	1417	1
Mn	55	2	72	0.356	ppb	82.00913804	110	0.5
Fe	57	2	72	29.691	ppb	9.846537325	607	25
Co	59	2	72	0.006	ppb	177.4341798	40	0.5
Ni	60	2	72	0.022	ppb	123.4666888	100	1
Cu	63	2	72	-0.184	ppb	-48.03601714	3477	1
Zn	66	2	72	1.104	ppb	71.94749315	400	5
As	75	2	72	0.023	ppb	173.8114787	9	1
Se	78	1	72	0.007	ppb	1013.569509	52	1
Sr	88	2	72	-0.053	ppb	-46.431121	3	0.5
Zr	90	2	72	3.304	ppb	68.8480351	47	1
Nb	93	2	72	0.104	ppb	34.90320641	413	2
Mo	95	2	115	0.020	ppb	143.0683322	33	0.5
Pd	105	2	115	0.014	ppb	46.56597274	37	1
Ag	107	2	115	0.006	ppb	74.07094304	27	1
Cd	111	2	115	0.001	ppb	3554.229811	3	0.5
Sn	120	2	115	0.042	ppb	90.45989073	80	1
Sb	121	2	115	0.029	ppb	123.1912173	27	0.6
Ba	137	2	115	0.105	ppb	36.22081731	27	0.5
W	182	2	165	0.033	ppb	35.96636379	533	1
Pt	195	2	165	0.001	ppb	175.1202876	147	1
Tl	205	2	165	0.045	ppb	17.1560601	580	0.1
Pb	208	2	165	0.035	ppb	22.55714448	1837	0.5
Th	232	2	165	0.069	ppb	12.87536153	1020	1
U	238	2	165	0.019	ppb	18.43676824	343	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	873393	0.54	1030374	84.76	60	120	
Sc (IS)	45	1	HMI H2	46748921	0.50	50049516	93.41	60	120	
Sc (IS)	45	2	HMI He	419995	0.25	455282	92.25	60	120	
Sc (IS)	45	3	No Gas	112938482	0.23	129118738	87.47	60	120	
Ge Internal Standard	72	1	HMI H2	23929115	0.64	25231850	94.84	60	120	
Ge Internal Standard	72	2	HMI He	680526	1.27	724676	93.91	60	120	
In Internal Standard	115	2	HMI He	1699125	1.69	1743517	97.45	60	120	
Ho-165	165	2	HMI He	14662616	0.24	14982339	97.87	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-349785/2-a
Data File Name	104_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:48:02-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	349785 6020A DOD 5
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	59.843	59.843	ppb	4.805	92449	400	15.0	80	120	>+/-20%
Li	7	2	45	80.725	80.725	ppb	7.574	4878	400	20.2	80	120	>+/-20%
Li	7	3	45	54.019	54.019	ppb	4.570	4378830	400	13.5	80	120	>+/-20%
Be	9	1	6	40.318	40.318	ppb	4.163	11534	40	100.8	80	120	
Na	23	2	45	22.317	22.317	ppb	21.375	7035	40	55.8	80	120	>+/-20%
Mg	24	2	45	-4.465	-4.465	ppb	-55.068	237	40	-11.2	80	120	>+/-20%
Al	27	2	45	389.892	389.892	ppb	3.880	3581	40	974.7	80	120	>+/-20%
K	39	2	45	5.187	5.187	ppb	415.468	4141	40	13.0	80	120	>+/-20%
Ca	44	2	45	295.401	295.401	ppb	39.209	377	40	738.5	80	120	>+/-20%
V	51	2	72	40.053	40.053	ppb	1.598	30630	40	100.1	80	120	
Cr	52	2	72	41.632	41.632	ppb	3.204	42872	40	104.1	80	120	
Mn	55	2	72	40.232	40.232	ppb	3.061	10660	40	100.6	80	120	
Fe	57	2	72	415.056	415.056	ppb	3.722	7639	40	1037.6	80	120	>+/-20%
Co	59	2	72	40.701	40.701	ppb	1.049	95408	40	101.8	80	120	
Ni	60	2	72	41.166	41.166	ppb	2.254	29395	40	102.9	80	120	
Cu	63	2	72	39.413	39.413	ppb	1.063	88654	40	98.5	80	120	
Zn	66	2	72	41.520	41.520	ppb	3.775	7332	40	103.8	80	120	
As	75	2	72	41.064	41.064	ppb	3.426	4269	40	102.7	80	120	
Se	78	1	72	38.619	38.619	ppb	1.819	21525	40	96.5	80	120	
Nb	93	2	72	0.053	0.053	ppb	15.435	250	40	0.1	80	120	>+/-20%
Mo	95	2	115	41.641	41.641	ppb	2.696	36456	40	104.1	80	120	
Pd	105	2	115	-0.004	-0.004	ppb	-173.141	7	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.867	39.867	ppb	1.588	142859	40	99.7	80	120	
Cd	111	2	115	38.664	38.664	ppb	1.474	11297	40	96.7	80	120	
Sn	120	2	115	39.393	39.393	ppb	3.254	26538	40	98.5	80	120	
Sb	121	2	115	37.522	37.522	ppb	2.570	22055	40	93.8	80	120	
Ba	137	2	115	38.704	38.704	ppb	5.552	6375	40	96.8	80	120	
W	182	2	165	38.314	38.314	ppb	0.692	276464	40	95.8	80	120	
Pt	195	2	165	0.004	0.004	ppb	225.201	170	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.544	39.544	ppb	1.788	367589	40	98.9	80	120	
Pb	208	2	165	40.109	40.109	ppb	1.160	483719	40	100.3	80	120	
Th	232	2	165	38.964	38.964	ppb	1.157	565945	40	97.4	80	120	
U	238	2	165	39.334	39.334	ppb	0.851	659084	40	98.3	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	876276	0.32	1030374	85.04	60	120	
Sc (IS)	45	1	HMI H2	46615319	0.19	50049516	93.14	60	120	
Sc (IS)	45	2	HMI He	423255	1.69	455282	92.97	60	120	
Sc (IS)	45	3	No Gas	112601138	1.10	129118738	87.21	60	120	
Ge Internal Standard	72	1	HMI H2	24011749	0.59	25231850	95.16	60	120	
Ge Internal Standard	72	2	HMI He	681234	0.55	724676	94.01	60	120	
In Internal Standard	115	2	HMI He	1720478	1.05	1743517	98.68	60	120	
Ho-165	165	2	HMI He	14849223	0.84	14982339	99.11	60	120	

Sample Report

Sample Table

Sample Name	280-90400-h-1-a
Data File Name	105SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:51:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.339	ppb	-17.339	-17.38	64670	500000	
Li	7	2	45	-4.008	ppb	-4.008	-279.04	3330	500000	
Li	7	3	45	-22.882	ppb	-22.882	-8.29	3000850	50000	
Be	9	1	6	0.074	ppb	0.074	49.29	20	2000	
B	11	1	6	284.241	ppb	284.241	3.37	110574	2000	
Na	23	1	45	20526.157	ppb	20526.157	0.56	75595616	2000	>LDR
Na	23	2	45	20745.028	ppb	20745.028	0.84	2314361	400000	
Mg	24	2	45	12457.116	ppb	12457.116	0.37	582793	400000	
Al	27	2	45	30.001	ppb	30.001	41.90	293	400000	
K	39	1	45	14394.171	ppb	14394.171	1.25	67475524	400000	
K	39	2	45	15269.806	ppb	15269.806	1.04	260793	400000	
Ca	40	1	45	72303.057	ppb	72303.057	0.35	493476139	400000	
Ca	44	2	45	69436.322	ppb	69436.322	0.50	78980	400000	
Ti	47	2	45	10250.573	ppb	10250.573	315.26	7	4000	
V	51	2	72	3.104	ppb	3.104	12.24	2411	2000	
Cr	52	2	72	1.685	ppb	1.685	4.96	1967	5000	
Mn	55	2	72	175.471	ppb	175.471	0.36	45679	10000	
Fe	57	2	72	30503.010	ppb	30503.010	0.54	547389	400000	
Co	59	2	72	15.361	ppb	15.361	1.90	35433	2000	
Ni	60	2	72	7.674	ppb	7.674	6.88	5458	5000	
Cu	63	2	72	-0.207	ppb	-0.207	-71.88	3377	5000	
Zn	66	2	72	28.122	ppb	28.122	4.07	4951	5000	
As	75	2	72	17.929	ppb	17.929	7.27	1837	2000	
Se	78	1	72	0.289	ppb	0.289	45.86	203	2000	
Sr	88	2	72	328.816	ppb	328.816	0.73	74942	4000	
Zr	90	2	72	131.930	ppb	131.930	1.98	870	1000	
Nb	93	2	72	0.029	ppb	0.029	32.26	170	200	
Mo	95	2	115	0.603	ppb	0.603	20.79	523	2000	
Pd	105	2	115	0.012	ppb	0.012	111.82	33	100	
Ag	107	2	115	0.010	ppb	0.010	60.61	40	100	
Cd	111	2	115	0.072	ppb	0.072	123.35	23	2000	
Sn	120	2	115	1.209	ppb	1.209	15.65	833	2000	
Sb	121	2	115	0.184	ppb	0.184	35.36	113	1000	
Ba	137	2	115	114.479	ppb	114.479	1.44	18131	5000	
W	182	2	165	0.076	ppb	0.076	10.82	833	100	
Pt	195	2	165	0.037	ppb	0.037	35.22	420	100	
Tl	205	2	165	0.083	ppb	0.083	24.21	923	2000	
Pb	208	2	165	0.052	ppb	0.052	45.29	2037	5000	
Th	232	2	165	0.195	ppb	0.195	20.66	2817	2000	
U	238	2	165	0.102	ppb	0.102	15.85	1720	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	823341	0.97	1030374	79.91	60	120	
Sc (IS)	45	1	HMI H2	45374159	0.66	50049516	90.66	60	120	
Sc (IS)	45	2	HMI He	408652	0.40	455282	89.76	60	120	
Sc (IS)	45	3	No Gas	107082548	0.15	129118738	82.93	60	120	
Ge Internal Standard	72	1	HMI H2	23319890	0.48	25231850	92.42	60	120	
Ge Internal Standard	72	2	HMI He	670029	0.77	724676	92.46	60	120	
In Internal Standard	115	2	HMI He	1655490	1.42	1743517	94.95	60	120	
Ho-165	165	2	HMI He	14649811	0.58	14982339	97.78	60	120	

Sample Report

Sample Table

Sample Name	280-90400-h-2-a
Data File Name	106SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:55:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.027	ppb	-17.027	-18.06	65111	500000	
Li	7	2	45	-15.930	ppb	-15.930	-108.63	3167	500000	
Li	7	3	45	-23.146	ppb	-23.146	-7.39	3069021	50000	
Be	9	1	6	0.134	ppb	0.134	15.02	37	2000	
B	11	1	6	69.042	ppb	69.042	0.91	45072	2000	
Na	23	1	45	20717.946	ppb	20717.946	0.75	76717027	2000	>LDR
Na	23	2	45	20833.643	ppb	20833.643	2.82	2347281	400000	
Mg	24	2	45	5785.954	ppb	5785.954	2.20	273634	400000	
Al	27	2	45	27.395	ppb	27.395	13.77	273	400000	
K	39	1	45	5150.779	ppb	5150.779	3.35	30167738	400000	
K	39	2	45	6223.848	ppb	6223.848	3.31	109703	400000	
Ca	40	1	45	11688.534	ppb	11688.534	1.00	80261444	400000	
Ca	44	2	45	11609.781	ppb	11609.781	2.50	13362	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.695	ppb	0.695	56.57	605	2000	
Cr	52	2	72	1.936	ppb	1.936	9.79	2224	5000	
Mn	55	2	72	87.725	ppb	87.725	1.76	22879	10000	
Fe	57	2	72	21389.832	ppb	21389.832	0.60	384463	400000	
Co	59	2	72	2.149	ppb	2.149	4.48	4984	2000	
Ni	60	2	72	10.724	ppb	10.724	8.05	7605	5000	
Cu	63	2	72	0.070	ppb	0.070	253.07	3971	5000	
Zn	66	2	72	4.688	ppb	4.688	21.31	1000	5000	
As	75	2	72	22.539	ppb	22.539	3.21	2311	2000	
Se	78	1	72	0.181	ppb	0.181	35.03	147	2000	
Sr	88	2	72	75.741	ppb	75.741	5.67	17306	4000	
Zr	90	2	72	17.460	ppb	17.460	14.59	137	1000	
Nb	93	2	72	0.038	ppb	0.038	70.82	200	200	
Mo	95	2	115	0.252	ppb	0.252	19.58	233	2000	
Pd	105	2	115	0.006	ppb	0.006	149.26	23	100	
Ag	107	2	115	0.005	ppb	0.005	90.37	23	100	
Cd	111	2	115	0.047	ppb	0.047	155.23	17	2000	
Sn	120	2	115	0.536	ppb	0.536	8.34	407	2000	
Sb	121	2	115	0.122	ppb	0.122	39.06	80	1000	
Ba	137	2	115	167.216	ppb	167.216	3.80	27099	5000	
W	182	2	165	0.058	ppb	0.058	36.65	710	100	
Pt	195	2	165	0.001	ppb	0.001	411.41	143	100	
Tl	205	2	165	0.036	ppb	0.036	20.62	490	2000	
Pb	208	2	165	0.048	ppb	0.048	25.48	1977	5000	
Th	232	2	165	0.048	ppb	0.048	12.24	720	2000	
U	238	2	165	0.024	ppb	0.024	9.78	423	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	839881	0.82	1030374	81.51	60	120	
Sc (IS)	45	1	HMI H2	45620318	1.12	50049516	91.15	60	120	
Sc (IS)	45	2	HMI He	412823	1.45	455282	90.67	60	120	
Sc (IS)	45	3	No Gas	109659355	0.80	129118738	84.93	60	120	
Ge Internal Standard	72	1	HMI H2	23635511	0.76	25231850	93.67	60	120	
Ge Internal Standard	72	2	HMI He	671075	0.86	724676	92.60	60	120	
In Internal Standard	115	2	HMI He	1694945	1.64	1743517	97.21	60	120	
Ho-165	165	2	HMI He	14584460	0.87	14982339	97.34	60	120	

Sample Report

Sample Table

Sample Name	280-90400-a-11-a
Data File Name	107SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T21:59:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.123	ppb	-19.123	-14.02	64108	500000	
Li	7	2	45	-20.622	ppb	-20.622	-68.06	3140	500000	
Li	7	3	45	-23.498	ppb	-23.498	-3.54	3134353	50000	
Be	9	1	6	0.050	ppb	0.050	114.62	13	2000	
B	11	1	6	148.356	ppb	148.356	4.21	68430	2000	
Na	23	1	45	71014.111	ppb	71014.111	0.11	261411083	2000	>LDR
Na	23	2	45	69532.016	ppb	69532.016	0.70	7946055	400000	
Mg	24	2	45	8263.460	ppb	8263.460	1.53	396621	400000	
Al	27	2	45	9.106	ppb	9.106	65.85	113	400000	
K	39	1	45	8675.617	ppb	8675.617	0.54	44315571	400000	
K	39	2	45	9469.015	ppb	9469.015	0.30	167403	400000	
Ca	40	1	45	33886.689	ppb	33886.689	0.30	231413163	400000	
Ca	44	2	45	32713.449	ppb	32713.449	0.88	38178	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	1.010	ppb	1.010	5.48	847	2000	
Cr	52	2	72	0.740	ppb	0.740	15.73	1027	5000	
Mn	55	2	72	38.391	ppb	38.391	3.70	10110	10000	
Fe	57	2	72	107.816	ppb	107.816	9.06	2020	400000	
Co	59	2	72	2.410	ppb	2.410	9.83	5631	2000	
Ni	60	2	72	6.999	ppb	6.999	2.34	5034	5000	
Cu	63	2	72	0.414	ppb	0.414	33.05	4738	5000	
Zn	66	2	72	1.965	ppb	1.965	20.33	543	5000	
As	75	2	72	3.960	ppb	3.960	4.53	415	2000	
Se	78	1	72	0.257	ppb	0.257	44.45	187	2000	
Sr	88	2	72	165.769	ppb	165.769	2.03	38163	4000	
Zr	90	2	72	33.168	ppb	33.168	26.82	240	1000	
Nb	93	2	72	0.015	ppb	0.015	101.16	130	200	
Mo	95	2	115	0.309	ppb	0.309	31.27	283	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-172.75	7	100	
Ag	107	2	115	0.007	ppb	0.007	85.80	30	100	
Cd	111	2	115	0.012	ppb	0.012	328.36	7	2000	
Sn	120	2	115	0.660	ppb	0.660	3.42	490	2000	
Sb	121	2	115	0.087	ppb	0.087	53.32	60	1000	
Ba	137	2	115	94.919	ppb	94.919	2.95	15434	5000	
W	182	2	165	0.037	ppb	0.037	46.90	563	100	
Pt	195	2	165	0.006	ppb	0.006	134.38	183	100	
Tl	205	2	165	0.114	ppb	0.114	16.32	1220	2000	
Pb	208	2	165	0.051	ppb	0.051	35.69	2027	5000	
Th	232	2	165	0.079	ppb	0.079	10.23	1173	2000	
U	238	2	165	0.110	ppb	0.110	9.16	1864	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	820780	0.92	1030374	79.66	60	120	
Sc (IS)	45	1	HMI H2	45393061	0.39	50049516	90.70	60	120	
Sc (IS)	45	2	HMI He	419159	1.85	455282	92.07	60	120	
Sc (IS)	45	3	No Gas	112192965	0.57	129118738	86.89	60	120	
Ge Internal Standard	72	1	HMI H2	23440022	0.06	25231850	92.90	60	120	
Ge Internal Standard	72	2	HMI He	676773	1.26	724676	93.39	60	120	
In Internal Standard	115	2	HMI He	1699891	1.09	1743517	97.50	60	120	
Ho-165	165	2	HMI He	14727836	1.55	14982339	98.30	60	120	

Sample Report

Sample Table

Sample Name	280-90400-a-11-aSD@5
Data File Name	108SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:03:11-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.316	ppb	-10.316	-50.13	69590	500000	
Li	7	2	45	3.167	ppb	3.167	354.67	3535	500000	
Li	7	3	45	-18.736	ppb	-18.736	-8.00	3311927	50000	
Be	9	1	6	0.034	ppb	0.034	100.19	10	2000	
B	11	1	6	-1.734	ppb	-1.734	-47.93	24243	2000	
Na	23	1	45	14430.351	ppb	14430.351	0.08	55261969	2000	>LDR
Na	23	2	45	14663.756	ppb	14663.756	2.26	1679277	400000	
Mg	24	2	45	1688.493	ppb	1688.493	1.91	81414	400000	
Al	27	2	45	3.901	ppb	3.901	152.37	67	400000	
K	39	1	45	1568.410	ppb	1568.410	1.91	16095511	400000	
K	39	2	45	1943.611	ppb	1943.611	3.17	37550	400000	
Ca	40	1	45	6797.722	ppb	6797.722	0.33	48280061	400000	
Ca	44	2	45	6619.411	ppb	6619.411	4.83	7749	400000	
Ti	47	2	45	9898.308	ppb	9898.308	320.31	7	4000	
V	51	2	72	0.101	ppb	0.101	188.69	160	2000	
Cr	52	2	72	0.181	ppb	0.181	68.56	460	5000	
Mn	55	2	72	7.440	ppb	7.440	7.09	1980	10000	
Fe	57	2	72	20.741	ppb	20.741	20.03	443	400000	
Co	59	2	72	0.448	ppb	0.448	9.86	1073	2000	
Ni	60	2	72	1.424	ppb	1.424	5.43	1097	5000	
Cu	63	2	72	-0.010	ppb	-0.010	-331.47	3851	5000	
Zn	66	2	72	0.508	ppb	0.508	96.11	297	5000	
As	75	2	72	0.547	ppb	0.547	17.39	63	2000	
Se	78	1	72	0.041	ppb	0.041	74.06	72	2000	
Sr	88	2	72	31.658	ppb	31.658	7.54	7335	4000	
Zr	90	2	72	3.817	ppb	3.817	200.32	50	1000	
Nb	93	2	72	0.007	ppb	0.007	94.38	103	200	
Mo	95	2	115	0.062	ppb	0.062	96.45	70	2000	
Pd	105	2	115	0.006	ppb	0.006	230.28	23	100	
Ag	107	2	115	0.010	ppb	0.010	78.45	43	100	
Cd	111	2	115	0.012	ppb	0.012	335.72	7	2000	
Sn	120	2	115	0.138	ppb	0.138	34.47	143	2000	
Sb	121	2	115	0.018	ppb	0.018	98.08	20	1000	
Ba	137	2	115	17.711	ppb	17.711	6.35	2897	5000	
W	182	2	165	0.014	ppb	0.014	34.11	393	100	
Pt	195	2	165	0.003	ppb	0.003	93.43	163	100	
Tl	205	2	165	0.011	ppb	0.011	34.62	257	2000	
Pb	208	2	165	0.012	ppb	0.012	51.20	1543	5000	
Th	232	2	165	0.015	ppb	0.015	7.29	243	2000	
U	238	2	165	0.020	ppb	0.020	0.55	360	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	893063	0.31	1030374	86.67	60	120	
Sc (IS)	45	1	HMI H2	47154199	0.85	50049516	94.22	60	120	
Sc (IS)	45	2	HMI He	419278	2.24	455282	92.09	60	120	
Sc (IS)	45	3	No Gas	115766438	1.22	129118738	89.66	60	120	
Ge Internal Standard	72	1	HMI H2	24326992	0.52	25231850	96.41	60	120	
Ge Internal Standard	72	2	HMI He	680011	0.47	724676	93.84	60	120	
In Internal Standard	115	2	HMI He	1704812	0.79	1743517	97.78	60	120	
Ho-165	165	2	HMI He	14495836	0.51	14982339	96.75	60	120	

Sample Report

Sample Table

Sample Name	280-90400-a-11-b ms
Data File Name	109SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:06:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	48.141	ppb	48.141	9.15	88171	500000	
Li	7	2	45	61.037	ppb	61.037	26.48	4534	500000	
Li	7	3	45	48.079	ppb	48.079	1.43	4309665	50000	
Be	9	1	6	42.406	ppb	42.406	1.76	11604	2000	
B	11	1	6	177.121	ppb	177.121	2.08	78925	2000	
Na	23	1	45	71729.070	ppb	71729.070	0.69	270145476	2000	>LDR
Na	23	2	45	70662.128	ppb	70662.128	1.21	8134742	400000	
Mg	24	2	45	8244.956	ppb	8244.956	1.94	398726	400000	
Al	27	2	45	397.397	ppb	397.397	17.80	3637	400000	
K	39	1	45	8660.091	ppb	8660.091	2.30	45274209	400000	
K	39	2	45	9646.998	ppb	9646.998	2.41	171749	400000	
Ca	40	1	45	34120.948	ppb	34120.948	1.02	238397290	400000	
Ca	44	2	45	33639.584	ppb	33639.584	1.88	39554	400000	
Ti	47	2	45	99164.436	ppb	99164.436	97.89	40	4000	>LDR
V	51	2	72	41.514	ppb	41.514	2.81	31539	2000	
Cr	52	2	72	43.294	ppb	43.294	1.59	44285	5000	
Mn	55	2	72	80.164	ppb	80.164	1.81	21090	10000	
Fe	57	2	72	544.098	ppb	544.098	2.47	9930	400000	
Co	59	2	72	41.559	ppb	41.559	1.03	96792	2000	
Ni	60	2	72	46.653	ppb	46.653	2.43	33091	5000	
Cu	63	2	72	39.586	ppb	39.586	2.32	88460	5000	
Zn	66	2	72	40.042	ppb	40.042	5.00	7035	5000	
As	75	2	72	44.711	ppb	44.711	2.81	4618	2000	
Se	78	1	72	38.496	ppb	38.496	2.50	21266	2000	
Sr	88	2	72	206.978	ppb	206.978	1.53	47666	4000	
Zr	90	2	72	6184.375	ppb	6184.375	1.54	40064	1000	>LDR
Nb	93	2	72	0.026	ppb	0.026	55.30	163	200	
Mo	95	2	115	41.584	ppb	41.584	1.28	35511	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-174.78	7	100	
Ag	107	2	115	38.636	ppb	38.636	1.21	135023	100	
Cd	111	2	115	38.932	ppb	38.932	2.54	11094	2000	
Sn	120	2	115	39.167	ppb	39.167	3.28	25744	2000	
Sb	121	2	115	40.441	ppb	40.441	3.86	23193	1000	
Ba	137	2	115	133.539	ppb	133.539	2.03	21431	5000	
W	182	2	165	38.126	ppb	38.126	0.35	271379	100	
Pt	195	2	165	0.008	ppb	0.008	69.04	203	100	
Tl	205	2	165	38.233	ppb	38.233	0.78	350612	2000	
Pb	208	2	165	38.803	ppb	38.803	0.37	461679	5000	
Th	232	2	165	38.565	ppb	38.565	0.80	552587	2000	
U	238	2	165	38.778	ppb	38.778	1.09	640927	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	838178	0.36	1030374	81.35	60	120	
Sc (IS)	45	1	HMI H2	46444548	1.03	50049516	92.80	60	120	
Sc (IS)	45	2	HMI He	422276	0.73	455282	92.75	60	120	
Sc (IS)	45	3	No Gas	113267655	0.28	129118738	87.72	60	120	
Ge Internal Standard	72	1	HMI H2	23799680	0.70	25231850	94.32	60	120	
Ge Internal Standard	72	2	HMI He	676893	0.88	724676	93.41	60	120	
In Internal Standard	115	2	HMI He	1678104	1.81	1743517	96.25	60	120	
Ho-165	165	2	HMI He	14647630	0.76	14982339	97.77	60	120	

Sample Report

Sample Table

Sample Name	280-90400-a-11-c msd
Data File Name	110SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:10:46-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	51.573	ppb	51.573	4.33	90047	500000	
Li	7	2	45	53.997	ppb	53.997	67.74	4441	500000	
Li	7	3	45	50.618	ppb	50.618	0.81	4408377	50000	
Be	9	1	6	43.742	ppb	43.742	3.43	12188	2000	
B	11	1	6	188.980	ppb	188.980	0.92	84181	2000	
Na	23	1	45	74625.875	ppb	74625.875	0.09	283309176	2000	>LDR
Na	23	2	45	73104.686	ppb	73104.686	0.70	8466729	400000	
Mg	24	2	45	8705.799	ppb	8705.799	1.23	423527	400000	
Al	27	2	45	416.284	ppb	416.284	2.89	3834	400000	
K	39	1	45	9028.994	ppb	9028.994	1.17	47183074	400000	
K	39	2	45	10099.184	ppb	10099.184	0.40	180686	400000	
Ca	40	1	45	35505.871	ppb	35505.871	0.69	250068296	400000	
Ca	44	2	45	34835.588	ppb	34835.588	1.74	41201	400000	
Ti	47	2	45	72011.765	ppb	72011.765	37.03	30	4000	>LDR
V	51	2	72	41.697	ppb	41.697	2.08	32140	2000	
Cr	52	2	72	45.011	ppb	45.011	0.42	46705	5000	
Mn	55	2	72	83.332	ppb	83.332	0.49	22245	10000	
Fe	57	2	72	584.171	ppb	584.171	3.42	10810	400000	
Co	59	2	72	43.059	ppb	43.059	1.62	101753	2000	
Ni	60	2	72	47.759	ppb	47.759	4.72	34361	5000	
Cu	63	2	72	40.386	ppb	40.386	1.10	91482	5000	
Zn	66	2	72	42.059	ppb	42.059	6.05	7485	5000	
As	75	2	72	44.410	ppb	44.410	3.33	4653	2000	
Se	78	1	72	39.416	ppb	39.416	0.96	21827	2000	
Sr	88	2	72	212.192	ppb	212.192	1.13	49581	4000	
Zr	90	2	72	6451.693	ppb	6451.693	1.51	42406	1000	>LDR
Nb	93	2	72	0.038	ppb	0.038	20.59	203	200	
Mo	95	2	115	42.085	ppb	42.085	0.28	36723	2000	
Pd	105	2	115	0.004	ppb	0.004	154.10	20	100	
Ag	107	2	115	38.533	ppb	38.533	2.20	137573	100	
Cd	111	2	115	39.192	ppb	39.192	4.10	11408	2000	
Sn	120	2	115	40.720	ppb	40.720	1.58	27330	2000	
Sb	121	2	115	42.118	ppb	42.118	2.82	24666	1000	
Ba	137	2	115	139.534	ppb	139.534	2.69	22883	5000	
W	182	2	165	38.828	ppb	38.828	0.86	277599	100	
Pt	195	2	165	0.006	ppb	0.006	144.27	187	100	
Tl	205	2	165	39.593	ppb	39.593	0.40	364673	2000	
Pb	208	2	165	39.557	ppb	39.557	1.06	472700	5000	
Th	232	2	165	39.524	ppb	39.524	1.04	568822	2000	
U	238	2	165	39.939	ppb	39.939	1.35	663069	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	853753	1.76	1030374	82.86	60	120	
Sc (IS)	45	1	HMI H2	46815401	0.21	50049516	93.54	60	120	
Sc (IS)	45	2	HMI He	424826	0.89	455282	93.31	60	120	
Sc (IS)	45	3	No Gas	114779305	0.42	129118738	88.89	60	120	
Ge Internal Standard	72	1	HMI H2	23856643	0.34	25231850	94.55	60	120	
Ge Internal Standard	72	2	HMI He	686807	0.84	724676	94.77	60	120	
In Internal Standard	115	2	HMI He	1714557	1.79	1743517	98.34	60	120	
Ho-165	165	2	HMI He	14712770	0.39	14982339	98.20	60	120	

Sample Report

Sample Table

Sample Name	280-90400-a-11-aPDS
Data File Name	111SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:14:33-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.400	ppb	-19.400	-18.41	66633	500000	
Li	7	2	45	-4.291	ppb	-4.291	-589.29	3497	500000	
Li	7	3	45	-22.482	ppb	-22.482	-4.86	3244358	50000	
Be	9	1	6	210.735	ppb	210.735	3.50	58777	2000	
B	11	1	6	148.472	ppb	148.472	1.37	71277	2000	
Na	23	1	45	69480.104	ppb	69480.104	0.58	266221036	2000	>LDR
Na	23	2	45	67611.518	ppb	67611.518	1.33	7926047	400000	
Mg	24	2	45	8072.958	ppb	8072.958	0.43	397589	400000	
Al	27	2	45	2059.211	ppb	2059.211	4.10	19074	400000	
K	39	1	45	8352.428	ppb	8352.428	2.40	44760234	400000	
K	39	2	45	9197.325	ppb	9197.325	1.71	166927	400000	
Ca	40	1	45	33116.368	ppb	33116.368	1.37	235385536	400000	
Ca	44	2	45	32621.201	ppb	32621.201	0.76	39060	400000	
Ti	47	2	45	290940.113	ppb	290940.113	49.35	113	4000	>LDR
V	51	2	72	206.222	ppb	206.222	1.29	158932	2000	
Cr	52	2	72	256.276	ppb	256.276	1.28	265079	5000	
Mn	55	2	72	245.069	ppb	245.069	0.68	65507	10000	
Fe	57	2	72	2773.498	ppb	2773.498	1.25	51171	400000	
Co	59	2	72	201.802	ppb	201.802	0.37	477648	2000	
Ni	60	2	72	205.979	ppb	205.979	0.88	148207	5000	
Cu	63	2	72	196.827	ppb	196.827	0.48	431504	5000	
Zn	66	2	72	201.029	ppb	201.029	3.02	35039	5000	
As	75	2	72	203.317	ppb	203.317	1.65	21317	2000	
Se	78	1	72	189.960	ppb	189.960	1.25	106043	2000	
Sr	88	2	72	163.234	ppb	163.234	2.12	38213	4000	
Zr	90	2	72	32259.609	ppb	32259.609	0.97	212295	1000	>LDR
Nb	93	2	72	0.715	ppb	0.715	14.42	2392	200	
Mo	95	2	115	201.727	ppb	201.727	1.42	175854	2000	
Pd	105	2	115	0.025	ppb	0.025	57.15	57	100	
Ag	107	2	115	36.867	ppb	36.867	1.89	131565	100	
Cd	111	2	115	195.511	ppb	195.511	1.57	56885	2000	
Sn	120	2	115	196.773	ppb	196.773	2.70	131771	2000	
Sb	121	2	115	195.074	ppb	195.074	2.89	114145	1000	
Ba	137	2	115	291.113	ppb	291.113	3.67	47682	5000	
W	182	2	165	188.727	ppb	188.727	0.24	1350289	100	
Pt	195	2	165	0.095	ppb	0.095	17.20	863	100	
Tl	205	2	165	201.195	ppb	201.195	1.51	1855376	2000	
Pb	208	2	165	191.741	ppb	191.741	0.30	2289466	5000	
Th	232	2	165	0.585	ppb	0.585	3.68	8459	2000	
U	238	2	165	195.362	ppb	195.362	0.70	3248552	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	854349	0.28	1030374	82.92	60	120	
Sc (IS)	45	1	HMI H2	47249286	0.93	50049516	94.41	60	120	
Sc (IS)	45	2	HMI He	430012	1.10	455282	94.45	60	120	
Sc (IS)	45	3	No Gas	115539312	0.24	129118738	89.48	60	120	
Ge Internal Standard	72	1	HMI H2	24092550	0.51	25231850	95.48	60	120	
Ge Internal Standard	72	2	HMI He	688031	0.47	724676	94.94	60	120	
In Internal Standard	115	2	HMI He	1713839	2.72	1743517	98.30	60	120	
Ho-165	165	2	HMI He	14736034	0.20	14982339	98.36	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	112_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:18:19-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	461.209	ppb	0.722	235520	500	92.2	90	110	
Li	7	2	45	467.871	ppb	9.949	11611	500	93.6	90	110	
Li	7	3	45	461.952	ppb	1.493	11559706	500	92.4	90	110	
Be	9	1	6	51.430	ppb	4.282	15620	50	102.9	90	110	
B	11	1	6	-1.402	ppb	-229.544	25375	50	-2.8	90	110	>+\-10%
Na	23	1	45	5033.396	ppb	1.075	19774929	5000	100.7	90	110	
Na	23	2	45	4941.458	ppb	1.299	585403	5000	98.8	90	110	
Mg	24	2	45	4976.689	ppb	1.535	246056	5000	99.5	90	110	
Al	27	2	45	4970.142	ppb	2.327	46136	5000	99.4	90	110	
K	39	1	45	5009.821	ppb	3.065	31272414	5000	100.2	90	110	
K	39	2	45	5050.705	ppb	0.900	93829	5000	101.0	90	110	
Ca	40	1	45	5109.641	ppb	0.834	37118426	5000	102.2	90	110	
Ca	44	2	45	5057.675	ppb	2.921	6101	5000	101.2	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	52.315	ppb	4.431	40465	50	104.6	90	110	
Cr	52	2	72	52.064	ppb	2.482	54190	50	104.1	90	110	
Mn	55	2	72	51.239	ppb	6.066	13739	50	102.5	90	110	
Fe	57	2	72	5024.048	ppb	2.003	92845	5000	100.5	90	110	
Co	59	2	72	51.031	ppb	1.325	121068	50	102.1	90	110	
Ni	60	2	72	52.056	ppb	1.161	37604	50	104.1	90	110	
Cu	63	2	72	50.004	ppb	0.842	112792	50	100.0	90	110	
Zn	66	2	72	51.685	ppb	2.592	9186	50	103.4	90	110	
As	75	2	72	50.219	ppb	2.408	5283	50	100.4	90	110	
Se	78	1	72	51.539	ppb	0.941	29403	50	103.1	90	110	
Sr	88	2	72	50.388	ppb	3.481	11831	50	100.8	90	110	
Zr	90	2	72	42.148	ppb	34.285	303	50	84.3	90	110	>+\-10%
Nb	93	2	72	99.416	ppb	0.409	321760	100	99.4	90	110	
Mo	95	2	115	49.781	ppb	1.019	43566	50	99.6	90	110	
Pd	105	2	115	49.631	ppb	1.110	84672	50	99.3	90	110	
Ag	107	2	115	49.381	ppb	1.481	176874	50	98.8	90	110	
Cd	111	2	115	48.740	ppb	3.099	14236	50	97.5	90	110	
Sn	120	2	115	50.239	ppb	1.567	33815	50	100.5	90	110	
Sb	121	2	115	50.375	ppb	7.413	29590	50	100.7	90	110	
Ba	137	2	115	50.092	ppb	5.026	8246	50	100.2	90	110	
W	182	2	165	47.314	ppb	1.801	338936	50	94.6	90	110	
Pt	195	2	165	46.328	ppb	1.214	351517	50	92.7	90	110	
Tl	205	2	165	50.015	ppb	0.344	461625	50	100.0	90	110	
Pb	208	2	165	49.825	ppb	0.473	596329	50	99.7	90	110	
Th	232	2	165	49.493	ppb	1.004	713858	50	99.0	90	110	
U	238	2	165	48.889	ppb	0.906	813431	50	97.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	930849	2.50	1030374	90.34	60	120	
Sc (IS)	45	1	HMI H2	48210669	1.40	50049516	96.33	60	120	
Sc (IS)	45	2	HMI He	431436	1.48	455282	94.76	60	120	
Sc (IS)	45	3	No Gas	119769522	0.48	129118738	92.76	60	120	
Ge Internal Standard	72	1	HMI H2	24591938	0.66	25231850	97.46	60	120	
Ge Internal Standard	72	2	HMI He	689547	0.63	724676	95.15	60	120	
In Internal Standard	115	2	HMI He	1719738	0.34	1743517	98.64	60	120	
Ho-165	165	2	HMI He	14744472	0.13	14982339	98.41	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	113_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:22:06-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-15.111	ppb	-23.6	3468970	10	
Be	9	1	6	0.033	ppb	0.9	10	0.5	
B	11	1	6	-40.791	ppb	-2.7	11711	0.5	
Na	23	1	45	27.738	ppb	2.5	209605	25	>RL
Na	23	2	45	26.854	ppb	3.7	7655	25	>RL
Mg	24	2	45	1.467	ppb	51.1	530	25	
Al	27	2	45	4.194	ppb	69.2	70	15	
K	39	1	45	-128.768	ppb	-9.4	9023890	50	
K	39	2	45	24.033	ppb	20.2	4527	50	
Ca	40	1	45	8.475	ppb	2.0	131791	50	
Ca	44	2	45	-9.678	ppb	-131.8	17	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	-0.131	ppb	-110.8	-17	1	
Cr	52	2	72	-0.036	ppb	-286.4	240	1	
Mn	55	2	72	0.041	ppb	278.5	27	0.5	
Fe	57	2	72	4.363	ppb	57.3	147	25	
Co	59	2	72	0.008	ppb	63.4	43	0.5	
Ni	60	2	72	0.007	ppb	545.4	90	1	
Cu	63	2	72	-0.284	ppb	-13.3	3290	1	
Zn	66	2	72	-0.044	ppb	-1811.7	203	5	
As	75	2	72	0.004	ppb	596.6	7	1	
Se	78	1	72	0.024	ppb	69.0	63	1	
Sr	88	2	72	0.061	ppb	122.3	30	0.5	
Zr	90	2	72	2.270	ppb	179.1	40	1	>RL
Nb	93	2	72	0.922	ppb	5.7	3050	2	
Mo	95	2	115	0.086	ppb	35.0	90	0.5	
Pd	105	2	115	0.061	ppb	52.9	117	1	
Ag	107	2	115	0.018	ppb	55.6	70	1	
Cd	111	2	115	0.000	ppb	4258.1	3	0.5	
Sn	120	2	115	0.083	ppb	67.4	107	1	
Sb	121	2	115	0.104	ppb	16.3	70	0.6	
Ba	137	2	115	0.022	ppb	159.6	13	0.5	
W	182	2	165	0.080	ppb	26.0	867	1	
Pt	195	2	165	0.003	ppb	221.0	160	1	
Tl	205	2	165	0.051	ppb	19.2	630	0.1	
Pb	208	2	165	0.010	ppb	109.8	1540	0.5	
Th	232	2	165	0.058	ppb	5.6	867	1	
U	238	2	165	0.026	ppb	16.9	463	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	935932	0.87	1030374	90.83	60	120	
Sc (IS)	45	1	HMI H2	47561593	0.89	50049516	95.03	60	120	
Sc (IS)	45	2	HMI He	428386	0.50	455282	94.09	60	120	
Sc (IS)	45	3	No Gas	119126085	0.54	129118738	92.26	60	120	
Ge Internal Standard	72	1	HMI H2	24372599	0.67	25231850	96.59	60	120	
Ge Internal Standard	72	2	HMI He	685943	0.80	724676	94.66	60	120	
In Internal Standard	115	2	HMI He	1698656	0.92	1743517	97.43	60	120	
Ho-165	165	2	HMI He	14663261	0.53	14982339	97.87	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	114LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:25:55-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	29.881	ppb	4.128	4200757	50	59.8	70	130	>+/-30%
Be	9	1	6	1.192	ppb	8.140	360	1	119.2	70	130	
Na	23	2	45	70.035	ppb	5.875	12652	50	140.1	70	130	>+/-30%
Mg	24	2	45	46.868	ppb	17.353	2747	50	93.7	70	130	
Al	27	2	45	31.846	ppb	34.020	323	30	106.2	70	130	
K	39	2	45	121.241	ppb	8.028	6218	100	121.2	70	130	
Ca	44	2	45	57.550	ppb	79.784	97	50	115.1	70	130	
V	51	2	72	5.126	ppb	5.601	4037	5	102.5	70	130	
Cr	52	2	72	1.954	ppb	9.189	2300	2	97.7	70	130	
Mn	55	2	72	1.188	ppb	10.400	333	1	118.8	70	130	
Fe	57	2	72	59.482	ppb	0.632	1163	50	119.0	70	130	
Co	59	2	72	1.006	ppb	6.620	2407	1	100.6	70	130	
Ni	60	2	72	1.962	ppb	19.762	1497	2	98.1	70	130	
Cu	63	2	72	1.865	ppb	11.965	7972	2	93.2	70	130	
Zn	66	2	72	10.373	ppb	8.911	2010	10	103.7	70	130	
As	75	2	72	5.393	ppb	1.330	573	5	107.9	70	130	
Se	78	1	72	5.000	ppb	3.279	2867	5	100.0	70	130	
Sr	88	2	72	1.002	ppb	41.581	250	1	100.2	70	130	
Zr	90	2	72	10.281	ppb	83.146	93	0.5	2056.2	70	130	>+/-30%
Nb	93	2	72	1.069	ppb	7.565	3534	2	53.4	70	130	>+/-30%
Mo	95	2	115	1.994	ppb	18.741	1767	2	99.7	70	130	
Pd	105	2	115	0.018	ppb	102.567	43	1	1.8	70	130	>+/-30%
Ag	107	2	115	5.009	ppb	2.417	18017	5	100.2	70	130	
Cd	111	2	115	1.024	ppb	13.211	303	1	102.4	70	130	
Sn	120	2	115	9.912	ppb	3.523	6738	10	99.1	70	130	
Sb	121	2	115	2.178	ppb	8.299	1293	2	108.9	70	130	
Ba	137	2	115	0.789	ppb	35.813	140	1	78.9	70	130	
W	182	2	165	4.684	ppb	1.534	33957	1	468.4	70	130	>+/-30%
Pt	195	2	165	-0.002	ppb	-226.655	127	1	-0.2	70	130	>+/-30%
Tl	205	2	165	1.012	ppb	6.103	9543	1	101.2	70	130	
Pb	208	2	165	0.984	ppb	1.495	13226	1	98.4	70	130	
Th	232	2	165	2.046	ppb	3.377	29649	2	102.3	70	130	
U	238	2	165	0.985	ppb	3.610	16483	1	98.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	925790	0.99	1030374	89.85	60	120	
Sc (IS)	45	1	HMI H2	47708639	0.34	50049516	95.32	60	120	
Sc (IS)	45	2	HMI He	426814	0.87	455282	93.75	60	120	
Sc (IS)	45	3	No Gas	118407908	0.83	129118738	91.70	60	120	
Ge Internal Standard	72	1	HMI H2	24333332	0.35	25231850	96.44	60	120	
Ge Internal Standard	72	2	HMI He	688586	0.79	724676	95.02	60	120	
In Internal Standard	115	2	HMI He	1726224	0.68	1743517	99.01	60	120	
Ho-165	165	2	HMI He	14801014	0.96	14982339	98.79	60	120	

Sample Report

Sample Table

Sample Name	280-90409-e-1-a
Data File Name	115SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:29:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-9.392	ppb	-9.392	-30.35	69085	500000	
Li	7	2	45	10.322	ppb	10.322	58.49	3671	500000	
Li	7	3	45	-10.809	ppb	-10.809	-14.58	3363986	50000	
Be	9	1	6	0.048	ppb	0.048	43.66	13	2000	
B	11	1	6	7.064	ppb	7.064	36.57	26012	2000	
Na	23	1	45	4361.223	ppb	4361.223	0.66	16574257	2000	
Na	23	2	45	4346.776	ppb	4346.776	0.74	503029	400000	
Mg	24	2	45	18920.055	ppb	18920.055	0.48	911583	400000	
Al	27	2	45	6.499	ppb	6.499	42.90	90	400000	
K	39	1	45	74.420	ppb	74.420	62.16	9685846	400000	
K	39	2	45	1058.263	ppb	1058.263	0.59	22371	400000	
Ca	40	1	45	55310.162	ppb	55310.162	0.34	387682301	400000	
Ca	44	2	45	52647.924	ppb	52647.924	3.13	61676	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.216	ppb	0.216	153.57	252	2000	
Cr	52	2	72	13.662	ppb	13.662	3.73	14370	5000	
Mn	55	2	72	564.543	ppb	564.543	1.02	150642	10000	
Fe	57	2	72	5069.909	ppb	5069.909	0.90	93340	400000	
Co	59	2	72	8.605	ppb	8.605	3.16	20359	2000	
Ni	60	2	72	38.976	ppb	38.976	1.78	28070	5000	
Cu	63	2	72	0.597	ppb	0.597	9.09	5208	5000	
Zn	66	2	72	2.437	ppb	2.437	24.21	633	5000	
As	75	2	72	14.397	ppb	14.397	6.92	1513	2000	
Se	78	1	72	0.110	ppb	0.110	22.07	108	2000	
Sr	88	2	72	78.886	ppb	78.886	5.12	18450	4000	
Zr	90	2	72	1.250	ppb	1.250	256.76	33	1000	
Nb	93	2	72	0.127	ppb	0.127	27.83	493	200	
Mo	95	2	115	0.203	ppb	0.203	14.05	193	2000	
Pd	105	2	115	0.012	ppb	0.012	161.68	33	100	
Ag	107	2	115	0.007	ppb	0.007	85.14	30	100	
Cd	111	2	115	0.023	ppb	0.023	147.31	10	2000	
Sn	120	2	115	0.156	ppb	0.156	48.32	157	2000	
Sb	121	2	115	0.034	ppb	0.034	50.37	30	1000	
Ba	137	2	115	3.557	ppb	3.557	4.79	593	5000	
W	182	2	165	0.042	ppb	0.042	26.05	600	100	
Pt	195	2	165	-0.005	ppb	-0.005	-151.85	103	100	
Tl	205	2	165	0.037	ppb	0.037	17.84	510	2000	
Pb	208	2	165	0.036	ppb	0.036	31.01	1853	5000	
Th	232	2	165	0.068	ppb	0.068	17.72	1007	2000	
U	238	2	165	0.110	ppb	0.110	8.46	1854	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	854353	0.82	1030374	82.92	60	120	
Sc (IS)	45	1	HMI H2	46596669	0.73	50049516	93.10	60	120	
Sc (IS)	45	2	HMI He	420978	1.57	455282	92.47	60	120	
Sc (IS)	45	3	No Gas	113153775	0.75	129118738	87.64	60	120	
Ge Internal Standard	72	1	HMI H2	23730340	1.02	25231850	94.05	60	120	
Ge Internal Standard	72	2	HMI He	687003	1.19	724676	94.80	60	120	
In Internal Standard	115	2	HMI He	1715791	1.07	1743517	98.41	60	120	
Ho-165	165	2	HMI He	14747149	0.24	14982339	98.43	60	120	

Sample Report

Sample Table

Sample Name	280-90409-e-2-a
Data File Name	116SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:33:33-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.876	ppb	7.876	59.08	74710	500000	
Li	7	2	45	-3.636	ppb	-3.636	-467.07	3467	500000	
Li	7	3	45	1.043	ppb	1.043	263.85	3534361	50000	
Be	9	1	6	0.060	ppb	0.060	91.18	17	2000	
B	11	1	6	-24.379	ppb	-24.379	-0.65	15867	2000	
Na	23	1	45	10600.942	ppb	10600.942	0.61	40044572	2000	>LDR
Na	23	2	45	10937.302	ppb	10937.302	0.41	1270219	400000	
Mg	24	2	45	20601.090	ppb	20601.090	0.78	1001364	400000	
Al	27	2	45	27.207	ppb	27.207	27.04	280	400000	
K	39	1	45	315.806	ppb	315.806	6.75	10664619	400000	
K	39	2	45	1326.677	ppb	1326.677	1.45	27265	400000	
Ca	40	1	45	59636.479	ppb	59636.479	0.39	416971967	400000	
Ca	44	2	45	56096.122	ppb	56096.122	1.86	66319	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	1.744	ppb	1.744	48.63	1413	2000	
Cr	52	2	72	21.919	ppb	21.919	3.62	22709	5000	
Mn	55	2	72	450.885	ppb	450.885	1.58	119359	10000	
Fe	57	2	72	3755.435	ppb	3755.435	0.93	68606	400000	
Co	59	2	72	1.291	ppb	1.291	3.44	3050	2000	
Ni	60	2	72	3.934	ppb	3.934	1.40	2887	5000	
Cu	63	2	72	0.984	ppb	0.984	8.99	5998	5000	
Zn	66	2	72	2.178	ppb	2.178	33.30	583	5000	
As	75	2	72	14.367	ppb	14.367	4.18	1498	2000	
Se	78	1	72	0.062	ppb	0.062	36.22	83	2000	
Sr	88	2	72	73.243	ppb	73.243	0.15	16992	4000	
Zr	90	2	72	50.939	ppb	50.939	21.11	357	1000	
Nb	93	2	72	0.099	ppb	0.099	5.45	397	200	
Mo	95	2	115	0.460	ppb	0.460	37.14	417	2000	
Pd	105	2	115	0.002	ppb	0.002	175.79	17	100	
Ag	107	2	115	0.014	ppb	0.014	41.60	57	100	
Cd	111	2	115	0.012	ppb	0.012	334.60	7	2000	
Sn	120	2	115	0.221	ppb	0.221	13.96	200	2000	
Sb	121	2	115	0.154	ppb	0.154	33.66	100	1000	
Ba	137	2	115	21.221	ppb	21.221	8.58	3487	5000	
W	182	2	165	0.089	ppb	0.089	12.44	937	100	
Pt	195	2	165	0.005	ppb	0.005	126.29	177	100	
Tl	205	2	165	0.077	ppb	0.077	21.03	873	2000	
Pb	208	2	165	0.182	ppb	0.182	6.61	3594	5000	
Th	232	2	165	0.065	ppb	0.065	5.65	973	2000	
U	238	2	165	0.062	ppb	0.062	3.78	1057	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	850306	1.09	1030374	82.52	60	120	
Sc (IS)	45	1	HMI H2	46480628	0.66	50049516	92.87	60	120	
Sc (IS)	45	2	HMI He	424699	0.90	455282	93.28	60	120	
Sc (IS)	45	3	No Gas	112545905	0.11	129118738	87.16	60	120	
Ge Internal Standard	72	1	HMI H2	23977628	1.10	25231850	95.03	60	120	
Ge Internal Standard	72	2	HMI He	681553	0.96	724676	94.05	60	120	
In Internal Standard	115	2	HMI He	1714346	0.61	1743517	98.33	60	120	
Ho-165	165	2	HMI He	14745522	0.64	14982339	98.42	60	120	

Sample Report

Sample Table

Sample Name	280-90409-a-3-a
Data File Name	117SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:37:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	6.702	ppb	6.702	47.07	75506	500000	
Li	7	2	45	23.345	ppb	23.345	107.11	3914	500000	
Li	7	3	45	-1.206	ppb	-1.206	-32.90	3519261	50000	
Be	9	1	6	0.012	ppb	0.012	173.21	3	2000	
B	11	1	6	-26.687	ppb	-26.687	-15.32	15437	2000	
Na	23	1	45	10716.318	ppb	10716.318	0.58	41126811	2000	>LDR
Na	23	2	45	10959.392	ppb	10959.392	2.40	1269989	400000	
Mg	24	2	45	20601.922	ppb	20601.922	0.49	999280	400000	
Al	27	2	45	8.655	ppb	8.655	12.41	110	400000	
K	39	1	45	226.515	ppb	226.515	19.26	10457917	400000	
K	39	2	45	1365.111	ppb	1365.111	3.73	27879	400000	
Ca	40	1	45	59422.894	ppb	59422.894	0.30	422115647	400000	
Ca	44	2	45	56277.465	ppb	56277.465	2.53	66393	400000	
Ti	47	2	45	18393.488	ppb	18393.488	145.43	10	4000	
V	51	2	72	0.049	ppb	0.049	528.22	121	2000	
Cr	52	2	72	4.575	ppb	4.575	2.47	4994	5000	
Mn	55	2	72	457.229	ppb	457.229	1.23	121926	10000	
Fe	57	2	72	3983.305	ppb	3983.305	1.28	73297	400000	
Co	59	2	72	1.336	ppb	1.336	6.59	3180	2000	
Ni	60	2	72	3.848	ppb	3.848	7.70	2847	5000	
Cu	63	2	72	0.055	ppb	0.055	223.99	4027	5000	
Zn	66	2	72	1.147	ppb	1.147	8.75	410	5000	
As	75	2	72	16.234	ppb	16.234	4.78	1705	2000	
Se	78	1	72	-0.008	ppb	-0.008	-225.41	44	2000	
Sr	88	2	72	75.321	ppb	75.321	3.00	17599	4000	
Zr	90	2	72	67.738	ppb	67.738	17.53	470	1000	
Nb	93	2	72	0.025	ppb	0.025	45.94	163	200	
Mo	95	2	115	0.337	ppb	0.337	2.49	317	2000	
Pd	105	2	115	0.004	ppb	0.004	158.26	20	100	
Ag	107	2	115	0.010	ppb	0.010	180.86	43	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.132	ppb	0.132	101.45	143	2000	
Sb	121	2	115	0.196	ppb	0.196	57.19	127	1000	
Ba	137	2	115	19.369	ppb	19.369	6.93	3250	5000	
W	182	2	165	0.094	ppb	0.094	13.01	983	100	
Pt	195	2	165	0.003	ppb	0.003	433.78	163	100	
Tl	205	2	165	0.020	ppb	0.020	44.85	353	2000	
Pb	208	2	165	0.226	ppb	0.226	9.27	4164	5000	
Th	232	2	165	0.022	ppb	0.022	2.43	353	2000	
U	238	2	165	0.020	ppb	0.020	37.35	367	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	867715	0.54	1030374	84.21	60	120	
Sc (IS)	45	1	HMI H2	47224379	0.81	50049516	94.36	60	120	
Sc (IS)	45	2	HMI He	423808	0.51	455282	93.09	60	120	
Sc (IS)	45	3	No Gas	113210402	0.10	129118738	87.68	60	120	
Ge Internal Standard	72	1	HMI H2	24244568	0.10	25231850	96.09	60	120	
Ge Internal Standard	72	2	HMI He	686505	0.41	724676	94.73	60	120	
In Internal Standard	115	2	HMI He	1750669	1.78	1743517	100.41	60	120	
Ho-165	165	2	HMI He	14880446	0.90	14982339	99.32	60	120	

Sample Report

Sample Table

Sample Name	280-90409-a-4-a
Data File Name	118SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:41:10-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.388	ppb	7.388	41.07	75145	500000	
Li	7	2	45	10.382	ppb	10.382	218.38	3754	500000	
Li	7	3	45	6.415	ppb	6.415	28.63	3672172	50000	
Be	9	1	6	0.092	ppb	0.092	75.44	27	2000	
B	11	1	6	-19.776	ppb	-19.776	-13.49	17883	2000	
Na	23	1	45	1772.813	ppb	1772.813	1.32	6834059	2000	
Na	23	2	45	1714.285	ppb	1714.285	0.46	205670	400000	
Mg	24	2	45	4759.813	ppb	4759.813	1.21	234904	400000	
Al	27	2	45	582.510	ppb	582.510	3.87	5425	400000	
K	39	1	45	-74.143	ppb	-74.143	-38.79	9117831	400000	
K	39	2	45	987.780	ppb	987.780	2.76	21634	400000	
Ca	40	1	45	9359.182	ppb	9359.182	1.38	66016886	400000	
Ca	44	2	45	9146.696	ppb	9146.696	4.17	10987	400000	
Ti	47	2	45	256154.561	ppb	256154.561	53.59	100	4000	>LDR
V	51	2	72	0.452	ppb	0.452	36.07	434	2000	
Cr	52	2	72	1.034	ppb	1.034	9.87	1357	5000	
Mn	55	2	72	9.966	ppb	9.966	5.13	2700	10000	
Fe	57	2	72	809.515	ppb	809.515	3.05	15101	400000	
Co	59	2	72	0.459	ppb	0.459	1.98	1120	2000	
Ni	60	2	72	7.401	ppb	7.401	7.59	5448	5000	
Cu	63	2	72	0.589	ppb	0.589	31.09	5234	5000	
Zn	66	2	72	11.105	ppb	11.105	12.77	2154	5000	
As	75	2	72	0.380	ppb	0.380	18.30	47	2000	
Se	78	1	72	0.079	ppb	0.079	27.32	93	2000	
Sr	88	2	72	26.282	ppb	26.282	0.34	6215	4000	
Zr	90	2	72	107.688	ppb	107.688	10.01	740	1000	
Nb	93	2	72	0.064	ppb	0.064	32.68	290	200	
Mo	95	2	115	0.064	ppb	0.064	66.68	73	2000	
Pd	105	2	115	0.002	ppb	0.002	382.45	17	100	
Ag	107	2	115	0.014	ppb	0.014	42.47	57	100	
Cd	111	2	115	0.079	ppb	0.079	50.31	27	2000	
Sn	120	2	115	0.200	ppb	0.200	63.19	190	2000	
Sb	121	2	115	0.111	ppb	0.111	42.79	77	1000	
Ba	137	2	115	11.398	ppb	11.398	5.82	1917	5000	
W	182	2	165	2.839	ppb	2.839	5.80	20807	100	
Pt	195	2	165	0.004	ppb	0.004	41.68	170	100	
Tl	205	2	165	0.027	ppb	0.027	21.66	413	2000	
Pb	208	2	165	0.707	ppb	0.707	5.87	9959	5000	
Th	232	2	165	0.283	ppb	0.283	4.00	4144	2000	
U	238	2	165	0.054	ppb	0.054	6.33	933	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	877700	2.72	1030374	85.18	60	120	
Sc (IS)	45	1	HMI H2	46852419	0.55	50049516	93.61	60	120	
Sc (IS)	45	2	HMI He	430574	0.76	455282	94.57	60	120	
Sc (IS)	45	3	No Gas	114175492	0.59	129118738	88.43	60	120	
Ge Internal Standard	72	1	HMI H2	24272545	0.79	25231850	96.20	60	120	
Ge Internal Standard	72	2	HMI He	693504	1.10	724676	95.70	60	120	
In Internal Standard	115	2	HMI He	1749722	0.74	1743517	100.36	60	120	
Ho-165	165	2	HMI He	14885007	1.11	14982339	99.35	60	120	

Sample Report

Sample Table

Sample Name	280-90415-e-1-a
Data File Name	119SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:44:58-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	13.628	ppb	13.628	37.01	77338	500000	
Li	7	2	45	30.098	ppb	30.098	52.56	3987	500000	
Li	7	3	45	7.580	ppb	7.580	6.51	3644017	50000	
Be	9	1	6	0.073	ppb	0.073	173.21	20	2000	
B	11	1	6	53.492	ppb	53.492	7.16	41023	2000	
Na	23	1	45	23833.979	ppb	23833.979	0.44	90702502	2000	>LDR
Na	23	2	45	24137.805	ppb	24137.805	0.14	2763373	400000	
Mg	24	2	45	36371.250	ppb	36371.250	0.97	1745785	400000	
Al	27	2	45	1247.777	ppb	1247.777	8.13	11281	400000	
K	39	1	45	2052.466	ppb	2052.466	5.14	18031428	400000	
K	39	2	45	3134.459	ppb	3134.459	1.49	58141	400000	
Ca	40	1	45	82143.518	ppb	82143.518	0.54	579409031	400000	
Ca	44	2	45	81310.712	ppb	81310.712	0.81	94926	400000	
Ti	47	2	45	806845.117	ppb	806845.117	20.60	300	4000	>LDR
V	51	2	72	1.712	ppb	1.712	10.96	1389	2000	
Cr	52	2	72	1.590	ppb	1.590	3.24	1904	5000	
Mn	55	2	72	68.812	ppb	68.812	5.36	18240	10000	
Fe	57	2	72	2666.189	ppb	2666.189	1.29	48741	400000	
Co	59	2	72	0.666	ppb	0.666	3.31	1587	2000	
Ni	60	2	72	1.407	ppb	1.407	14.79	1087	5000	
Cu	63	2	72	0.554	ppb	0.554	41.29	5071	5000	
Zn	66	2	72	6.289	ppb	6.289	17.58	1290	5000	
As	75	2	72	31.237	ppb	31.237	2.72	3251	2000	
Se	78	1	72	0.017	ppb	0.017	123.38	57	2000	
Sr	88	2	72	545.890	ppb	545.890	1.19	126577	4000	
Zr	90	2	72	137.764	ppb	137.764	22.66	923	1000	
Nb	93	2	72	0.109	ppb	0.109	2.95	430	200	
Mo	95	2	115	4.451	ppb	4.451	5.03	3861	2000	
Pd	105	2	115	0.012	ppb	0.012	114.48	33	100	
Ag	107	2	115	0.007	ppb	0.007	111.84	30	100	
Cd	111	2	115	0.000	ppb	0.000	4326.08	3	2000	
Sn	120	2	115	0.138	ppb	0.138	26.55	143	2000	
Sb	121	2	115	0.012	ppb	0.012	167.57	17	1000	
Ba	137	2	115	47.543	ppb	47.543	5.22	7729	5000	
W	182	2	165	0.062	ppb	0.062	36.40	733	100	
Pt	195	2	165	0.002	ppb	0.002	96.38	157	100	
Tl	205	2	165	0.043	ppb	0.043	42.13	553	2000	
Pb	208	2	165	0.653	ppb	0.653	0.40	9155	5000	
Th	232	2	165	0.296	ppb	0.296	12.66	4265	2000	
U	238	2	165	0.867	ppb	0.867	6.16	14357	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	858006	2.91	1030374	83.27	60	120	
Sc (IS)	45	1	HMI H2	46891989	1.02	50049516	93.69	60	120	
Sc (IS)	45	2	HMI He	419467	0.43	455282	92.13	60	120	
Sc (IS)	45	3	No Gas	112722768	0.12	129118738	87.30	60	120	
Ge Internal Standard	72	1	HMI H2	23772330	0.97	25231850	94.22	60	120	
Ge Internal Standard	72	2	HMI He	681752	0.59	724676	94.08	60	120	
In Internal Standard	115	2	HMI He	1697763	0.76	1743517	97.38	60	120	
Ho-165	165	2	HMI He	14641974	0.68	14982339	97.73	60	120	

Sample Report

Sample Table

Sample Name	280-90420-c-3-a
Data File Name	120SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:48:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.766	ppb	-4.766	-51.62	70762	500000	
Li	7	2	45	8.630	ppb	8.630	221.82	3630	500000	
Li	7	3	45	-4.969	ppb	-4.969	-38.05	3414955	50000	
Be	9	1	6	0.061	ppb	0.061	125.63	17	2000	
B	11	1	6	-10.961	ppb	-10.961	-16.72	19918	2000	
Na	23	1	45	12271.287	ppb	12271.287	0.75	46534184	2000	>LDR
Na	23	2	45	12827.565	ppb	12827.565	1.59	1470996	400000	
Mg	24	2	45	32126.752	ppb	32126.752	1.14	1542492	400000	
Al	27	2	45	372.484	ppb	372.484	17.55	3391	400000	
K	39	1	45	568.553	ppb	568.553	3.18	11763608	400000	
K	39	2	45	1642.174	ppb	1642.174	1.77	32383	400000	
Ca	40	1	45	101321.486	ppb	101321.486	1.19	711370176	400000	
Ca	44	2	45	97329.611	ppb	97329.611	1.39	113648	400000	
Ti	47	2	45	281748.014	ppb	281748.014	71.47	107	4000	>LDR
V	51	2	72	0.634	ppb	0.634	44.78	564	2000	
Cr	52	2	72	0.712	ppb	0.712	9.71	1000	5000	
Mn	55	2	72	349.465	ppb	349.465	1.68	92076	10000	
Fe	57	2	72	1675.437	ppb	1675.437	1.44	30500	400000	
Co	59	2	72	0.319	ppb	0.319	18.16	770	2000	
Ni	60	2	72	0.530	ppb	0.530	22.09	460	5000	
Cu	63	2	72	0.331	ppb	0.331	4.70	4571	5000	
Zn	66	2	72	3.111	ppb	3.111	24.17	740	5000	
As	75	2	72	19.757	ppb	19.757	2.62	2049	2000	
Se	78	1	72	-0.021	ppb	-0.021	-178.03	36	2000	
Sr	88	2	72	282.118	ppb	282.118	0.86	65095	4000	
Zr	90	2	72	33.122	ppb	33.122	32.12	240	1000	
Nb	93	2	72	0.103	ppb	0.103	77.36	410	200	
Mo	95	2	115	1.744	ppb	1.744	5.14	1513	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-58.67	3	100	
Ag	107	2	115	0.011	ppb	0.011	75.42	47	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.150	ppb	0.150	44.21	150	2000	
Sb	121	2	115	0.047	ppb	0.047	43.26	37	1000	
Ba	137	2	115	35.015	ppb	35.015	0.42	5661	5000	
W	182	2	165	0.053	ppb	0.053	14.60	673	100	
Pt	195	2	165	-0.002	ppb	-0.002	-79.95	123	100	
Tl	205	2	165	0.026	ppb	0.026	41.79	407	2000	
Pb	208	2	165	0.310	ppb	0.310	8.29	5107	5000	
Th	232	2	165	0.082	ppb	0.082	18.81	1207	2000	
U	238	2	165	1.172	ppb	1.172	1.02	19486	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	840957	1.10	1030374	81.62	60	120	
Sc (IS)	45	1	HMI H2	46676911	0.67	50049516	93.26	60	120	
Sc (IS)	45	2	HMI He	419565	0.30	455282	92.16	60	120	
Sc (IS)	45	3	No Gas	111774032	1.28	129118738	86.57	60	120	
Ge Internal Standard	72	1	HMI H2	23766811	0.39	25231850	94.19	60	120	
Ge Internal Standard	72	2	HMI He	678304	0.66	724676	93.60	60	120	
In Internal Standard	115	2	HMI He	1688062	0.40	1743517	96.82	60	120	
Ho-165	165	2	HMI He	14709084	1.07	14982339	98.18	60	120	

Sample Report

Sample Table

Sample Name	280-90420-c-4-a
Data File Name	121SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:52:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.320	ppb	0.320	817.18	72522	500000	
Li	7	2	45	16.660	ppb	16.660	85.74	3767	500000	
Li	7	3	45	-4.933	ppb	-4.933	-16.75	3395086	50000	
Be	9	1	6	0.059	ppb	0.059	126.59	17	2000	
B	11	1	6	-16.532	ppb	-16.532	-8.39	18673	2000	
Na	23	1	45	12322.515	ppb	12322.515	0.07	46750608	2000	>LDR
Na	23	2	45	12519.523	ppb	12519.523	0.47	1436562	400000	
Mg	24	2	45	31999.672	ppb	31999.672	0.30	1537301	400000	
Al	27	2	45	253.750	ppb	253.750	11.74	2324	400000	
K	39	1	45	538.855	ppb	538.855	11.78	11646577	400000	
K	39	2	45	1585.859	ppb	1585.859	1.62	31425	400000	
Ca	40	1	45	99984.097	ppb	99984.097	0.30	702332310	400000	
Ca	44	2	45	95580.917	ppb	95580.917	0.58	111669	400000	
Ti	47	2	45	279641.241	ppb	279641.241	56.88	107	4000	>LDR
V	51	2	72	0.422	ppb	0.422	40.93	402	2000	
Cr	52	2	72	0.970	ppb	0.970	50.66	1260	5000	
Mn	55	2	72	349.529	ppb	349.529	2.54	91708	10000	
Fe	57	2	72	1591.572	ppb	1591.572	1.88	28854	400000	
Co	59	2	72	0.258	ppb	0.258	9.72	623	2000	
Ni	60	2	72	0.519	ppb	0.519	15.78	450	5000	
Cu	63	2	72	0.390	ppb	0.390	48.63	4677	5000	
Zn	66	2	72	2.406	ppb	2.406	31.11	617	5000	
As	75	2	72	19.491	ppb	19.491	2.68	2012	2000	
Se	78	1	72	-0.012	ppb	-0.012	-127.07	41	2000	
Sr	88	2	72	279.889	ppb	279.889	0.33	64306	4000	
Zr	90	2	72	34.783	ppb	34.783	41.95	250	1000	
Nb	93	2	72	0.019	ppb	0.019	89.73	140	200	
Mo	95	2	115	1.762	ppb	1.762	8.83	1563	2000	
Pd	105	2	115	0.002	ppb	0.002	178.08	17	100	
Ag	107	2	115	0.007	ppb	0.007	43.66	33	100	
Cd	111	2	115	0.023	ppb	0.023	148.76	10	2000	
Sn	120	2	115	0.090	ppb	0.090	66.46	113	2000	
Sb	121	2	115	0.028	ppb	0.028	32.39	27	1000	
Ba	137	2	115	30.923	ppb	30.923	6.70	5114	5000	
W	182	2	165	0.045	ppb	0.045	32.58	613	100	
Pt	195	2	165	-0.002	ppb	-0.002	-249.56	127	100	
Tl	205	2	165	0.015	ppb	0.015	57.65	293	2000	
Pb	208	2	165	0.288	ppb	0.288	7.61	4787	5000	
Th	232	2	165	0.088	ppb	0.088	25.75	1274	2000	
U	238	2	165	1.174	ppb	1.174	3.66	19239	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	864926	3.38	1030374	83.94	60	120	
Sc (IS)	45	1	HMI H2	46700756	0.49	50049516	93.31	60	120	
Sc (IS)	45	2	HMI He	419811	1.45	455282	92.21	60	120	
Sc (IS)	45	3	No Gas	111097935	0.62	129118738	86.04	60	120	
Ge Internal Standard	72	1	HMI H2	23824328	0.71	25231850	94.42	60	120	
Ge Internal Standard	72	2	HMI He	675410	0.80	724676	93.20	60	120	
In Internal Standard	115	2	HMI He	1727070	1.54	1743517	99.06	60	120	
Ho-165	165	2	HMI He	14503349	0.32	14982339	96.80	60	120	

Sample Report

Sample Table

Sample Name	280-90420-c-5-a
Data File Name	122SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T22:56:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-1.186	ppb	-1.186	-144.73	72588	500000	
Li	7	2	45	6.079	ppb	6.079	87.52	3634	500000	
Li	7	3	45	-3.581	ppb	-3.581	-10.86	3455495	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-30.488	ppb	-30.488	-2.82	14203	2000	
Na	23	1	45	9614.401	ppb	9614.401	0.42	36792431	2000	
Na	23	2	45	9694.482	ppb	9694.482	1.73	1127127	400000	
Mg	24	2	45	27294.498	ppb	27294.498	1.88	1327397	400000	
Al	27	2	45	111.896	ppb	111.896	12.66	1053	400000	
K	39	1	45	655.853	ppb	655.853	7.07	12230804	400000	
K	39	2	45	1781.995	ppb	1781.995	3.43	35245	400000	
Ca	40	1	45	62810.251	ppb	62810.251	0.25	444791953	400000	
Ca	44	2	45	60156.254	ppb	60156.254	0.18	71167	400000	
Ti	47	2	45	116791.453	ppb	116791.453	26.83	47	4000	>LDR
V	51	2	72	0.189	ppb	0.189	116.84	227	2000	
Cr	52	2	72	1.088	ppb	1.088	8.76	1387	5000	
Mn	55	2	72	581.773	ppb	581.773	1.52	153714	10000	
Fe	57	2	72	210.676	ppb	210.676	8.80	3904	400000	
Co	59	2	72	0.390	ppb	0.390	7.71	937	2000	
Ni	60	2	72	0.674	ppb	0.674	33.76	563	5000	
Cu	63	2	72	0.399	ppb	0.399	38.46	4731	5000	
Zn	66	2	72	2.530	ppb	2.530	15.02	643	5000	
As	75	2	72	0.250	ppb	0.250	23.93	33	2000	
Se	78	1	72	0.025	ppb	0.025	86.57	63	2000	
Sr	88	2	72	149.424	ppb	149.424	0.69	34582	4000	
Zr	90	2	72	28.360	ppb	28.360	69.98	210	1000	
Nb	93	2	72	0.013	ppb	0.013	50.00	123	200	
Mo	95	2	115	1.583	ppb	1.583	12.72	1400	2000	
Pd	105	2	115	0.000	ppb	0.000	212699.38	13	100	
Ag	107	2	115	0.006	ppb	0.006	125.33	27	100	
Cd	111	2	115	0.023	ppb	0.023	1.49	10	2000	
Sn	120	2	115	0.076	ppb	0.076	116.81	103	2000	
Sb	121	2	115	0.040	ppb	0.040	65.83	33	1000	
Ba	137	2	115	16.710	ppb	16.710	4.79	2757	5000	
W	182	2	165	0.039	ppb	0.039	9.46	573	100	
Pt	195	2	165	0.005	ppb	0.005	71.47	177	100	
Tl	205	2	165	0.043	ppb	0.043	39.88	553	2000	
Pb	208	2	165	0.174	ppb	0.174	6.13	3467	5000	
Th	232	2	165	0.052	ppb	0.052	11.95	770	2000	
U	238	2	165	1.151	ppb	1.151	3.84	18942	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	867561	0.60	1030374	84.20	60	120	
Sc (IS)	45	1	HMI H2	47078244	1.10	50049516	94.06	60	120	
Sc (IS)	45	2	HMI He	425023	1.12	455282	93.35	60	120	
Sc (IS)	45	3	No Gas	112371985	0.89	129118738	87.03	60	120	
Ge Internal Standard	72	1	HMI H2	24178744	1.18	25231850	95.83	60	120	
Ge Internal Standard	72	2	HMI He	680234	0.65	724676	93.87	60	120	
In Internal Standard	115	2	HMI He	1719264	1.01	1743517	98.61	60	120	
Ho-165	165	2	HMI He	14574541	2.38	14982339	97.28	60	120	

Sample Report

Sample Table

Sample Name	280-90420-c-7-a
Data File Name	123SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:00:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-7.366	ppb	-7.366	-74.64	70437	500000	
Li	7	2	45	-1.561	ppb	-1.561	-659.11	3507	500000	
Li	7	3	45	-8.868	ppb	-8.868	-2.64	3343550	50000	
Be	9	1	6	0.035	ppb	0.035	173.21	10	2000	
B	11	1	6	-32.428	ppb	-32.428	-1.42	13529	2000	
Na	23	1	45	10613.293	ppb	10613.293	0.29	40576550	2000	>LDR
Na	23	2	45	10950.546	ppb	10950.546	1.10	1273233	400000	
Mg	24	2	45	17073.864	ppb	17073.864	1.01	831007	400000	
Al	27	2	45	8.992	ppb	8.992	60.35	113	400000	
K	39	1	45	209.731	ppb	209.731	3.88	10348553	400000	
K	39	2	45	1296.220	ppb	1296.220	2.22	26761	400000	
Ca	40	1	45	74221.645	ppb	74221.645	0.44	525225099	400000	
Ca	44	2	45	70153.205	ppb	70153.205	0.70	83035	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	-0.250	ppb	-0.250	-86.95	-109	2000	
Cr	52	2	72	0.368	ppb	0.368	23.15	660	5000	
Mn	55	2	72	288.997	ppb	288.997	0.79	77328	10000	
Fe	57	2	72	120.061	ppb	120.061	9.08	2280	400000	
Co	59	2	72	0.158	ppb	0.158	14.53	400	2000	
Ni	60	2	72	0.210	ppb	0.210	14.18	237	5000	
Cu	63	2	72	-0.092	ppb	-0.092	-86.53	3721	5000	
Zn	66	2	72	1.468	ppb	1.468	21.28	467	5000	
As	75	2	72	0.682	ppb	0.682	14.51	78	2000	
Se	78	1	72	0.038	ppb	0.038	152.14	69	2000	
Sr	88	2	72	121.458	ppb	121.458	3.09	28467	4000	
Zr	90	2	72	4.741	ppb	4.741	79.53	57	1000	
Nb	93	2	72	0.012	ppb	0.012	121.89	120	200	
Mo	95	2	115	2.985	ppb	2.985	7.21	2644	2000	
Pd	105	2	115	0.000	ppb	0.000	-6265.78	13	100	
Ag	107	2	115	0.002	ppb	0.002	223.31	13	100	
Cd	111	2	115	0.012	ppb	0.012	168.19	7	2000	
Sn	120	2	115	0.110	ppb	0.110	19.96	127	2000	
Sb	121	2	115	0.040	ppb	0.040	65.48	33	1000	
Ba	137	2	115	92.353	ppb	92.353	3.47	15294	5000	
W	182	2	165	0.019	ppb	0.019	71.34	437	100	
Pt	195	2	165	0.001	ppb	0.001	260.52	150	100	
Tl	205	2	165	0.015	ppb	0.015	73.76	310	2000	
Pb	208	2	165	0.023	ppb	0.023	48.82	1720	5000	
Th	232	2	165	0.010	ppb	0.010	15.01	170	2000	
U	238	2	165	0.868	ppb	0.868	4.30	14631	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	864856	2.22	1030374	83.94	60	120	
Sc (IS)	45	1	HMI H2	47044689	0.15	50049516	94.00	60	120	
Sc (IS)	45	2	HMI He	425227	1.16	455282	93.40	60	120	
Sc (IS)	45	3	No Gas	111437788	0.50	129118738	86.31	60	120	
Ge Internal Standard	72	1	HMI H2	24036686	0.26	25231850	95.26	60	120	
Ge Internal Standard	72	2	HMI He	688772	0.68	724676	95.05	60	120	
In Internal Standard	115	2	HMI He	1730656	0.83	1743517	99.26	60	120	
Ho-165	165	2	HMI He	14903314	0.66	14982339	99.47	60	120	

Sample Report

Sample Table

Sample Name	280-90420-e-8-a
Data File Name	124SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:03:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-7.952	ppb	-7.952	-12.61	70608	500000	
Li	7	2	45	-15.820	ppb	-15.820	-171.64	3274	500000	
Li	7	3	45	-12.509	ppb	-12.509	-5.45	3284572	50000	
Be	9	1	6	0.024	ppb	0.024	173.21	7	2000	
B	11	1	6	-27.901	ppb	-27.901	-6.47	15063	2000	
Na	23	1	45	6179.518	ppb	6179.518	0.96	23792596	2000	
Na	23	2	45	6130.740	ppb	6130.740	0.42	716637	400000	
Mg	24	2	45	20211.176	ppb	20211.176	1.00	986012	400000	
Al	27	2	45	45.349	ppb	45.349	24.40	447	400000	
K	39	1	45	207.178	ppb	207.178	14.71	10391105	400000	
K	39	2	45	1331.723	ppb	1331.723	3.78	27458	400000	
Ca	40	1	45	80625.550	ppb	80625.550	0.32	573517045	400000	
Ca	44	2	45	75445.976	ppb	75445.976	0.53	89515	400000	
Ti	47	2	45	44837.018	ppb	44837.018	102.85	20	4000	>LDR
V	51	2	72	-0.117	ppb	-0.117	-113.21	-7	2000	
Cr	52	2	72	0.226	ppb	0.226	30.17	510	5000	
Mn	55	2	72	339.944	ppb	339.944	1.59	90412	10000	
Fe	57	2	72	1108.904	ppb	1108.904	1.33	20402	400000	
Co	59	2	72	0.077	ppb	0.077	40.61	207	2000	
Ni	60	2	72	0.217	ppb	0.217	21.29	240	5000	
Cu	63	2	72	-0.019	ppb	-0.019	-334.80	3857	5000	
Zn	66	2	72	4.013	ppb	4.013	7.75	903	5000	
As	75	2	72	6.158	ppb	6.158	3.41	649	2000	
Se	78	1	72	0.011	ppb	0.011	323.49	55	2000	
Sr	88	2	72	128.618	ppb	128.618	1.25	29967	4000	
Zr	90	2	72	12.985	ppb	12.985	32.89	110	1000	
Nb	93	2	72	0.012	ppb	0.012	139.30	120	200	
Mo	95	2	115	1.398	ppb	1.398	8.17	1237	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-296.11	10	100	
Ag	107	2	115	0.013	ppb	0.013	75.49	53	100	
Cd	111	2	115	0.023	ppb	0.023	256.32	10	2000	
Sn	120	2	115	0.091	ppb	0.091	48.90	113	2000	
Sb	121	2	115	-0.005	ppb	-0.005	-182.21	7	1000	
Ba	137	2	115	82.839	ppb	82.839	3.53	13603	5000	
W	182	2	165	0.028	ppb	0.028	60.26	500	100	
Pt	195	2	165	-0.004	ppb	-0.004	-97.85	107	100	
Tl	205	2	165	0.017	ppb	0.017	20.00	320	2000	
Pb	208	2	165	0.111	ppb	0.111	9.71	2740	5000	
Th	232	2	165	0.065	ppb	0.065	10.89	963	2000	
U	238	2	165	0.913	ppb	0.913	5.21	15165	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	869284	3.25	1030374	84.37	60	120	
Sc (IS)	45	1	HMI H2	47291304	1.17	50049516	94.49	60	120	
Sc (IS)	45	2	HMI He	426278	0.93	455282	93.63	60	120	
Sc (IS)	45	3	No Gas	111381215	0.54	129118738	86.26	60	120	
Ge Internal Standard	72	1	HMI H2	24185240	1.45	25231850	95.85	60	120	
Ge Internal Standard	72	2	HMI He	684729	1.27	724676	94.49	60	120	
In Internal Standard	115	2	HMI He	1716427	0.66	1743517	98.45	60	120	
Ho-165	165	2	HMI He	14696699	0.99	14982339	98.09	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	125_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:07:50-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	439.642	ppb	1.470	227549	500	87.9	90	110	>+\-10%
Li	7	2	45	461.182	ppb	2.701	11367	500	92.2	90	110	
Li	7	3	45	445.420	ppb	2.526	10920475	500	89.1	90	110	>+\-10%
Be	9	1	6	49.750	ppb	6.890	14900	50	99.5	90	110	
B	11	1	6	-8.967	ppb	-33.283	22421	50	-17.9	90	110	>+\-10%
Na	23	1	45	4940.489	ppb	0.497	19372393	5000	98.8	90	110	
Na	23	2	45	4887.353	ppb	2.159	572254	5000	97.7	90	110	
Mg	24	2	45	4974.303	ppb	1.778	243067	5000	99.5	90	110	
Al	27	2	45	5070.416	ppb	1.790	46507	5000	101.4	90	110	
K	39	1	45	4916.576	ppb	0.701	30813703	5000	98.3	90	110	
K	39	2	45	5170.474	ppb	0.901	94834	5000	103.4	90	110	
Ca	40	1	45	5137.606	ppb	1.087	37247408	5000	102.8	90	110	
Ca	44	2	45	5174.347	ppb	3.116	6168	5000	103.5	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	51.650	ppb	2.495	39850	50	103.3	90	110	
Cr	52	2	72	50.359	ppb	1.266	52297	50	100.7	90	110	
Mn	55	2	72	52.043	ppb	1.717	13916	50	104.1	90	110	
Fe	57	2	72	4987.231	ppb	1.588	91907	5000	99.7	90	110	
Co	59	2	72	51.327	ppb	0.920	121451	50	102.7	90	110	
Ni	60	2	72	49.306	ppb	1.454	35526	50	98.6	90	110	
Cu	63	2	72	49.547	ppb	1.765	111494	50	99.1	90	110	
Zn	66	2	72	49.832	ppb	4.092	8846	50	99.7	90	110	
As	75	2	72	52.436	ppb	2.389	5500	50	104.9	90	110	
Se	78	1	72	50.352	ppb	0.646	28814	50	100.7	90	110	
Sr	88	2	72	50.783	ppb	7.981	11884	50	101.6	90	110	
Zr	90	2	72	22.040	ppb	19.969	170	50	44.1	90	110	>+\-10%
Nb	93	2	72	99.297	ppb	0.636	320532	100	99.3	90	110	
Mo	95	2	115	48.733	ppb	5.272	43679	50	97.5	90	110	
Pd	105	2	115	48.208	ppb	3.815	84256	50	96.4	90	110	
Ag	107	2	115	47.970	ppb	3.823	176027	50	95.9	90	110	
Cd	111	2	115	48.858	ppb	1.624	14627	50	97.7	90	110	
Sn	120	2	115	47.963	ppb	3.813	33073	50	95.9	90	110	
Sb	121	2	115	48.140	ppb	4.401	28969	50	96.3	90	110	
Ba	137	2	115	49.336	ppb	6.240	8316	50	98.7	90	110	
W	182	2	165	46.929	ppb	0.956	336642	50	93.9	90	110	
Pt	195	2	165	46.586	ppb	0.559	353968	50	93.2	90	110	
Tl	205	2	165	49.328	ppb	0.849	455893	50	98.7	90	110	
Pb	208	2	165	49.713	ppb	0.732	595804	50	99.4	90	110	
Th	232	2	165	49.047	ppb	0.700	708408	50	98.1	90	110	
U	238	2	165	48.653	ppb	0.694	810601	50	97.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	917987	1.57	1030374	89.09	60	120	
Sc (IS)	45	1	HMI H2	48111824	0.35	50049516	96.13	60	120	
Sc (IS)	45	2	HMI He	426384	1.00	455282	93.65	60	120	
Sc (IS)	45	3	No Gas	115968552	1.48	129118738	89.82	60	120	
Ge Internal Standard	72	1	HMI H2	24665320	0.43	25231850	97.75	60	120	
Ge Internal Standard	72	2	HMI He	687760	1.61	724676	94.91	60	120	
In Internal Standard	115	2	HMI He	1763386	3.71	1743517	101.14	60	120	
Ho-165	165	2	HMI He	14765345	1.30	14982339	98.55	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	126_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:11:39-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-19.716	ppb	-1.6	3286865	10	
Be	9	1	6	0.088	ppb	93.9	27	0.5	
B	11	1	6	-46.501	ppb	-1.6	9489	0.5	
Na	23	1	45	13.305	ppb	4.2	153688	25	
Na	23	2	45	13.828	ppb	11.4	6108	25	
Mg	24	2	45	3.151	ppb	6.8	610	25	
Al	27	2	45	4.221	ppb	68.8	70	15	
K	39	1	45	-137.054	ppb	-11.3	8972809	50	
K	39	2	45	24.758	ppb	49.9	4521	50	
Ca	40	1	45	13.153	ppb	1.7	164962	50	
Ca	44	2	45	1.649	ppb	1019.9	30	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	0.094	ppb	32.6	156	1	
Cr	52	2	72	0.051	ppb	113.4	330	1	
Mn	55	2	72	0.092	ppb	214.4	40	0.5	
Fe	57	2	72	2.204	ppb	104.6	107	25	
Co	59	2	72	0.010	ppb	68.6	50	0.5	
Ni	60	2	72	0.067	ppb	103.2	133	1	
Cu	63	2	72	-0.216	ppb	-36.1	3440	1	
Zn	66	2	72	-0.203	ppb	-83.4	177	5	
As	75	2	72	0.029	ppb	117.0	10	1	
Se	78	1	72	-0.009	ppb	-296.5	44	1	
Sr	88	2	72	0.033	ppb	274.9	23	0.5	
Zr	90	2	72	0.719	ppb	209.8	30	1	
Nb	93	2	72	0.863	ppb	6.8	2864	2	
Mo	95	2	115	0.008	ppb	352.5	23	0.5	
Pd	105	2	115	0.064	ppb	24.3	123	1	
Ag	107	2	115	0.030	ppb	36.9	117	1	
Cd	111	2	115	0.023	ppb	147.1	10	0.5	
Sn	120	2	115	0.061	ppb	113.2	93	1	
Sb	121	2	115	0.073	ppb	34.3	53	0.6	
Ba	137	2	115	0.001	ppb	7948.9	10	0.5	
W	182	2	165	0.064	ppb	8.1	753	1	
Pt	195	2	165	0.008	ppb	100.3	200	1	
Tl	205	2	165	0.042	ppb	20.6	553	0.1	
Pb	208	2	165	0.008	ppb	100.0	1513	0.5	
Th	232	2	165	0.056	ppb	16.6	830	1	
U	238	2	165	0.025	ppb	11.5	440	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	915182	1.38	1030374	88.82	60	120	
Sc (IS)	45	1	HMI H2	47477564	0.35	50049516	94.86	60	120	
Sc (IS)	45	2	HMI He	426559	0.23	455282	93.69	60	120	
Sc (IS)	45	3	No Gas	115446172	0.59	129118738	89.41	60	120	
Ge Internal Standard	72	1	HMI H2	24375616	0.32	25231850	96.61	60	120	
Ge Internal Standard	72	2	HMI He	686640	1.09	724676	94.75	60	120	
In Internal Standard	115	2	HMI He	1734009	1.36	1743517	99.45	60	120	
Ho-165	165	2	HMI He	14676201	0.88	14982339	97.96	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	127LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:15:28-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	26.714	ppb	8.018	4059096	50	53.4	70	130	>+/-30%
Be	9	1	6	0.786	ppb	1.006	240	1	78.6	70	130	
Na	23	2	45	63.812	ppb	4.637	11891	50	127.6	70	130	
Mg	24	2	45	54.851	ppb	8.489	3124	50	109.7	70	130	
Al	27	2	45	38.453	ppb	8.057	383	30	128.2	70	130	
K	39	2	45	117.868	ppb	13.504	6141	100	117.9	70	130	
Ca	44	2	45	30.148	ppb	108.097	63	50	60.3	70	130	>+/-30%
V	51	2	72	5.027	ppb	12.268	3925	5	100.5	70	130	
Cr	52	2	72	2.188	ppb	10.453	2520	2	109.4	70	130	
Mn	55	2	72	1.384	ppb	30.048	383	1	138.4	70	130	>+/-30%
Fe	57	2	72	62.376	ppb	11.001	1207	50	124.8	70	130	
Co	59	2	72	1.064	ppb	11.185	2527	1	106.4	70	130	
Ni	60	2	72	2.220	ppb	5.516	1670	2	111.0	70	130	
Cu	63	2	72	1.975	ppb	9.814	8149	2	98.8	70	130	
Zn	66	2	72	11.001	ppb	10.020	2104	10	110.0	70	130	
As	75	2	72	4.928	ppb	8.505	520	5	98.6	70	130	
Se	78	1	72	5.016	ppb	4.370	2870	5	100.3	70	130	
Sr	88	2	72	0.909	ppb	20.008	227	1	90.9	70	130	
Zr	90	2	72	8.376	ppb	83.217	80	0.5	1675.1	70	130	>+/-30%
Nb	93	2	72	1.107	ppb	8.290	3631	2	55.4	70	130	>+/-30%
Mo	95	2	115	1.882	ppb	1.304	1653	2	94.1	70	130	
Pd	105	2	115	0.016	ppb	37.850	40	1	1.6	70	130	>+/-30%
Ag	107	2	115	5.022	ppb	3.654	17897	5	100.4	70	130	
Cd	111	2	115	1.068	ppb	9.632	313	1	106.8	70	130	
Sn	120	2	115	10.063	ppb	5.561	6778	10	100.6	70	130	
Sb	121	2	115	2.140	ppb	9.630	1260	2	107.0	70	130	
Ba	137	2	115	0.776	ppb	16.288	137	1	77.6	70	130	
W	182	2	165	4.771	ppb	2.019	34514	1	477.1	70	130	>+/-30%
Pt	195	2	165	-0.001	ppb	-558.858	137	1	-0.1	70	130	>+/-30%
Tl	205	2	165	1.012	ppb	3.500	9523	1	101.2	70	130	
Pb	208	2	165	1.016	ppb	4.564	13583	1	101.6	70	130	
Th	232	2	165	2.007	ppb	4.709	29035	2	100.4	70	130	
U	238	2	165	0.974	ppb	2.114	16276	1	97.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	935808	1.00	1030374	90.82	60	120	
Sc (IS)	45	1	HMI H2	47324693	0.27	50049516	94.56	60	120	
Sc (IS)	45	2	HMI He	425723	1.99	455282	93.51	60	120	
Sc (IS)	45	3	No Gas	115880002	0.98	129118738	89.75	60	120	
Ge Internal Standard	72	1	HMI H2	24281877	0.18	25231850	96.24	60	120	
Ge Internal Standard	72	2	HMI He	683137	0.77	724676	94.27	60	120	
In Internal Standard	115	2	HMI He	1710407	0.23	1743517	98.10	60	120	
Ho-165	165	2	HMI He	14776299	1.22	14982339	98.62	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-4238198
Data File Name	128ICSA.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:19:16-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-23.172	ppb	-2.1	3187072	1	
Be	9	1	6	0.038	ppb	173.2	10	1	
B	11	1	6	-41.317	ppb	-2.2	10040	1	
Na	23	1	45	91548.997	ppb	0.4	341611422	100000	
K	39	1	45	97811.415	ppb	0.5	411370901	100000	
Ca	40	1	45	96867.637	ppb	0.2	670497163	100000	
Ti	47	2	45	64213903.317	ppb	1.3	23396	1	>RL or LOD
V	51	2	72	-0.190	ppb	-97.7	-60	1	
Cr	52	2	72	1.385	ppb	7.3	1640	1	>RL or LOD
Mn	55	2	72	1.515	ppb	17.0	403	1	>RL or LOD
Co	59	2	72	0.007	ppb	128.8	40	1	
Ni	60	2	72	0.118	ppb	48.5	163	1	
Cu	63	2	72	0.491	ppb	7.9	4781	1	
Zn	66	2	72	0.458	ppb	65.2	280	1	
As	75	2	72	0.071	ppb	82.0	14	1	
Se	78	1	72	0.072	ppb	80.1	84	1	
Sr	88	2	72	0.645	ppb	35.6	160	1	
Zr	90	2	72	4.617	ppb	106.0	53	1	>RL or LOD
Nb	93	2	72	0.108	ppb	5.1	413	1	
Mo	95	2	115	2014.072	ppb	1.2	1668696	2000	>RL or LOD
Pd	105	2	115	0.023	ppb	47.8	50	1	
Ag	107	2	115	0.033	ppb	28.0	117	1	
Cd	111	2	115	0.122	ppb	63.0	37	1	
Sn	120	2	115	0.143	ppb	39.3	140	1	
Sb	121	2	115	0.055	ppb	86.4	40	1	
Ba	137	2	115	0.088	ppb	163.7	23	1	
W	182	2	165	0.150	ppb	12.9	1333	1	
Pt	195	2	165	-0.006	ppb	-83.2	93	1	
Tl	205	2	165	0.018	ppb	32.3	317	1	
Pb	208	2	165	0.190	ppb	4.7	3590	1	
Th	232	2	165	0.045	ppb	13.9	653	1	
U	238	2	165	0.004	ppb	78.7	93	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	815329	0.08	1030374	79.13	60	120	
Sc (IS)	45	1	HMI H2	46018494	0.55	50049516	91.95	60	120	
Sc (IS)	45	2	HMI He	415183	0.50	455282	91.19	60	120	
Sc (IS)	45	3	No Gas	113893035	0.48	129118738	88.21	60	120	
Ge Internal Standard	72	1	HMI H2	22897807	0.48	25231850	90.75	60	120	
Ge Internal Standard	72	2	HMI He	660090	0.94	724676	91.09	60	120	
In Internal Standard	115	2	HMI He	1628609	1.57	1743517	93.41	60	120	
Ho-165	165	2	HMI He	14349330	1.20	14982339	95.77	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-4238199
Data File Name	129ICSB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:23:03-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	833.948	ppb	0.619	349701	100	833.9	80	120	
Li	7	2	45	873.215	ppb	4.114	17772	100	873.2	80	120	
Li	7	3	45	857.044	ppb	0.189	17863261	100	857.0	80	120	
Be	9	1	6	107.124	ppb	3.621	27481	100	107.1	80	120	
B	11	1	6	37.296	ppb	14.851	32817	100	37.3	80	120	>+\-20%
Na	23	1	45	100926.156	ppb	0.805	377527101	100	100926.2	80	120	
K	39	1	45	105914.479	ppb	1.479	445744153	100	105914.5	80	120	
Ca	40	1	45	106822.101	ppb	0.308	741207242	100	106822.1	80	120	
V	51	2	72	104.001	ppb	2.771	75689	100	104.0	80	120	
Cr	52	2	72	101.623	ppb	2.138	99368	100	101.6	80	120	
Mn	55	2	72	101.359	ppb	2.884	25579	100	101.4	80	120	
Co	59	2	72	99.174	ppb	0.236	221584	100	99.2	80	120	
Ni	60	2	72	97.920	ppb	0.793	66552	100	97.9	80	120	
Cu	63	2	72	96.905	ppb	1.530	202403	100	96.9	80	120	
Zn	66	2	72	99.270	ppb	2.452	16435	100	99.3	80	120	
As	75	2	72	102.036	ppb	2.070	10103	100	102.0	80	120	
Se	78	1	72	99.388	ppb	0.626	52733	100	99.4	80	120	
Sr	88	2	72	98.161	ppb	4.193	21697	100	98.2	80	120	
Zr	90	2	72	6.314	ppb	88.003	63	100	6.3	80	120	>+\-20%
Nb	93	2	72	196.516	ppb	0.991	598945	100	196.5	80	120	
Mo	95	2	115	2125.562	ppb	0.766	1738913	100	2125.6	80	120	
Pd	105	2	115	92.504	ppb	0.508	147555	100	92.5	80	120	
Ag	107	2	115	93.081	ppb	1.643	311725	100	93.1	80	120	
Cd	111	2	115	96.380	ppb	6.060	26311	100	96.4	80	120	
Sn	120	2	115	99.158	ppb	2.735	62349	100	99.2	80	120	
Sb	121	2	115	98.782	ppb	1.610	54262	100	98.8	80	120	
Ba	137	2	115	97.303	ppb	4.158	14967	100	97.3	80	120	
W	182	2	165	92.274	ppb	1.119	635547	100	92.3	80	120	
Pt	195	2	165	89.041	ppb	0.980	649744	100	89.0	80	120	
Tl	205	2	165	92.702	ppb	1.796	822814	100	92.7	80	120	
Pb	208	2	165	92.810	ppb	1.293	1067255	100	92.8	80	120	
Th	232	2	165	95.587	ppb	1.165	1326113	100	95.6	80	120	
U	238	2	165	96.809	ppb	1.025	1549332	100	96.8	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	785861	1.04	1030374	76.27	60	120	
Sc (IS)	45	1	HMI H2	46130611	0.65	50049516	92.17	60	120	
Sc (IS)	45	2	HMI He	412811	0.73	455282	90.67	60	120	
Sc (IS)	45	3	No Gas	117264628	0.29	129118738	90.82	60	120	
Ge Internal Standard	72	1	HMI H2	22888915	1.20	25231850	90.71	60	120	
Ge Internal Standard	72	2	HMI He	649442	0.94	724676	89.62	60	120	
In Internal Standard	115	2	HMI He	1608105	1.15	1743517	92.23	60	120	
Ho-165	165	2	HMI He	14184007	1.46	14982339	94.67	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	130SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:26:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.196	ppb	-14.196	-8.58	69868	500000	
Li	7	2	45	-4.215	ppb	-4.215	-509.42	3517	500000	
Li	7	3	45	-21.045	ppb	-21.045	-9.64	3435593	50000	
Be	9	1	6	0.034	ppb	0.034	98.95	10	2000	
B	11	1	6	-46.334	ppb	-46.334	-2.55	9396	2000	
Na	23	1	45	65.437	ppb	65.437	7.42	360088	2000	
Na	23	2	45	51.738	ppb	51.738	10.57	10650	400000	
Mg	24	2	45	18.915	ppb	18.915	16.42	1397	400000	
Al	27	2	45	27.088	ppb	27.088	16.36	283	400000	
K	39	1	45	-19.773	ppb	-19.773	-115.30	9625368	400000	
K	39	2	45	54.197	ppb	54.197	11.25	5104	400000	
Ca	40	1	45	35.939	ppb	35.939	10.44	332967	400000	
Ca	44	2	45	18.047	ppb	18.047	123.53	50	400000	
Ti	47	2	45	35658.900	ppb	35658.900	113.09	17	4000	>LDR
V	51	2	72	0.016	ppb	0.016	815.17	96	2000	
Cr	52	2	72	-0.044	ppb	-0.044	-203.74	233	5000	
Mn	55	2	72	0.066	ppb	0.066	88.61	33	10000	
Fe	57	2	72	25.512	ppb	25.512	5.53	537	400000	
Co	59	2	72	0.013	ppb	0.013	79.40	57	2000	
Ni	60	2	72	0.002	ppb	0.002	1245.95	87	5000	
Cu	63	2	72	-0.151	ppb	-0.151	-57.11	3591	5000	
Zn	66	2	72	-0.264	ppb	-0.264	-79.18	167	5000	
As	75	2	72	-0.028	ppb	-0.028	-116.83	4	2000	
Se	78	1	72	0.034	ppb	0.034	176.68	69	2000	
Sr	88	2	72	-0.011	ppb	-0.011	-580.29	13	4000	
Zr	90	2	72	-0.320	ppb	-0.320	-712.59	23	1000	
Nb	93	2	72	1.231	ppb	1.231	5.80	4057	200	
Mo	95	2	115	1.214	ppb	1.214	13.62	1073	2000	
Pd	105	2	115	0.075	ppb	0.075	28.73	140	100	
Ag	107	2	115	0.021	ppb	0.021	48.71	80	100	
Cd	111	2	115	0.012	ppb	0.012	334.82	7	2000	
Sn	120	2	115	0.017	ppb	0.017	130.69	63	2000	
Sb	121	2	115	0.035	ppb	0.035	51.17	30	1000	
Ba	137	2	115	0.063	ppb	0.063	195.67	20	5000	
W	182	2	165	0.055	ppb	0.055	28.50	683	100	
Pt	195	2	165	0.017	ppb	0.017	56.70	267	100	
Tl	205	2	165	0.035	ppb	0.035	12.58	483	2000	
Pb	208	2	165	0.012	ppb	0.012	106.02	1550	5000	
Th	232	2	165	0.072	ppb	0.072	10.41	1057	2000	
U	238	2	165	0.017	ppb	0.017	30.31	303	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	900854	1.76	1030374	87.43	60	120	
Sc (IS)	45	1	HMI H2	48255958	0.48	50049516	96.42	60	120	
Sc (IS)	45	2	HMI He	432161	0.62	455282	94.92	60	120	
Sc (IS)	45	3	No Gas	121470268	0.11	129118738	94.08	60	120	
Ge Internal Standard	72	1	HMI H2	24817483	0.06	25231850	98.36	60	120	
Ge Internal Standard	72	2	HMI He	688440	1.01	724676	95.00	60	120	
In Internal Standard	115	2	HMI He	1711452	1.22	1743517	98.16	60	120	
Ho-165	165	2	HMI He	14611566	0.69	14982339	97.53	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	131_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:30:38-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	452.472	ppb	1.416	233690	500	90.5	90	110	
Li	7	2	45	456.749	ppb	3.303	11464	500	91.3	90	110	
Li	7	3	45	444.822	ppb	0.746	11356801	500	89.0	90	110	>+\-10%
Be	9	1	6	50.494	ppb	2.342	15227	50	101.0	90	110	
B	11	1	6	-11.668	ppb	-32.921	21627	50	-23.3	90	110	>+\-10%
Na	23	1	45	4970.300	ppb	1.037	19629844	5000	99.4	90	110	
Na	23	2	45	4973.693	ppb	0.795	591146	5000	99.5	90	110	
Mg	24	2	45	5020.126	ppb	0.027	249014	5000	100.4	90	110	
Al	27	2	45	5000.348	ppb	0.675	46560	5000	100.0	90	110	
K	39	1	45	5051.548	ppb	0.895	31621538	5000	101.0	90	110	
K	39	2	45	5217.601	ppb	0.610	97106	5000	104.4	90	110	
Ca	40	1	45	5092.225	ppb	0.536	37187114	5000	101.8	90	110	
Ca	44	2	45	5009.839	ppb	9.709	6058	5000	100.2	90	110	
Ti	47	2	45	26549.381	ppb	114.028	13	50	53098.8	90	110	>+\-10%
V	51	2	72	53.129	ppb	1.315	41321	50	106.3	90	110	
Cr	52	2	72	51.985	ppb	1.296	54407	50	104.0	90	110	
Mn	55	2	72	50.906	ppb	1.777	13726	50	101.8	90	110	
Fe	57	2	72	4988.164	ppb	0.781	92680	5000	99.8	90	110	
Co	59	2	72	51.230	ppb	1.565	122206	50	102.5	90	110	
Ni	60	2	72	49.783	ppb	3.464	36158	50	99.6	90	110	
Cu	63	2	72	49.840	ppb	1.606	113051	50	99.7	90	110	
Zn	66	2	72	51.791	ppb	4.788	9253	50	103.6	90	110	
As	75	2	72	51.081	ppb	1.485	5402	50	102.2	90	110	
Se	78	1	72	49.649	ppb	2.554	28435	50	99.3	90	110	
Sr	88	2	72	49.765	ppb	3.732	11748	50	99.5	90	110	
Zr	90	2	72	12.267	ppb	51.740	107	50	24.5	90	110	>+\-10%
Nb	93	2	72	100.699	ppb	0.721	327696	100	100.7	90	110	
Mo	95	2	115	49.624	ppb	2.563	44374	50	99.2	90	110	
Pd	105	2	115	48.366	ppb	3.811	84297	50	96.7	90	110	
Ag	107	2	115	48.479	ppb	1.230	177458	50	97.0	90	110	
Cd	111	2	115	48.140	ppb	4.709	14377	50	96.3	90	110	
Sn	120	2	115	49.224	ppb	0.975	33868	50	98.4	90	110	
Sb	121	2	115	49.115	ppb	3.348	29480	50	98.2	90	110	
Ba	137	2	115	50.386	ppb	3.087	8476	50	100.8	90	110	
W	182	2	165	47.306	ppb	0.974	336381	50	94.6	90	110	
Pt	195	2	165	46.469	ppb	0.245	349998	50	92.9	90	110	
Tl	205	2	165	49.822	ppb	0.896	456466	50	99.6	90	110	
Pb	208	2	165	49.717	ppb	0.724	590675	50	99.4	90	110	
Th	232	2	165	49.248	ppb	0.092	705095	50	98.5	90	110	
U	238	2	165	48.942	ppb	0.375	808320	50	97.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	923577	0.81	1030374	89.64	60	120	
Sc (IS)	45	1	HMI H2	48461438	0.33	50049516	96.83	60	120	
Sc (IS)	45	2	HMI He	432792	0.88	455282	95.06	60	120	
Sc (IS)	45	3	No Gas	120695625	0.85	129118738	93.48	60	120	
Ge Internal Standard	72	1	HMI H2	24685056	0.28	25231850	97.83	60	120	
Ge Internal Standard	72	2	HMI He	693342	1.09	724676	95.68	60	120	
In Internal Standard	115	2	HMI He	1757719	1.94	1743517	100.81	60	120	
Ho-165	165	2	HMI He	14636151	0.37	14982339	97.69	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	132_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:34:25-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-17.258	ppb	-9.8	3461809	10	
Be	9	1	6	0.066	ppb	86.6	20	0.5	
B	11	1	6	-46.755	ppb	-1.9	9579	0.5	
Na	23	1	45	21.966	ppb	6.3	189094	25	
Na	23	2	45	21.089	ppb	22.6	7052	25	
Mg	24	2	45	3.264	ppb	93.4	623	25	
Al	27	2	45	1.986	ppb	189.2	50	15	
K	39	1	45	-79.100	ppb	-7.2	9321773	50	
K	39	2	45	40.865	ppb	32.3	4871	50	
Ca	40	1	45	10.016	ppb	19.6	144106	50	
Ca	44	2	45	-4.345	ppb	-396.5	23	25	
Ti	47	2	45	9124.658	ppb	332.8	7	0.5	>RL
V	51	2	72	-0.002	ppb	-7070.3	83	1	
Cr	52	2	72	-0.087	ppb	-77.4	190	1	
Mn	55	2	72	0.138	ppb	55.3	53	0.5	
Fe	57	2	72	9.112	ppb	40.4	237	25	
Co	59	2	72	0.012	ppb	91.4	53	0.5	
Ni	60	2	72	-0.036	ppb	-150.4	60	1	
Cu	63	2	72	-0.319	ppb	-22.4	3257	1	
Zn	66	2	72	0.261	ppb	42.3	260	5	
As	75	2	72	0.003	ppb	2179.9	7	1	
Se	78	1	72	0.028	ppb	76.0	65	1	
Sr	88	2	72	0.003	ppb	2275.0	17	0.5	
Zr	90	2	72	0.166	ppb	1392.1	27	1	
Nb	93	2	72	0.997	ppb	2.8	3334	2	
Mo	95	2	115	0.123	ppb	68.6	127	0.5	
Pd	105	2	115	0.061	ppb	18.7	120	1	
Ag	107	2	115	0.024	ppb	57.9	93	1	
Cd	111	2	115	0.000	ppb	9269.7	3	0.5	
Sn	120	2	115	0.049	ppb	92.6	87	1	
Sb	121	2	115	0.134	ppb	51.1	90	0.6	
Ba	137	2	115	0.059	ppb	100.7	20	0.5	
W	182	2	165	0.058	ppb	32.9	703	1	
Pt	195	2	165	0.005	ppb	153.9	177	1	
Tl	205	2	165	0.042	ppb	22.0	547	0.1	
Pb	208	2	165	0.013	ppb	132.3	1557	0.5	
Th	232	2	165	0.058	ppb	21.7	860	1	
U	238	2	165	0.023	ppb	30.5	410	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	932140	1.30	1030374	90.47	60	120	
Sc (IS)	45	1	HMI H2	48007683	0.60	50049516	95.92	60	120	
Sc (IS)	45	2	HMI He	432479	1.22	455282	94.99	60	120	
Sc (IS)	45	3	No Gas	120123212	0.78	129118738	93.03	60	120	
Ge Internal Standard	72	1	HMI H2	24554682	0.87	25231850	97.32	60	120	
Ge Internal Standard	72	2	HMI He	695159	0.44	724676	95.93	60	120	
In Internal Standard	115	2	HMI He	1751187	1.29	1743517	100.44	60	120	
Ho-165	165	2	HMI He	14586997	0.77	14982339	97.36	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350338/1-a
Data File Name	133_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:38:14-07:00
Sample Type	Blank
Dilution	1
Comment	350338 6020
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-17.183	ppb	-20.60630925	68727	0.5
Li	7	2	45	-20.162	ppb	-93.43351634	3274	0.5
Li	7	3	45	-21.516	ppb	-5.419727501	3351833	10
Be	9	1	6	0.056	ppb	34.79083887	17	0.5
B	11	1	6	-44.466	ppb	-4.805290076	10086	0.5
Na	23	1	45	26.088	ppb	2.693387285	205919	25
Na	23	2	45	23.206	ppb	1.613152587	7358	25
Mg	24	2	45	-3.601	ppb	-21.66653378	287	25
Al	27	2	45	6.533	ppb	75.20364637	93	15
K	39	1	45	-1042.496	ppb	-1.441676854	5209206	50
K	39	2	45	11.002	ppb	73.47115125	4374	50
Ca	40	1	45	9.535	ppb	0.454372233	141210	50
Ca	44	2	45	-7.223	ppb	-299.6624245	20	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	-0.104	ppb	-193.574273	4	1
Cr	52	2	72	0.111	ppb	29.06109353	397	1
Mn	55	2	72	0.040	ppb	194.0780531	27	0.5
Fe	57	2	72	6.616	ppb	35.54024574	190	25
Co	59	2	72	0.003	ppb	411.0291786	33	0.5
Ni	60	2	72	-0.031	ppb	-26.94389895	63	1
Cu	63	2	72	-0.279	ppb	-22.25733073	3340	1
Zn	66	2	72	1.215	ppb	32.09549366	427	5
As	75	2	72	0.003	ppb	385.1849682	7	1
Se	78	1	72	-0.028	ppb	-129.8077561	33	1
Sr	88	2	72	0.018	ppb	642.3522455	20	0.5
Zr	90	2	72	5.708	ppb	55.95841604	63	1
Nb	93	2	72	0.487	ppb	11.38173678	1667	2
Mo	95	2	115	0.114	ppb	21.68953353	117	0.5
Pd	105	2	115	0.000	ppb	-3703.465532	13	1
Ag	107	2	115	0.014	ppb	29.06366274	57	1
Cd	111	2	115	-0.011	ppb	-1.48951E-06	0	0.5
Sn	120	2	115	0.045	ppb	71.32604738	83	1
Sb	121	2	115	0.034	ppb	258.3470638	30	0.6
Ba	137	2	115	0.020	ppb	174.226189	13	0.5
W	182	2	165	0.019	ppb	27.622856	433	1
Pt	195	2	165	0.001	ppb	120.7850419	150	1
Tl	205	2	165	0.017	ppb	29.07902513	323	0.1
Pb	208	2	165	0.010	ppb	92.49683065	1540	0.5
Th	232	2	165	0.102	ppb	10.63242341	1503	1
U	238	2	165	0.007	ppb	56.24759224	140	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	905950	0.33	1030374	87.92	60	120	
Sc (IS)	45	1	HMI H2	48186039	0.02	50049516	96.28	60	120	
Sc (IS)	45	2	HMI He	436055	0.60	455282	95.78	60	120	
Sc (IS)	45	3	No Gas	118790675	0.86	129118738	92.00	60	120	
Ge Internal Standard	72	1	HMI H2	24470942	0.07	25231850	96.98	60	120	
Ge Internal Standard	72	2	HMI He	694009	0.70	724676	95.77	60	120	
In Internal Standard	115	2	HMI He	1739127	1.66	1743517	99.75	60	120	
Ho-165	165	2	HMI He	14760969	0.83	14982339	98.52	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350338/2-a
Data File Name	134LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:42:02-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350338 6020
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	41.336	41.336	ppb	2.711	12154	200	20.7	80	120	NewName Main CR1 Failed
Na	23	2	45	54.658	54.658	ppb	4.372	11150	200	27.3	80	120	NewName Main CR1 Failed
Mg	24	2	45	-2.901	-2.901	ppb	-27.680	323	200000	0.0	80	120	NewName Main CR1 Failed
Al	27	2	45	412.659	412.659	ppb	5.731	3921	200000	0.2	80	120	NewName Main CR1 Failed
K	39	2	45	37.499	37.499	ppb	26.561	4874	200000	0.0	80	120	NewName Main CR1 Failed
Ca	44	2	45	298.950	298.950	ppb	44.380	393	200000	0.1	80	120	NewName Main CR1 Failed
V	51	2	72	39.806	39.806	ppb	4.540	31401	200	19.9	80	120	NewName Main CR1 Failed
Cr	52	2	72	39.431	39.431	ppb	3.217	41903	200	19.7	80	120	NewName Main CR1 Failed
(Cr)	53	2	72	39.201	39.201	ppb	6.717	5261	200	19.6	80	120	NewName Main CR1 Failed
Mn	55	2	72	42.123	42.123	ppb	3.514	11514	200	21.1	80	120	NewName Main CR1 Failed
Fe	57	2	72	397.135	397.135	ppb	7.536	7539	200000	0.2	80	120	NewName Main CR1 Failed
Co	59	2	72	39.093	39.093	ppb	2.718	94544	200	19.5	80	120	NewName Main CR1 Failed
Ni	60	2	72	40.711	40.711	ppb	3.408	29993	200	20.4	80	120	NewName Main CR1 Failed
Cu	63	2	72	37.852	37.852	ppb	1.924	88011	200	18.9	80	120	NewName Main CR1 Failed
Zn	66	2	72	39.225	39.225	ppb	5.289	7158	200	19.6	80	120	NewName Main CR1 Failed
As	75	2	72	40.268	40.268	ppb	1.466	4320	200	20.1	80	120	NewName Main CR1 Failed
Se	78	1	72	38.487	38.487	ppb	0.449	21895	200	19.2	80	120	NewName Main CR1 Failed
(Se)	82	1	72	36.475	36.475	ppb	7.309	12598	200	18.2	80	120	NewName Main CR1 Failed
Nb	93	2	72	0.323	0.323	ppb	2.729	1150	400	0.1	80	120	NewName Main CR1 Failed
Mo	95	2	115	40.083	40.083	ppb	3.762	35568	200	20.0	80	120	NewName Main CR1 Failed
Pd	105	2	115	-0.006	-0.006	ppb	-57.073	3	200	0.0	80	120	NewName Main CR1 Failed
Ag	107	2	115	38.453	38.453	ppb	1.532	139668	200	19.2	80	120	NewName Main CR1 Failed
Cd	111	2	115	39.206	39.206	ppb	2.556	11611	200	19.6	80	120	NewName Main CR1 Failed
(Cd)	114	2	115	38.641	38.641	ppb	1.247	30989	200	19.3	80	120	NewName Main CR1 Failed
Sn	120	2	115	37.685	37.685	ppb	3.174	25734	200	18.8	80	120	NewName Main CR1 Failed
Sb	121	2	115	36.730	36.730	ppb	2.349	21882	200	18.4	80	110	NewName Main CR1 Failed
Ba	137	2	115	39.015	39.015	ppb	1.881	6515	200	19.5	80	120	NewName Main CR1 Failed
W	182	2	165	36.391	36.391	ppb	0.886	262601	200	18.2	80	120	NewName Main CR1 Failed
Pt	195	2	165	0.000	0.000	ppb	1741.963	143	200	0.0	80	120	NewName Main CR1 Failed
Tl	205	2	165	37.896	37.896	ppb	0.509	352284	200	18.9	80	120	NewName Main CR1 Failed
(Pb)	206	2	165	38.541	38.541	ppb	1.854	111670	200	19.3	80	120	NewName Main CR1 Failed
(Pb)	207	2	165	38.969	38.969	ppb	0.334	103814	200	19.5	80	120	NewName Main CR1 Failed
Pb	208	2	165	38.646	38.646	ppb	0.812	466133	200	19.3	80	120	NewName Main CR1 Failed
Th	232	2	165	37.444	37.444	ppb	1.130	543902	200	18.7	80	120	NewName Main CR1 Failed
U	238	2	165	37.696	37.696	ppb	0.481	631646	200	18.8	80	120	NewName Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	900489	0.86	1030374	87.39	60	120	
Sc (IS)	45	1	HMI H2	48249436	0.50	50049516	96.40	60	120	
Sc (IS)	45	2	HMI He	438231	0.32	455282	96.25	60	120	
Sc (IS)	45	3	No Gas	118236348	0.47	129118738	91.57	60	120	
Ge Internal Standard	72	1	HMI H2	24507329	0.48	25231850	97.13	60	120	
Ge Internal Standard	72	2	HMI He	703068	1.77	724676	97.02	60	120	
In Internal Standard	115	2	HMI He	1743942	1.12	1743517	100.02	60	120	
Ho-165	165	2	HMI He	14848603	0.65	14982339	99.11	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-9-b
Data File Name	135SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:45:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	81.232	ppb	81.232	1.61	98342	500000	
Li	7	2	45	85.254	ppb	85.254	12.49	5014	500000	
Li	7	3	45	72.756	ppb	72.756	4.64	4892694	50000	
Be	9	1	6	0.038	ppb	0.038	173.21	10	2000	
B	11	1	6	1540.294	ppb	1540.294	1.07	488877	2000	
Na	23	1	45	187796.379	ppb	187796.379	0.72	700344336	2000	>LDR
Na	23	2	45	183209.734	ppb	183209.734	1.45	21395541	400000	
Mg	24	2	45	63971.141	ppb	63971.141	0.36	3136787	400000	
Al	27	2	45	21.130	ppb	21.130	15.03	227	400000	
K	39	1	45	9630.858	ppb	9630.858	0.66	48833609	400000	
K	39	2	45	10605.111	ppb	10605.111	0.49	191198	400000	
Ca	40	1	45	186230.114	ppb	186230.114	0.56	1288506967	400000	
Ca	44	2	45	244686.682	ppb	244686.682	0.96	291843	400000	
Ti	47	2	45	27758.380	ppb	27758.380	150.30	13	4000	>LDR
V	51	2	72	0.395	ppb	0.395	136.46	381	2000	
Cr	52	2	72	8.460	ppb	8.460	1.98	8949	5000	
Mn	55	2	72	6.344	ppb	6.344	15.22	1700	10000	
Fe	57	2	72	344.755	ppb	344.755	8.03	6375	400000	
Co	59	2	72	0.049	ppb	0.049	60.40	140	2000	
Ni	60	2	72	0.586	ppb	0.586	15.77	503	5000	
Cu	63	2	72	0.478	ppb	0.478	19.93	4914	5000	
Zn	66	2	72	1.391	ppb	1.391	11.59	450	5000	
As	75	2	72	0.136	ppb	0.136	56.18	21	2000	
Se	78	1	72	0.045	ppb	0.045	133.85	71	2000	
Sr	88	2	72	10900.073	ppb	10900.073	1.95	2531314	4000	
Zr	90	2	72	140.354	ppb	140.354	12.52	940	1000	
Nb	93	2	72	0.260	ppb	0.260	10.49	917	200	
Mo	95	2	115	0.914	ppb	0.914	9.72	790	2000	
Pd	105	2	115	0.028	ppb	0.028	148.49	60	100	
Ag	107	2	115	0.020	ppb	0.020	16.93	77	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.429	ppb	0.429	11.34	330	2000	
Sb	121	2	115	0.288	ppb	0.288	3.84	173	1000	
Ba	137	2	115	13.320	ppb	13.320	8.20	2130	5000	
W	182	2	165	0.083	ppb	0.083	16.39	887	100	
Pt	195	2	165	-0.007	ppb	-0.007	-66.56	83	100	
Tl	205	2	165	0.041	ppb	0.041	8.68	543	2000	
Pb	208	2	165	0.100	ppb	0.100	7.89	2597	5000	
Th	232	2	165	0.253	ppb	0.253	11.21	3644	2000	
U	238	2	165	0.125	ppb	0.125	9.77	2094	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	808125	0.94	1030374	78.43	60	120	
Sc (IS)	45	1	HMI H2	45999643	0.91	50049516	91.91	60	120	
Sc (IS)	45	2	HMI He	428585	2.69	455282	94.14	60	120	
Sc (IS)	45	3	No Gas	117799608	0.70	129118738	91.23	60	120	
Ge Internal Standard	72	1	HMI H2	23260647	0.21	25231850	92.19	60	120	
Ge Internal Standard	72	2	HMI He	682680	1.98	724676	94.20	60	120	
In Internal Standard	115	2	HMI He	1665738	0.69	1743517	95.54	60	120	
Ho-165	165	2	HMI He	14653407	2.49	14982339	97.80	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-9-bSD@5
Data File Name	136SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:49:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.314	ppb	1.314	330.91	77668	500000	
Li	7	2	45	28.039	ppb	28.039	28.84	4177	500000	
Li	7	3	45	-1.148	ppb	-1.148	-235.72	3761910	50000	
Be	9	1	6	0.033	ppb	0.033	99.81	10	2000	
B	11	1	6	298.910	ppb	298.910	1.45	128907	2000	
Na	23	1	45	38145.915	ppb	38145.915	0.72	154066594	2000	>LDR
Na	23	2	45	38063.178	ppb	38063.178	0.49	4601110	400000	
Mg	24	2	45	13090.801	ppb	13090.801	0.44	664137	400000	
Al	27	2	45	28.421	ppb	28.421	33.41	303	400000	
K	39	1	45	1799.451	ppb	1799.451	1.81	18022693	400000	
K	39	2	45	2132.452	ppb	2132.452	3.66	43152	400000	
Ca	40	1	45	37130.836	ppb	37130.836	1.16	278111916	400000	
Ca	44	2	45	49588.097	ppb	49588.097	0.47	61174	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.093	ppb	0.093	177.08	161	2000	
Cr	52	2	72	0.483	ppb	0.483	14.15	803	5000	
Mn	55	2	72	1.269	ppb	1.269	18.84	367	10000	
Fe	57	2	72	63.776	ppb	63.776	6.28	1283	400000	
Co	59	2	72	0.012	ppb	0.012	68.21	57	2000	
Ni	60	2	72	-0.007	ppb	-0.007	-1143.19	83	5000	
Cu	63	2	72	-0.185	ppb	-0.185	-11.94	3634	5000	
Zn	66	2	72	0.674	ppb	0.674	15.94	340	5000	
As	75	2	72	0.031	ppb	0.031	34.41	10	2000	
Se	78	1	72	-0.025	ppb	-0.025	-71.84	36	2000	
Sr	88	2	72	2088.175	ppb	2088.175	0.09	505143	4000	
Zr	90	2	72	9.368	ppb	9.368	68.08	90	1000	
Nb	93	2	72	0.071	ppb	0.071	6.19	323	200	
Mo	95	2	115	0.194	ppb	0.194	33.44	190	2000	
Pd	105	2	115	0.021	ppb	0.021	56.06	50	100	
Ag	107	2	115	0.008	ppb	0.008	50.85	37	100	
Cd	111	2	115	-0.011	ppb	-0.011	0.00	0	2000	
Sn	120	2	115	0.102	ppb	0.102	6.05	123	2000	
Sb	121	2	115	0.155	ppb	0.155	50.55	103	1000	
Ba	137	2	115	2.521	ppb	2.521	12.01	433	5000	
W	182	2	165	0.031	ppb	0.031	45.85	530	100	
Pt	195	2	165	-0.007	ppb	-0.007	-36.36	87	100	
Tl	205	2	165	0.009	ppb	0.009	58.98	250	2000	
Pb	208	2	165	0.026	ppb	0.026	40.71	1760	5000	
Th	232	2	165	0.027	ppb	0.027	17.68	427	2000	
U	238	2	165	0.028	ppb	0.028	8.92	497	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	922127	0.78	1030374	89.49	60	120	
Sc (IS)	45	1	HMI H2	49788836	0.45	50049516	99.48	60	120	
Sc (IS)	45	2	HMI He	443167	0.65	455282	97.34	60	120	
Sc (IS)	45	3	No Gas	120982908	0.47	129118738	93.70	60	120	
Ge Internal Standard	72	1	HMI H2	25329348	0.34	25231850	100.39	60	120	
Ge Internal Standard	72	2	HMI He	711287	0.35	724676	98.15	60	120	
In Internal Standard	115	2	HMI He	1756240	1.23	1743517	100.73	60	120	
Ho-165	165	2	HMI He	14971730	0.81	14982339	99.93	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-9-c ms
Data File Name	137SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:53:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	139.337	ppb	139.337	0.32	121976	500000	
Li	7	2	45	147.830	ppb	147.830	10.56	6198	500000	
Li	7	3	45	138.927	ppb	138.927	1.95	6201358	50000	
Be	9	1	6	42.362	ppb	42.362	4.22	11257	2000	
B	11	1	6	1604.558	ppb	1604.558	0.67	512099	2000	
Na	23	1	45	184669.441	ppb	184669.441	0.99	713876336	2000	>LDR
Na	23	2	45	181766.399	ppb	181766.399	0.15	21641898	400000	
Mg	24	2	45	63767.904	ppb	63767.904	0.73	3187449	400000	
Al	27	2	45	426.195	ppb	426.195	6.95	4034	400000	
K	39	1	45	9441.212	ppb	9441.212	1.32	49809234	400000	
K	39	2	45	10563.038	ppb	10563.038	0.95	194136	400000	
Ca	40	1	45	182019.112	ppb	182019.112	0.70	1305359047	400000	
Ca	44	2	45	241941.882	ppb	241941.882	0.64	294123	400000	
Ti	47	2	45	26151.926	ppb	26151.926	150.30	13	4000	>LDR
V	51	2	72	40.983	ppb	40.983	4.72	31803	2000	
Cr	52	2	72	38.882	ppb	38.882	1.72	40661	5000	
Mn	55	2	72	43.893	ppb	43.893	2.78	11811	10000	
Fe	57	2	72	646.953	ppb	646.953	1.57	12051	400000	
Co	59	2	72	38.078	ppb	38.078	1.88	90603	2000	
Ni	60	2	72	38.407	ppb	38.407	0.92	27853	5000	
Cu	63	2	72	36.620	ppb	36.620	1.70	83895	5000	
Zn	66	2	72	39.902	ppb	39.902	10.42	7155	5000	
As	75	2	72	39.664	ppb	39.664	2.60	4187	2000	
Se	78	1	72	38.410	ppb	38.410	0.52	21368	2000	
Sr	88	2	72	10827.773	ppb	10827.773	1.05	2546879	4000	
Zr	90	2	72	6112.583	ppb	6112.583	2.44	40465	1000	>LDR
Nb	93	2	72	0.143	ppb	0.143	2.99	547	200	
Mo	95	2	115	40.353	ppb	40.353	0.36	36012	2000	
Pd	105	2	115	0.028	ppb	0.028	88.96	63	100	
Ag	107	2	115	35.378	ppb	35.378	2.23	129194	100	
Cd	111	2	115	37.994	ppb	37.994	2.45	11311	2000	
Sn	120	2	115	36.944	ppb	36.944	2.68	25363	2000	
Sb	121	2	115	38.738	ppb	38.738	0.69	23207	1000	
Ba	137	2	115	50.753	ppb	50.753	4.67	8512	5000	
W	182	2	165	36.466	ppb	36.466	0.85	262852	100	
Pt	195	2	165	-0.010	ppb	-0.010	-38.72	63	100	
Tl	205	2	165	36.059	ppb	36.059	0.45	334805	2000	
Pb	208	2	165	36.306	ppb	36.306	0.80	437442	5000	
Th	232	2	165	37.146	ppb	37.146	0.28	538916	2000	
U	238	2	165	37.242	ppb	37.242	1.33	623235	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	814117	0.87	1030374	79.01	60	120	
Sc (IS)	45	1	HMI H2	47683381	1.14	50049516	95.27	60	120	
Sc (IS)	45	2	HMI He	436854	1.13	455282	95.95	60	120	
Sc (IS)	45	3	No Gas	121876995	0.41	129118738	94.39	60	120	
Ge Internal Standard	72	1	HMI H2	23966077	0.50	25231850	94.98	60	120	
Ge Internal Standard	72	2	HMI He	691663	1.91	724676	95.44	60	120	
In Internal Standard	115	2	HMI He	1753343	2.25	1743517	100.56	60	120	
Ho-165	165	2	HMI He	14831081	1.26	14982339	98.99	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-9-d msd
Data File Name	138SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-10T23:57:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	143.381	ppb	143.381	3.91	125365	500000	
Li	7	2	45	152.016	ppb	152.016	2.57	6355	500000	
Li	7	3	45	144.140	ppb	144.140	1.71	6418878	50000	
Be	9	1	6	41.579	ppb	41.579	5.62	11287	2000	
B	11	1	6	1697.089	ppb	1697.089	1.09	551993	2000	
Na	23	1	45	189429.773	ppb	189429.773	1.13	744183269	2000	>LDR
Na	23	2	45	185968.209	ppb	185968.209	1.26	22429782	400000	
Mg	24	2	45	65182.878	ppb	65182.878	0.98	3300793	400000	
Al	27	2	45	423.452	ppb	423.452	6.86	4064	400000	
K	39	1	45	9675.899	ppb	9675.899	0.89	51635344	400000	
K	39	2	45	10704.255	ppb	10704.255	1.17	199246	400000	
Ca	40	1	45	188487.261	ppb	188487.261	0.93	1373687820	400000	
Ca	44	2	45	249019.964	ppb	249019.964	2.18	306634	400000	
Ti	47	2	45	51597.336	ppb	51597.336	57.30	23	4000	>LDR
V	51	2	72	41.364	ppb	41.364	2.90	32409	2000	
Cr	52	2	72	40.412	ppb	40.412	2.19	42648	5000	
Mn	55	2	72	46.003	ppb	46.003	0.98	12488	10000	
Fe	57	2	72	673.356	ppb	673.356	3.58	12655	400000	
Co	59	2	72	39.247	ppb	39.247	2.31	94269	2000	
Ni	60	2	72	38.206	ppb	38.206	3.61	27963	5000	
Cu	63	2	72	37.777	ppb	37.777	1.15	87234	5000	
Zn	66	2	72	41.696	ppb	41.696	6.77	7545	5000	
As	75	2	72	41.276	ppb	41.276	3.17	4396	2000	
Se	78	1	72	39.671	ppb	39.671	1.31	22437	2000	
Sr	88	2	72	10919.554	ppb	10919.554	0.97	2592319	4000	
Zr	90	2	72	6371.057	ppb	6371.057	2.42	42560	1000	>LDR
Nb	93	2	72	0.124	ppb	0.124	11.00	490	200	
Mo	95	2	115	43.082	ppb	43.082	1.38	37645	2000	
Pd	105	2	115	0.014	ppb	0.014	99.52	37	100	
Ag	107	2	115	37.218	ppb	37.218	1.07	133091	100	
Cd	111	2	115	38.149	ppb	38.149	1.89	11124	2000	
Sn	120	2	115	38.864	ppb	38.864	2.71	26124	2000	
Sb	121	2	115	40.451	ppb	40.451	3.95	23727	1000	
Ba	137	2	115	53.310	ppb	53.310	3.00	8763	5000	
W	182	2	165	37.858	ppb	37.858	1.03	270875	100	
Pt	195	2	165	-0.009	ppb	-0.009	-25.25	70	100	
Tl	205	2	165	36.984	ppb	36.984	0.85	340909	2000	
Pb	208	2	165	37.444	ppb	37.444	1.82	447853	5000	
Th	232	2	165	38.488	ppb	38.488	1.30	554337	2000	
U	238	2	165	38.513	ppb	38.513	1.06	639891	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	831648	0.71	1030374	80.71	60	120	
Sc (IS)	45	1	HMI H2	48455099	0.22	50049516	96.81	60	120	
Sc (IS)	45	2	HMI He	442583	1.28	455282	97.21	60	120	
Sc (IS)	45	3	No Gas	124352908	0.65	129118738	96.31	60	120	
Ge Internal Standard	72	1	HMI H2	24367174	0.71	25231850	96.57	60	120	
Ge Internal Standard	72	2	HMI He	698051	0.32	724676	96.33	60	120	
In Internal Standard	115	2	HMI He	1716949	0.77	1743517	98.48	60	120	
Ho-165	165	2	HMI He	14724599	1.15	14982339	98.28	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-9-b PDS
Data File Name	139SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:01:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	72.189	ppb	72.189	5.29	100999	500000	
Li	7	2	45	75.842	ppb	75.842	18.59	5071	500000	
Li	7	3	45	68.685	ppb	68.685	3.91	5168578	50000	
Be	9	1	6	213.420	ppb	213.420	1.47	58329	2000	
B	11	1	6	1596.308	ppb	1596.308	0.25	524022	2000	
Na	23	1	45	182381.215	ppb	182381.215	1.19	720524069	2000	>LDR
Na	23	2	45	178368.052	ppb	178368.052	0.30	21765268	400000	
Mg	24	2	45	61969.206	ppb	61969.206	1.25	3174623	400000	
Al	27	2	45	1933.819	ppb	1933.819	5.97	18653	400000	
K	39	1	45	9357.761	ppb	9357.761	1.01	50542896	400000	
K	39	2	45	10237.369	ppb	10237.369	1.33	192991	400000	
Ca	40	1	45	179590.451	ppb	179590.451	0.66	1316248220	400000	
Ca	44	2	45	233982.450	ppb	233982.450	1.12	291535	400000	
Ti	47	2	45	467573.177	ppb	467573.177	30.71	187	4000	>LDR
V	51	2	72	209.274	ppb	209.274	1.46	163939	2000	
Cr	52	2	72	199.302	ppb	199.302	0.64	209644	5000	
Mn	55	2	72	202.884	ppb	202.884	1.82	55136	10000	
Fe	57	2	72	2264.957	ppb	2264.957	1.51	42488	400000	
Co	59	2	72	195.408	ppb	195.408	0.37	470192	2000	
Ni	60	2	72	192.751	ppb	192.751	1.55	140982	5000	
Cu	63	2	72	188.414	ppb	188.414	1.03	420093	5000	
Zn	66	2	72	212.787	ppb	212.787	1.71	37687	5000	
As	75	2	72	205.360	ppb	205.360	1.37	21887	2000	
Se	78	1	72	198.538	ppb	198.538	0.32	112588	2000	
Sr	88	2	72	10440.813	ppb	10440.813	0.91	2483629	4000	
Zr	90	2	72	31794.146	ppb	31794.146	1.51	212725	1000	>LDR
Nb	93	2	72	0.860	ppb	0.860	14.47	2904	200	
Mo	95	2	115	202.368	ppb	202.368	2.07	175576	2000	
Pd	105	2	115	0.035	ppb	0.035	65.61	73	100	
Ag	107	2	115	36.010	ppb	36.010	0.36	127933	100	
Cd	111	2	115	190.049	ppb	190.049	1.82	55050	2000	
Sn	120	2	115	196.021	ppb	196.021	0.64	130696	2000	
Sb	121	2	115	195.444	ppb	195.444	0.52	113847	1000	
Ba	137	2	115	213.164	ppb	213.164	1.12	34774	5000	
W	182	2	165	187.218	ppb	187.218	0.21	1344434	100	
Pt	195	2	165	0.057	ppb	0.057	49.36	577	100	
Tl	205	2	165	194.564	ppb	194.564	1.23	1800905	2000	
Pb	208	2	165	185.651	ppb	185.651	0.57	2224987	5000	
Th	232	2	165	0.601	ppb	0.601	5.91	8729	2000	
U	238	2	165	195.357	ppb	195.357	1.08	3260440	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	837172	0.72	1030374	81.25	60	120	
Sc (IS)	45	1	HMI H2	48730349	0.75	50049516	97.36	60	120	
Sc (IS)	45	2	HMI He	447723	1.02	455282	98.34	60	120	
Sc (IS)	45	3	No Gas	126184775	0.33	129118738	97.73	60	120	
Ge Internal Standard	72	1	HMI H2	24474077	0.71	25231850	97.00	60	120	
Ge Internal Standard	72	2	HMI He	699444	1.25	724676	96.52	60	120	
In Internal Standard	115	2	HMI He	1705623	1.33	1743517	97.83	60	120	
Ho-165	165	2	HMI He	14790275	0.33	14982339	98.72	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-10-d
Data File Name	140SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:05:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	20.628	ppb	20.628	25.54	84950	500000	
Li	7	2	45	46.969	ppb	46.969	33.76	4457	500000	
Li	7	3	45	24.116	ppb	24.116	7.84	4460638	50000	
Be	9	1	6	0.036	ppb	0.036	1.53	10	2000	
B	11	1	6	1501.342	ppb	1501.342	1.49	500224	2000	
Na	23	1	45	256998.558	ppb	256998.558	0.22	1041480411	2000	>LDR
Na	23	2	45	260922.788	ppb	260922.788	3.08	31117350	400000	
Mg	24	2	45	62387.091	ppb	62387.091	2.17	3123895	400000	
Al	27	2	45	6.852	ppb	6.852	7.05	97	400000	
K	39	1	45	10401.923	ppb	10401.923	2.13	56502592	400000	
K	39	2	45	11919.181	ppb	11919.181	4.50	218883	400000	
Ca	40	1	45	151442.730	ppb	151442.730	0.59	1138563076	400000	
Ca	44	2	45	213554.049	ppb	213554.049	4.71	260013	400000	
Ti	47	2	45	405.893	ppb	405.893	3760.62	3	4000	
V	51	2	72	-0.093	ppb	-0.093	-351.12	11	2000	
Cr	52	2	72	0.538	ppb	0.538	43.82	850	5000	
Mn	55	2	72	191.336	ppb	191.336	5.10	52181	10000	
Fe	57	2	72	343.817	ppb	343.817	6.93	6531	400000	
Co	59	2	72	2.077	ppb	2.077	8.28	5041	2000	
Ni	60	2	72	3.301	ppb	3.301	1.00	2510	5000	
Cu	63	2	72	0.167	ppb	0.167	58.21	4371	5000	
Zn	66	2	72	3.770	ppb	3.770	8.10	883	5000	
As	75	2	72	0.913	ppb	0.913	19.60	105	2000	
Se	78	1	72	0.129	ppb	0.129	11.75	125	2000	
Sr	88	2	72	9572.433	ppb	9572.433	4.14	2285448	4000	
Zr	90	2	72	24.458	ppb	24.458	7.91	190	1000	
Nb	93	2	72	0.007	ppb	0.007	287.57	107	200	
Mo	95	2	115	3.364	ppb	3.364	7.73	2934	2000	
Pd	105	2	115	0.014	ppb	0.014	175.08	37	100	
Ag	107	2	115	0.027	ppb	0.027	20.70	103	100	
Cd	111	2	115	0.023	ppb	0.023	144.36	10	2000	
Sn	120	2	115	0.179	ppb	0.179	34.76	170	2000	
Sb	121	2	115	0.115	ppb	0.115	11.86	77	1000	
Ba	137	2	115	20.879	ppb	20.879	6.65	3410	5000	
W	182	2	165	0.080	ppb	0.080	26.77	873	100	
Pt	195	2	165	-0.006	ppb	-0.006	-110.25	97	100	
Tl	205	2	165	0.054	ppb	0.054	6.93	667	2000	
Pb	208	2	165	0.113	ppb	0.113	16.63	2774	5000	
Th	232	2	165	0.015	ppb	0.015	4.05	247	2000	
U	238	2	165	0.438	ppb	0.438	0.67	7312	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	847439	1.52	1030374	82.25	60	120	
Sc (IS)	45	1	HMI H2	49985801	0.94	50049516	99.87	60	120	
Sc (IS)	45	2	HMI He	437722	1.35	455282	96.14	60	120	
Sc (IS)	45	3	No Gas	128687281	0.49	129118738	99.67	60	120	
Ge Internal Standard	72	1	HMI H2	25114270	0.91	25231850	99.53	60	120	
Ge Internal Standard	72	2	HMI He	702405	1.98	724676	96.93	60	120	
In Internal Standard	115	2	HMI He	1703632	3.37	1743517	97.71	60	120	
Ho-165	165	2	HMI He	14746998	2.12	14982339	98.43	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-11-b
Data File Name	141SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:09:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	66.460	ppb	66.460	3.84	101213	500000	
Li	7	2	45	70.401	ppb	70.401	7.20	5046	500000	
Li	7	3	45	63.128	ppb	63.128	2.29	5166843	50000	
Be	9	1	6	0.024	ppb	0.024	86.61	7	2000	
B	11	1	6	1659.970	ppb	1659.970	1.04	551679	2000	
Na	23	1	45	200602.391	ppb	200602.391	0.77	810480681	2000	>LDR
Na	23	2	45	197777.667	ppb	197777.667	0.48	24478463	400000	
Mg	24	2	45	61750.894	ppb	61750.894	0.20	3208549	400000	
Al	27	2	45	6.476	ppb	6.476	101.29	97	400000	
K	39	1	45	9716.701	ppb	9716.701	0.94	53282886	400000	
K	39	2	45	10723.274	ppb	10723.274	1.50	204814	400000	
Ca	40	1	45	173292.802	ppb	173292.802	0.79	1298852754	400000	
Ca	44	2	45	232389.602	ppb	232389.602	1.34	293665	400000	
Ti	47	2	45	-8406.828	ppb	-8406.828	0.00	0	4000	
V	51	2	72	0.173	ppb	0.173	183.17	225	2000	
Cr	52	2	72	3.528	ppb	3.528	1.31	4067	5000	
Mn	55	2	72	13.769	ppb	13.769	3.34	3831	10000	
Fe	57	2	72	85.284	ppb	85.284	16.12	1697	400000	
Co	59	2	72	0.148	ppb	0.148	12.72	390	2000	
Ni	60	2	72	0.860	ppb	0.860	14.71	730	5000	
Cu	63	2	72	0.173	ppb	0.173	138.68	4447	5000	
Zn	66	2	72	1.897	ppb	1.897	36.60	560	5000	
As	75	2	72	0.085	ppb	0.085	52.39	16	2000	
Se	78	1	72	0.047	ppb	0.047	37.72	77	2000	
Sr	88	2	72	10407.759	ppb	10407.759	1.13	2524088	4000	
Zr	90	2	72	11.290	ppb	11.290	29.10	103	1000	
Nb	93	2	72	0.011	ppb	0.011	64.49	123	200	
Mo	95	2	115	1.245	ppb	1.245	5.15	1133	2000	
Pd	105	2	115	0.026	ppb	0.026	84.06	60	100	
Ag	107	2	115	0.018	ppb	0.018	28.91	73	100	
Cd	111	2	115	0.021	ppb	0.021	263.01	10	2000	
Sn	120	2	115	0.064	ppb	0.064	152.08	97	2000	
Sb	121	2	115	0.050	ppb	0.050	91.21	40	1000	
Ba	137	2	115	16.853	ppb	16.853	8.13	2850	5000	
W	182	2	165	0.042	ppb	0.042	37.89	610	100	
Pt	195	2	165	-0.007	ppb	-0.007	-54.52	87	100	
Tl	205	2	165	0.012	ppb	0.012	33.46	277	2000	
Pb	208	2	165	0.068	ppb	0.068	18.08	2283	5000	
Th	232	2	165	0.009	ppb	0.009	51.38	167	2000	
U	238	2	165	0.185	ppb	0.185	10.05	3180	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	849035	0.65	1030374	82.40	60	120	
Sc (IS)	45	1	HMI H2	49832216	0.59	50049516	99.57	60	120	
Sc (IS)	45	2	HMI He	454127	0.24	455282	99.75	60	120	
Sc (IS)	45	3	No Gas	128609101	0.14	129118738	99.61	60	120	
Ge Internal Standard	72	1	HMI H2	25060332	0.53	25231850	99.32	60	120	
Ge Internal Standard	72	2	HMI He	713142	0.62	724676	98.41	60	120	
In Internal Standard	115	2	HMI He	1764799	2.80	1743517	101.22	60	120	
Ho-165	165	2	HMI He	15070963	0.73	14982339	100.59	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	142_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:13:28-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	439.196	ppb	0.247	242507	500	87.8	90	110	>+\-10%
Li	7	2	45	482.427	ppb	6.620	12568	500	96.5	90	110	
Li	7	3	45	430.350	ppb	1.043	11933935	500	86.1	90	110	>+\-10%
Be	9	1	6	49.774	ppb	2.340	15737	50	99.5	90	110	
B	11	1	6	52.667	ppb	4.148	46035	50	105.3	90	110	
Na	23	1	45	5008.861	ppb	1.471	20943686	5000	100.2	90	110	
Na	23	2	45	4992.490	ppb	0.935	626310	5000	99.8	90	110	
Mg	24	2	45	4978.138	ppb	0.574	260659	5000	99.6	90	110	
Al	27	2	45	5079.210	ppb	3.062	49919	5000	101.6	90	110	
K	39	1	45	4843.846	ppb	0.730	32528206	5000	96.9	90	110	
K	39	2	45	5187.242	ppb	1.553	101932	5000	103.7	90	110	
Ca	40	1	45	5124.899	ppb	0.848	39624984	5000	102.5	90	110	
Ca	44	2	45	5242.906	ppb	4.615	6695	5000	104.9	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	50.740	ppb	2.472	41534	50	101.5	90	110	
Cr	52	2	72	50.317	ppb	1.311	55430	50	100.6	90	110	
Mn	55	2	72	50.249	ppb	1.924	14256	50	100.5	90	110	
Fe	57	2	72	5026.466	ppb	1.516	98281	5000	100.5	90	110	
Co	59	2	72	50.583	ppb	1.483	126979	50	101.2	90	110	
Ni	60	2	72	51.252	ppb	2.998	39174	50	102.5	90	110	
Cu	63	2	72	49.910	ppb	0.209	119127	50	99.8	90	110	
Zn	66	2	72	51.335	ppb	2.148	9656	50	102.7	90	110	
As	75	2	72	50.656	ppb	0.800	5638	50	101.3	90	110	
Se	78	1	72	50.818	ppb	0.615	30699	50	101.6	90	110	
Sr	88	2	72	52.055	ppb	7.322	12932	50	104.1	90	110	
Zr	90	2	72	30.074	ppb	67.480	237	50	60.1	90	110	>+\-10%
Nb	93	2	72	97.734	ppb	0.523	334695	100	97.7	90	110	
Mo	95	2	115	48.055	ppb	1.474	44234	50	96.1	90	110	
Pd	105	2	115	49.072	ppb	0.730	88055	50	98.1	90	110	
Ag	107	2	115	48.900	ppb	1.988	184207	50	97.8	90	110	
Cd	111	2	115	50.133	ppb	1.114	15401	50	100.3	90	110	
Sn	120	2	115	49.056	ppb	1.689	34736	50	98.1	90	110	
Sb	121	2	115	48.934	ppb	0.714	30238	50	97.9	90	110	
Ba	137	2	115	49.294	ppb	3.610	8533	50	98.6	90	110	
W	182	2	165	47.010	ppb	0.611	348998	50	94.0	90	110	
Pt	195	2	165	46.219	ppb	0.506	363443	50	92.4	90	110	
Tl	205	2	165	49.247	ppb	1.472	471032	50	98.5	90	110	
Pb	208	2	165	49.026	ppb	0.738	608110	50	98.1	90	110	
Th	232	2	165	49.019	ppb	1.060	732688	50	98.0	90	110	
U	238	2	165	48.520	ppb	2.138	836549	50	97.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	968768	2.31	1030374	94.02	60	120	
Sc (IS)	45	1	HMI H2	51310248	0.47	50049516	102.52	60	120	
Sc (IS)	45	2	HMI He	456850	0.29	455282	100.34	60	120	
Sc (IS)	45	3	No Gas	129643385	0.38	129118738	100.41	60	120	
Ge Internal Standard	72	1	HMI H2	26038460	0.26	25231850	103.20	60	120	
Ge Internal Standard	72	2	HMI He	729594	0.13	724676	100.68	60	120	
In Internal Standard	115	2	HMI He	1808944	1.79	1743517	103.75	60	120	
Ho-165	165	2	HMI He	15280863	0.87	14982339	101.99	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	143_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:17:14-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-22.271	ppb	-8.5	3609216	10	
Be	9	1	6	0.052	ppb	124.0	17	0.5	
B	11	1	6	-22.424	ppb	-5.8	19004	0.5	
Na	23	1	45	63.490	ppb	0.9	375568	25	>RL
Na	23	2	45	65.175	ppb	4.2	12908	25	>RL
Mg	24	2	45	3.126	ppb	73.3	650	25	
Al	27	2	45	3.383	ppb	17.0	67	15	
K	39	1	45	-150.705	ppb	-10.5	9653730	50	
K	39	2	45	17.125	ppb	132.8	4687	50	
Ca	40	1	45	18.016	ppb	3.8	216214	50	
Ca	44	2	45	18.271	ppb	105.7	53	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	0.014	ppb	497.3	101	1	
Cr	52	2	72	-0.091	ppb	-78.8	197	1	
Mn	55	2	72	0.023	ppb	320.5	23	0.5	
Fe	57	2	72	2.507	ppb	75.3	120	25	
Co	59	2	72	-0.001	ppb	-398.1	23	0.5	
Ni	60	2	72	-0.045	ppb	-71.2	57	1	
Cu	63	2	72	-0.267	ppb	-24.5	3560	1	
Zn	66	2	72	0.002	ppb	3982.3	227	5	
As	75	2	72	0.046	ppb	61.1	12	1	
Se	78	1	72	0.036	ppb	100.1	75	1	
Sr	88	2	72	0.960	ppb	34.4	257	0.5	>RL
Zr	90	2	72	2.291	ppb	216.0	43	1	>RL
Nb	93	2	72	0.957	ppb	8.7	3384	2	
Mo	95	2	115	0.057	ppb	20.7	70	0.5	
Pd	105	2	115	0.064	ppb	18.2	130	1	
Ag	107	2	115	0.020	ppb	85.2	83	1	
Cd	111	2	115	0.054	ppb	209.0	20	0.5	
Sn	120	2	115	0.090	ppb	74.3	120	1	
Sb	121	2	115	0.069	ppb	58.2	53	0.6	
Ba	137	2	115	-0.003	ppb	-1940.7	10	0.5	
W	182	2	165	0.058	ppb	31.5	747	1	
Pt	195	2	165	0.005	ppb	98.2	190	1	
Tl	205	2	165	0.045	ppb	13.6	610	0.1	
Pb	208	2	165	0.014	ppb	89.1	1667	0.5	
Th	232	2	165	0.061	ppb	4.9	953	1	
U	238	2	165	0.015	ppb	8.8	293	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	980080	1.30	1030374	95.12	60	120	
Sc (IS)	45	1	HMI H2	51411666	0.71	50049516	102.72	60	120	
Sc (IS)	45	2	HMI He	456026	1.10	455282	100.16	60	120	
Sc (IS)	45	3	No Gas	128396215	0.12	129118738	99.44	60	120	
Ge Internal Standard	72	1	HMI H2	26332063	0.53	25231850	104.36	60	120	
Ge Internal Standard	72	2	HMI He	734126	1.09	724676	101.30	60	120	
In Internal Standard	115	2	HMI He	1822213	2.07	1743517	104.51	60	120	
Ho-165	165	2	HMI He	15497776	0.69	14982339	103.44	60	120	

Blank Report

Sample Table

Sample Name	MB 280-350708/1-A
Data File Name	144_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:21:02-07:00
Sample Type	Blank
Dilution	1
Comment	350708 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-18.590	ppb	-26.94560684	72783	0.5
Li	7	2	45	-9.654	ppb	-109.1923001	3627	0.5
Li	7	3	45	-23.402	ppb	-6.419981011	3573682	10
Be	9	1	6	0.022	ppb	86.67763265	7	0.5
B	11	1	6	-29.201	ppb	-7.997924432	16131	0.5
Na	23	1	45	64.871	ppb	1.376963815	381238	25
Na	23	2	45	64.392	ppb	3.112669135	12858	25
Mg	24	2	45	-1.454	ppb	-62.47455297	413	25
Al	27	2	45	3.021	ppb	19.08187085	63	15
K	39	1	45	74.551	ppb	43.26279255	10685256	50
K	39	2	45	27.256	ppb	29.27216089	4898	50
Ca	40	1	45	17.478	ppb	3.758081241	212026	50
Ca	44	2	45	7.804	ppb	362.4159904	40	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	0.152	ppb	19.46166833	213	1
Cr	52	2	72	0.581	ppb	17.45327088	930	1
Mn	55	2	72	0.070	ppb	77.01425887	37	0.5
Fe	57	2	72	10.406	ppb	10.51999168	273	25
Co	59	2	72	0.023	ppb	26.92219959	83	0.5
Ni	60	2	72	0.052	ppb	100.9590542	130	1
Cu	63	2	72	-0.215	ppb	-65.22536726	3654	1
Zn	66	2	72	1.266	ppb	36.44144137	457	5
As	75	2	72	0.017	ppb	117.3754708	9	1
Se	78	1	72	-0.012	ppb	-226.359523	45	1
Sr	88	2	72	0.645	ppb	35.87942358	177	0.5
Zr	90	2	72	3.816	ppb	121.6729321	53	1
Nb	93	2	72	0.372	ppb	4.456301466	1360	2
Mo	95	2	115	0.046	ppb	70.56397611	60	0.5
Pd	105	2	115	0.022	ppb	39.41768384	53	1
Ag	107	2	115	0.011	ppb	52.36209776	47	1
Cd	111	2	115	0.043	ppb	115.6427063	17	0.5
Sn	120	2	115	0.232	ppb	31.77431139	220	1
Sb	121	2	115	0.010	ppb	91.52958094	17	0.6
Ba	137	2	115	-0.002	ppb	-4206.645516	10	0.5
W	182	2	165	0.039	ppb	34.47042031	597	1
Pt	195	2	165	0.005	ppb	186.1075884	183	1
Tl	205	2	165	0.011	ppb	28.61698684	273	0.1
Pb	208	2	165	0.017	ppb	150.4016414	1683	0.5
Th	232	2	165	0.032	ppb	21.80344673	510	1
U	238	2	165	0.009	ppb	60.74025317	187	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	957903	2.78	1030374	92.97	60	120	
Sc (IS)	45	1	HMI H2	51402308	1.17	50049516	102.70	60	120	
Sc (IS)	45	2	HMI He	457625	0.38	455282	100.51	60	120	
Sc (IS)	45	3	No Gas	127863731	0.95	129118738	99.03	60	120	
Ge Internal Standard	72	1	HMI H2	26206683	0.46	25231850	103.86	60	120	
Ge Internal Standard	72	2	HMI He	728440	0.28	724676	100.52	60	120	
In Internal Standard	115	2	HMI He	1819441	0.80	1743517	104.35	60	120	
Ho-165	165	2	HMI He	15228698	0.44	14982339	101.64	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCS 280-350708/2-A
Data File Name	145_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:24:49-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350708 200.8
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	38.428	38.428	ppb	14.877	93601	400	9.6	80	120	>+/-20%
Li	7	2	45	37.961	37.961	ppb	45.186	4464	400	9.5	80	120	>+/-20%
Li	7	3	45	32.487	32.487	ppb	7.329	4505516	400	8.1	80	120	>+/-20%
Be	9	1	6	30.190	30.190	ppb	5.301	9543	40	75.5	80	120	>+/-20%
Na	23	2	45	59.507	59.507	ppb	2.485	12168	40	148.8	80	120	>+/-20%
Mg	24	2	45	0.008	0.008	ppb	15701.278	487	40	0.0	80	120	>+/-20%
Al	27	2	45	286.862	286.862	ppb	2.956	2837	40	717.2	80	120	>+/-20%
K	39	2	45	25.247	25.247	ppb	88.255	4828	40	63.1	80	120	>+/-20%
Ca	44	2	45	234.702	234.702	ppb	16.786	327	40	586.8	80	120	>+/-20%
V	51	2	72	30.597	30.597	ppb	2.752	24967	40	76.5	80	120	>+/-20%
Cr	52	2	72	32.262	32.262	ppb	0.559	35483	40	80.7	80	120	
Mn	55	2	72	30.949	30.949	ppb	4.864	8746	40	77.4	80	120	>+/-20%
Fe	57	2	72	317.128	317.128	ppb	2.080	6238	40	792.8	80	120	>+/-20%
Co	59	2	72	30.922	30.922	ppb	1.857	77277	40	77.3	80	120	>+/-20%
Ni	60	2	72	30.899	30.899	ppb	3.300	23543	40	77.2	80	120	>+/-20%
Cu	63	2	72	29.859	29.859	ppb	1.936	72602	40	74.6	80	120	>+/-20%
Zn	66	2	72	32.956	32.956	ppb	6.458	6251	40	82.4	80	120	
As	75	2	72	31.343	31.343	ppb	3.274	3475	40	78.4	80	120	>+/-20%
Se	78	1	72	30.906	30.906	ppb	0.406	18757	40	77.3	80	120	>+/-20%
Nb	93	2	72	0.267	0.267	ppb	12.001	997	40	0.7	80	120	>+/-20%
Mo	95	2	115	30.891	30.891	ppb	3.274	28331	40	77.2	80	120	>+/-20%
Pd	105	2	115	0.022	0.022	ppb	114.555	53	40	0.1	80	120	>+/-20%
Ag	107	2	115	29.650	29.650	ppb	1.003	111263	40	74.1	80	120	>+/-20%
Cd	111	2	115	29.933	29.933	ppb	3.993	9159	40	74.8	80	120	>+/-20%
Sn	120	2	115	30.148	30.148	ppb	4.322	21277	40	75.4	80	120	>+/-20%
Sb	121	2	115	29.325	29.325	ppb	1.995	18053	40	73.3	80	120	>+/-20%
Ba	137	2	115	29.669	29.669	ppb	8.248	5121	40	74.2	80	120	>+/-20%
W	182	2	165	27.857	27.857	ppb	0.712	207662	40	69.6	80	120	>+/-20%
Pt	195	2	165	0.007	0.007	ppb	93.723	200	40	0.0	80	120	>+/-20%
Tl	205	2	165	29.546	29.546	ppb	1.215	283672	40	73.9	80	120	>+/-20%
Pb	208	2	165	29.679	29.679	ppb	0.789	370005	40	74.2	80	120	>+/-20%
Th	232	2	165	28.763	28.763	ppb	1.442	431447	40	71.9	80	120	>+/-20%
U	238	2	165	29.325	29.325	ppb	0.841	507438	40	73.3	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	968050	0.47	1030374	93.95	60	120	
Sc (IS)	45	1	HMI H2	51198931	0.77	50049516	102.30	60	120	
Sc (IS)	45	2	HMI He	454591	0.19	455282	99.85	60	120	
Sc (IS)	45	3	No Gas	125695485	0.99	129118738	97.35	60	120	
Ge Internal Standard	72	1	HMI H2	26130690	0.14	25231850	103.56	60	120	
Ge Internal Standard	72	2	HMI He	726257	0.43	724676	100.22	60	120	
In Internal Standard	115	2	HMI He	1801620	0.31	1743517	103.33	60	120	
Ho-165	165	2	HMI He	15333799	0.12	14982339	102.35	60	120	

Sample Report

Sample Table

Sample Name	280-90697-A-1-D
Data File Name	146SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:28:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350708 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-16.030	ppb	-16.030	-3.96	71320	500000	
Li	7	2	45	-10.681	ppb	-10.681	-120.94	3500	500000	
Li	7	3	45	-16.698	ppb	-16.698	-8.43	3591142	50000	
Be	9	1	6	0.023	ppb	0.023	86.68	7	2000	
B	11	1	6	23.585	ppb	23.585	16.88	32770	2000	
Na	23	1	45	113178.840	ppb	113178.840	1.11	456194033	2000	>LDR
Na	23	2	45	111556.025	ppb	111556.025	0.81	13495884	400000	
Mg	24	2	45	8807.422	ppb	8807.422	0.70	447681	400000	
Al	27	2	45	78.793	ppb	78.793	20.36	783	400000	
K	39	1	45	26012.958	ppb	26012.958	1.23	125524198	400000	
K	39	2	45	25596.187	ppb	25596.187	1.37	471894	400000	
Ca	40	1	45	20609.248	ppb	20609.248	1.44	154157204	400000	
Ca	44	2	45	20658.095	ppb	20658.095	1.38	25542	400000	
Ti	47	2	45	42592.965	ppb	42592.965	119.03	20	4000	>LDR
V	51	2	72	-0.063	ppb	-0.063	-93.47	36	2000	
Cr	52	2	72	1.377	ppb	1.377	0.24	1757	5000	
Mn	55	2	72	268.444	ppb	268.444	1.97	74071	10000	
Fe	57	2	72	172.745	ppb	172.745	6.20	3354	400000	
Co	59	2	72	0.313	ppb	0.313	8.98	790	2000	
Ni	60	2	72	33.081	ppb	33.081	0.69	24644	5000	
Cu	63	2	72	356.589	ppb	356.589	1.12	803630	5000	
Zn	66	2	72	14.392	ppb	14.392	4.12	2794	5000	
As	75	2	72	0.370	ppb	0.370	35.70	47	2000	
Se	78	1	72	0.512	ppb	0.512	6.51	349	2000	
Sr	88	2	72	207.094	ppb	207.094	2.03	50033	4000	
Zr	90	2	72	150.331	ppb	150.331	9.70	1047	1000	
Nb	93	2	72	0.250	ppb	0.250	14.67	920	200	
Mo	95	2	115	0.867	ppb	0.867	5.93	790	2000	
Pd	105	2	115	0.406	ppb	0.406	16.51	720	100	
Ag	107	2	115	0.794	ppb	0.794	5.71	2910	100	
Cd	111	2	115	0.079	ppb	0.079	123.78	27	2000	
Sn	120	2	115	224.993	ppb	224.993	1.01	154294	2000	
Sb	121	2	115	0.356	ppb	0.356	26.26	223	1000	
Ba	137	2	115	398.162	ppb	398.162	1.41	66797	5000	
W	182	2	165	0.127	ppb	0.127	21.62	1227	100	
Pt	195	2	165	0.009	ppb	0.009	90.44	210	100	
Tl	205	2	165	0.058	ppb	0.058	31.58	717	2000	
Pb	208	2	165	4.971	ppb	4.971	2.27	61960	5000	
Th	232	2	165	0.265	ppb	0.265	20.42	3917	2000	
U	238	2	165	0.366	ppb	0.366	7.18	6245	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	895090	2.52	1030374	86.87	60	120	
Sc (IS)	45	1	HMI H2	49714131	1.06	50049516	99.33	60	120	
Sc (IS)	45	2	HMI He	443847	1.14	455282	97.49	60	120	
Sc (IS)	45	3	No Gas	124277288	0.96	129118738	96.25	60	120	
Ge Internal Standard	72	1	HMI H2	25188035	0.84	25231850	99.83	60	120	
Ge Internal Standard	72	2	HMI He	710230	1.05	724676	98.01	60	120	
In Internal Standard	115	2	HMI He	1754324	1.27	1743517	100.62	60	120	
Ho-165	165	2	HMI He	15029877	0.49	14982339	100.32	60	120	

Sample Report

Sample Table

Sample Name	280-90697-A-1-E MS
Data File Name	147SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:32:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350708 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.074	ppb	32.074	0.56	89293	500000	
Li	7	2	45	52.471	ppb	52.471	8.87	4611	500000	
Li	7	3	45	33.451	ppb	33.451	7.53	4431428	50000	
Be	9	1	6	31.116	ppb	31.116	3.32	9013	2000	
B	11	1	6	40.293	ppb	40.293	8.35	38057	2000	
Na	23	1	45	109323.047	ppb	109323.047	0.88	444061473	2000	>LDR
Na	23	2	45	109292.797	ppb	109292.797	1.43	13210857	400000	
Mg	24	2	45	8518.807	ppb	8518.807	0.61	432636	400000	
Al	27	2	45	348.337	ppb	348.337	5.36	3354	400000	
K	39	1	45	25135.061	ppb	25135.061	1.27	122560922	400000	
K	39	2	45	24870.859	ppb	24870.859	0.98	458267	400000	
Ca	40	1	45	19875.887	ppb	19875.887	1.26	149820758	400000	
Ca	44	2	45	20096.201	ppb	20096.201	3.50	24824	400000	
Ti	47	2	45	60147.885	ppb	60147.885	24.89	27	4000	>LDR
V	51	2	72	31.606	ppb	31.606	1.50	25156	2000	
Cr	52	2	72	32.661	ppb	32.661	1.08	35038	5000	
Mn	55	2	72	295.845	ppb	295.845	1.17	81429	10000	
Fe	57	2	72	470.386	ppb	470.386	6.12	8996	400000	
Co	59	2	72	30.126	ppb	30.126	2.82	73435	2000	
Ni	60	2	72	63.350	ppb	63.350	2.50	47000	5000	
Cu	63	2	72	375.165	ppb	375.165	0.62	843268	5000	
Zn	66	2	72	41.216	ppb	41.216	2.46	7572	5000	
As	75	2	72	31.061	ppb	31.061	1.88	3359	2000	
Se	78	1	72	28.502	ppb	28.502	1.42	16880	2000	
Sr	88	2	72	225.973	ppb	225.973	0.85	54460	4000	
Zr	90	2	72	4805.436	ppb	4805.436	2.81	32581	1000	
Nb	93	2	72	0.151	ppb	0.151	24.06	587	200	
Mo	95	2	115	31.716	ppb	31.716	3.51	28054	2000	
Pd	105	2	115	0.348	ppb	0.348	21.30	613	100	
Ag	107	2	115	29.323	ppb	29.323	0.58	106141	100	
Cd	111	2	115	29.266	ppb	29.266	1.17	8639	2000	
Sn	120	2	115	243.959	ppb	243.959	1.06	165720	2000	
Sb	121	2	115	29.223	ppb	29.223	0.90	17353	1000	
Ba	137	2	115	411.050	ppb	411.050	0.35	68310	5000	
W	182	2	165	26.365	ppb	26.365	0.92	193141	100	
Pt	195	2	165	0.002	ppb	0.002	267.70	163	100	
Tl	205	2	165	27.975	ppb	27.975	1.09	263946	2000	
Pb	208	2	165	33.110	ppb	33.110	1.93	405431	5000	
Th	232	2	165	27.913	ppb	27.913	1.54	411413	2000	
U	238	2	165	29.078	ppb	29.078	2.28	494394	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	887229	0.58	1030374	86.11	60	120	
Sc (IS)	45	1	HMI H2	50095826	0.83	50049516	100.09	60	120	
Sc (IS)	45	2	HMI He	443450	0.22	455282	97.40	60	120	
Sc (IS)	45	3	No Gas	123164608	1.09	129118738	95.39	60	120	
Ge Internal Standard	72	1	HMI H2	25494847	0.58	25231850	101.04	60	120	
Ge Internal Standard	72	2	HMI He	708471	0.83	724676	97.76	60	120	
In Internal Standard	115	2	HMI He	1737816	0.32	1743517	99.67	60	120	
Ho-165	165	2	HMI He	15068042	0.81	14982339	100.57	60	120	

Sample Report

Sample Table

Sample Name	280-90697-a-1-f msd
Data File Name	148SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:36:10-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350708 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	37.872	ppb	37.872	7.06	91052	500000	
Li	7	2	45	58.936	ppb	58.936	41.89	4717	500000	
Li	7	3	45	38.050	ppb	38.050	1.20	4541529	50000	
Be	9	1	6	32.303	ppb	32.303	4.05	9326	2000	
B	11	1	6	48.569	ppb	48.569	7.63	40672	2000	
Na	23	1	45	115073.094	ppb	115073.094	0.38	465641433	2000	>LDR
Na	23	2	45	114595.439	ppb	114595.439	1.32	13838707	400000	
Mg	24	2	45	8960.980	ppb	8960.980	0.87	454657	400000	
Al	27	2	45	375.161	ppb	375.161	6.12	3607	400000	
K	39	1	45	26262.190	ppb	26262.190	0.94	127124208	400000	
K	39	2	45	26132.304	ppb	26132.304	0.31	480922	400000	
Ca	40	1	45	20782.541	ppb	20782.541	0.35	156065511	400000	
Ca	44	2	45	21275.161	ppb	21275.161	2.78	26253	400000	
Ti	47	2	45	94939.532	ppb	94939.532	48.16	40	4000	>LDR
V	51	2	72	33.856	ppb	33.856	3.75	26885	2000	
Cr	52	2	72	34.009	ppb	34.009	1.78	36401	5000	
Mn	55	2	72	309.392	ppb	309.392	1.98	84981	10000	
Fe	57	2	72	447.537	ppb	447.537	2.25	8542	400000	
Co	59	2	72	32.481	ppb	32.481	1.17	79028	2000	
Ni	60	2	72	66.099	ppb	66.099	1.55	48938	5000	
Cu	63	2	72	393.100	ppb	393.100	0.40	881592	5000	
Zn	66	2	72	42.331	ppb	42.331	2.21	7755	5000	
As	75	2	72	31.057	ppb	31.057	3.00	3352	2000	
Se	78	1	72	30.580	ppb	30.580	1.37	17883	2000	
Sr	88	2	72	240.865	ppb	240.865	2.36	57937	4000	
Zr	90	2	72	5026.336	ppb	5026.336	0.67	34014	1000	>LDR
Nb	93	2	72	0.110	ppb	0.110	14.75	450	200	
Mo	95	2	115	33.626	ppb	33.626	5.20	29670	2000	
Pd	105	2	115	0.316	ppb	0.316	15.96	557	100	
Ag	107	2	115	30.339	ppb	30.339	1.84	109555	100	
Cd	111	2	115	30.049	ppb	30.049	1.07	8849	2000	
Sn	120	2	115	251.389	ppb	251.389	1.73	170359	2000	
Sb	121	2	115	30.990	ppb	30.990	2.56	18361	1000	
Ba	137	2	115	438.783	ppb	438.783	0.65	72748	5000	
W	182	2	165	28.012	ppb	28.012	0.62	206479	100	
Pt	195	2	165	0.009	ppb	0.009	133.38	213	100	
Tl	205	2	165	28.971	ppb	28.971	1.95	275066	2000	
Pb	208	2	165	34.374	ppb	34.374	0.56	423537	5000	
Th	232	2	165	29.090	ppb	29.090	0.53	431510	2000	
U	238	2	165	30.118	ppb	30.118	0.29	515351	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	884668	2.39	1030374	85.86	60	120	
Sc (IS)	45	1	HMI H2	49906274	0.95	50049516	99.71	60	120	
Sc (IS)	45	2	HMI He	443090	1.53	455282	97.32	60	120	
Sc (IS)	45	3	No Gas	123978685	0.61	129118738	96.02	60	120	
Ge Internal Standard	72	1	HMI H2	25181001	1.77	25231850	99.80	60	120	
Ge Internal Standard	72	2	HMI He	707059	0.55	724676	97.57	60	120	
In Internal Standard	115	2	HMI He	1733753	0.57	1743517	99.44	60	120	
Ho-165	165	2	HMI He	15162959	0.77	14982339	101.21	60	120	

Sample Report

Sample Table

Sample Name	280-90699-A-1-B
Data File Name	149SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:39:56-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350708 200.8
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.026	ppb	3.026	141.50	71357	500000	
Li	7	2	45	7.646	ppb	7.646	150.00	3644	500000	
Li	7	3	45	11.888	ppb	11.888	4.23	4158340	50000	
Be	9	1	6	1.008	ppb	1.008	23.67	243	2000	
B	11	1	6	59546.782	ppb	59546.782	1.60	16512652	2000	>LDR
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	
Na	23	2	45	1685325.072	ppb	1685325.072	0.76	194334430	400000	
Mg	24	2	45	6856.367	ppb	6856.367	0.99	332375	400000	
Al	27	2	45	2839.571	ppb	2839.571	2.27	25869	400000	
K	39	1	45	10778.021	ppb	10778.021	0.54	52828931	400000	
K	39	2	45	8888.282	ppb	8888.282	1.48	158906	400000	
Ca	40	1	45	39540.231	ppb	39540.231	0.67	269952863	400000	
Ca	44	2	45	37020.882	ppb	37020.882	1.31	43620	400000	
Ti	47	2	45	1578674.320	ppb	1578674.320	23.10	590	4000	>LDR
V	51	2	72	13.669	ppb	13.669	11.85	10013	2000	
Cr	52	2	72	101.766	ppb	101.766	1.48	99499	5000	
Mn	55	2	72	606.576	ppb	606.576	0.50	153005	10000	
Fe	57	2	72	29034.357	ppb	29034.357	0.30	504977	400000	
Co	59	2	72	57.803	ppb	57.803	0.83	129148	2000	
Ni	60	2	72	102.863	ppb	102.863	1.27	69897	5000	
Cu	63	2	72	514.739	ppb	514.739	0.40	1059032	5000	
Zn	66	2	72	786.432	ppb	786.432	1.41	128805	5000	
As	75	2	72	3.103	ppb	3.103	13.24	313	2000	
Se	78	1	72	0.541	ppb	0.541	5.33	321	2000	
Sr	88	2	72	177.971	ppb	177.971	1.20	39319	4000	
Zr	90	2	72	11919.136	ppb	11919.136	1.79	74058	1000	>LDR
Nb	93	2	72	0.418	ppb	0.418	19.93	1350	200	
Mo	95	2	115	32.803	ppb	32.803	2.37	26381	2000	
Pd	105	2	115	0.173	ppb	0.173	16.38	283	100	
Ag	107	2	115	0.880	ppb	0.880	10.31	2897	100	
Cd	111	2	115	4.324	ppb	4.324	13.28	1160	2000	
Sn	120	2	115	11.268	ppb	11.268	6.85	6995	2000	
Sb	121	2	115	7.634	ppb	7.634	8.07	4131	1000	
Ba	137	2	115	301.855	ppb	301.855	2.45	45613	5000	
W	182	2	165	4.054	ppb	4.054	2.08	27458	100	
Pt	195	2	165	-0.002	ppb	-0.002	-140.68	120	100	
Tl	205	2	165	0.044	ppb	0.044	24.83	533	2000	
Pb	208	2	165	141.431	ppb	141.431	0.17	1582767	5000	
Th	232	2	165	1.065	ppb	1.065	2.12	14417	2000	
U	238	2	165	1.347	ppb	1.347	2.60	21018	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	739181	0.56	1030374	71.74	60	120	
Sc (IS)	45	1	HMI H2	45383229	0.81	50049516	90.68	60	120	
Sc (IS)	45	2	HMI He	423168	1.15	455282	92.95	60	120	
Sc (IS)	45	3	No Gas	126256065	0.54	129118738	97.78	60	120	
Ge Internal Standard	72	1	HMI H2	22090923	0.45	25231850	87.55	60	120	
Ge Internal Standard	72	2	HMI He	649369	1.30	724676	89.61	60	120	
In Internal Standard	115	2	HMI He	1579871	3.02	1743517	90.61	60	120	
Ho-165	165	2	HMI He	13808072	1.15	14982339	92.16	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	150_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:43:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	433.597	ppb	0.803	239541	500	86.7	90	110	>+\-10%
Li	7	2	45	463.153	ppb	2.596	12491	500	92.6	90	110	
Li	7	3	45	434.092	ppb	1.481	12372646	500	86.8	90	110	>+\-10%
Be	9	1	6	51.762	ppb	7.010	15944	50	103.5	90	110	
B	11	1	6	964.971	ppb	5.560	367111	50	1929.9	90	110	>+\-10%
Na	23	1	45	5599.529	ppb	1.363	23314734	5000	112.0	90	110	>+\-10%
Na	23	2	45	5386.728	ppb	1.729	690514	5000	107.7	90	110	
Mg	24	2	45	4965.177	ppb	0.915	265820	5000	99.3	90	110	
Al	27	2	45	5050.784	ppb	0.838	50758	5000	101.0	90	110	
K	39	1	45	4952.542	ppb	0.828	32904692	5000	99.1	90	110	
K	39	2	45	5100.897	ppb	1.285	102576	5000	102.0	90	110	
Ca	40	1	45	5053.497	ppb	0.577	38930684	5000	101.1	90	110	
Ca	44	2	45	4912.416	ppb	4.536	6418	5000	98.2	90	110	
Ti	47	2	45	-8406.828	ppb	0.000	0	50	-16813.7	90	110	>+\-10%
V	51	2	72	52.261	ppb	2.167	43443	50	104.5	90	110	
Cr	52	2	72	51.180	ppb	1.987	57239	50	102.4	90	110	
Mn	55	2	72	52.180	ppb	5.181	15037	50	104.4	90	110	
Fe	57	2	72	5036.468	ppb	1.367	99993	5000	100.7	90	110	
Co	59	2	72	51.860	ppb	0.796	132206	50	103.7	90	110	
Ni	60	2	72	50.980	ppb	1.589	39578	50	102.0	90	110	
Cu	63	2	72	49.363	ppb	1.777	119686	50	98.7	90	110	
Zn	66	2	72	51.604	ppb	3.397	9860	50	103.2	90	110	
As	75	2	72	52.533	ppb	1.653	5938	50	105.1	90	110	
Se	78	1	72	51.520	ppb	1.792	31102	50	103.0	90	110	
Sr	88	2	72	50.001	ppb	3.394	12612	50	100.0	90	110	
Zr	90	2	72	56.858	ppb	13.552	430	50	113.7	90	110	>+\-10%
Nb	93	2	72	99.404	ppb	1.150	345664	100	99.4	90	110	
Mo	95	2	115	49.900	ppb	2.912	46681	50	99.8	90	110	
Pd	105	2	115	49.231	ppb	1.547	89791	50	98.5	90	110	
Ag	107	2	115	48.926	ppb	1.615	187360	50	97.9	90	110	
Cd	111	2	115	49.717	ppb	2.122	15524	50	99.4	90	110	
Sn	120	2	115	49.060	ppb	2.033	35304	50	98.1	90	110	
Sb	121	2	115	49.144	ppb	1.203	30869	50	98.3	90	110	
Ba	137	2	115	47.917	ppb	2.818	8432	50	95.8	90	110	
W	182	2	165	46.674	ppb	0.953	352963	50	93.3	90	110	
Pt	195	2	165	45.836	ppb	1.551	367111	50	91.7	90	110	
Tl	205	2	165	48.950	ppb	1.764	476888	50	97.9	90	110	
Pb	208	2	165	48.978	ppb	2.699	618729	50	98.0	90	110	
Th	232	2	165	48.734	ppb	2.024	741937	50	97.5	90	110	
U	238	2	165	48.276	ppb	2.008	847823	50	96.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	943463	2.15	1030374	91.57	60	120	
Sc (IS)	45	1	HMI H2	51120779	0.37	50049516	102.14	60	120	
Sc (IS)	45	2	HMI He	467138	1.21	455282	102.60	60	120	
Sc (IS)	45	3	No Gas	133643618	0.32	129118738	103.50	60	120	
Ge Internal Standard	72	1	HMI H2	26021543	0.03	25231850	103.13	60	120	
Ge Internal Standard	72	2	HMI He	740938	1.65	724676	102.24	60	120	
In Internal Standard	115	2	HMI He	1838826	1.80	1743517	105.47	60	120	
Ho-165	165	2	HMI He	15565552	1.24	14982339	103.89	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	151_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:47:30-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-23.699	ppb	-18.8	3744182	10	
Be	9	1	6	0.070	ppb	64.0	23	0.5	
B	11	1	6	255.653	ppb	2.8	124651	0.5	>RL
Na	23	1	45	243.648	ppb	1.5	1158084	25	>RL
Na	23	2	45	232.479	ppb	2.4	35325	25	>RL
Mg	24	2	45	-1.789	ppb	-39.1	413	25	
Al	27	2	45	2.727	ppb	141.9	63	15	
K	39	1	45	-77.033	ppb	-21.4	10272847	50	
K	39	2	45	5.796	ppb	81.3	4694	50	
Ca	40	1	45	4.642	ppb	3.1	115999	50	
Ca	44	2	45	8.904	ppb	209.8	43	25	
Ti	47	2	45	-8406.828	ppb	0.0	0	0.5	
V	51	2	72	0.083	ppb	152.1	162	1	
Cr	52	2	72	-0.036	ppb	-143.7	267	1	
Mn	55	2	72	0.031	ppb	166.5	27	0.5	
Fe	57	2	72	4.755	ppb	70.3	170	25	
Co	59	2	72	0.012	ppb	64.8	60	0.5	
Ni	60	2	72	-0.018	ppb	-289.1	80	1	
Cu	63	2	72	-0.166	ppb	-36.7	3937	1	
Zn	66	2	72	0.030	ppb	1463.6	240	5	
As	75	2	72	0.059	ppb	95.3	14	1	
Se	78	1	72	-0.013	ppb	-201.6	45	1	
Sr	88	2	72	0.035	ppb	64.8	27	0.5	
Zr	90	2	72	0.757	ppb	560.9	33	1	
Nb	93	2	72	0.745	ppb	2.7	2754	2	
Mo	95	2	115	0.037	ppb	81.3	53	0.5	
Pd	105	2	115	0.049	ppb	22.5	107	1	
Ag	107	2	115	0.022	ppb	27.4	93	1	
Cd	111	2	115	0.041	ppb	116.3	17	0.5	
Sn	120	2	115	0.116	ppb	33.0	143	1	
Sb	121	2	115	0.122	ppb	12.3	90	0.6	
Ba	137	2	115	-0.060	ppb	0.0	0	0.5	
W	182	2	165	0.055	ppb	10.3	743	1	
Pt	195	2	165	0.008	ppb	26.9	220	1	
Tl	205	2	165	0.042	ppb	33.9	597	0.1	
Pb	208	2	165	0.009	ppb	126.1	1650	0.5	
Th	232	2	165	0.049	ppb	5.4	790	1	
U	238	2	165	0.017	ppb	39.3	333	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1008819	1.68	1030374	97.91	60	120	
Sc (IS)	45	1	HMI H2	52857781	0.76	50049516	105.61	60	120	
Sc (IS)	45	2	HMI He	478072	0.97	455282	105.01	60	120	
Sc (IS)	45	3	No Gas	134176935	0.91	129118738	103.92	60	120	
Ge Internal Standard	72	1	HMI H2	26776504	0.47	25231850	106.12	60	120	
Ge Internal Standard	72	2	HMI He	761654	1.38	724676	105.10	60	120	
In Internal Standard	115	2	HMI He	1894874	0.56	1743517	108.68	60	120	
Ho-165	165	2	HMI He	15910910	1.61	14982339	106.20	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	152LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:51:18-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	19.769	ppb	9.183	4569156	50	39.5	70	130	>+/-30%
Be	9	1	6	1.023	ppb	21.104	337	1	102.3	70	130	
Na	23	2	45	217.212	ppb	2.606	33505	50	434.4	70	130	>+/-30%
Mg	24	2	45	50.829	ppb	5.644	3307	50	101.7	70	130	
Al	27	2	45	30.172	ppb	32.820	347	30	100.6	70	130	
K	39	2	45	108.233	ppb	21.480	6742	100	108.2	70	130	
Ca	44	2	45	26.424	ppb	140.538	67	50	52.8	70	130	>+/-30%
V	51	2	72	4.779	ppb	1.113	4216	5	95.6	70	130	
Cr	52	2	72	2.009	ppb	7.984	2637	2	100.5	70	130	
Mn	55	2	72	1.044	ppb	6.078	330	1	104.4	70	130	
Fe	57	2	72	55.380	ppb	6.146	1217	50	110.8	70	130	
Co	59	2	72	0.988	ppb	9.774	2647	1	98.8	70	130	
Ni	60	2	72	2.064	ppb	11.332	1757	2	103.2	70	130	
Cu	63	2	72	1.876	ppb	4.150	8949	2	93.8	70	130	
Zn	66	2	72	10.134	ppb	5.473	2204	10	101.3	70	130	
As	75	2	72	5.004	ppb	9.225	595	5	100.1	70	130	
Se	78	1	72	5.138	ppb	5.024	3260	5	102.8	70	130	
Sr	88	2	72	1.103	ppb	10.320	307	1	110.3	70	130	
Zr	90	2	72	35.564	ppb	44.636	290	0.5	7112.7	70	130	>+/-30%
Nb	93	2	72	1.017	ppb	12.614	3767	2	50.8	70	130	>+/-30%
Mo	95	2	115	1.953	ppb	8.994	1924	2	97.6	70	130	
Pd	105	2	115	0.062	ppb	34.390	133	1	6.2	70	130	>+/-30%
Ag	107	2	115	4.809	ppb	3.369	19208	5	96.2	70	130	
Cd	111	2	115	0.950	ppb	20.011	313	1	95.0	70	130	
Sn	120	2	115	9.790	ppb	1.300	7392	10	97.9	70	130	
Sb	121	2	115	1.985	ppb	8.893	1310	2	99.3	70	130	
Ba	137	2	115	0.886	ppb	12.971	173	1	88.6	70	130	
W	182	2	165	4.593	ppb	0.872	36124	1	459.3	70	130	>+/-30%
Pt	195	2	165	-0.003	ppb	-350.519	133	1	-0.3	70	130	>+/-30%
Tl	205	2	165	0.985	ppb	6.814	10067	1	98.5	70	130	
Pb	208	2	165	0.975	ppb	3.564	14223	1	97.5	70	130	
Th	232	2	165	2.053	ppb	4.300	32268	2	102.7	70	130	
U	238	2	165	0.985	ppb	1.411	17884	1	98.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1007693	1.05	1030374	97.80	60	120	
Sc (IS)	45	1	HMI H2	53377278	0.41	50049516	106.65	60	120	
Sc (IS)	45	2	HMI He	480456	0.80	455282	105.53	60	120	
Sc (IS)	45	3	No Gas	134192365	0.15	129118738	103.93	60	120	
Ge Internal Standard	72	1	HMI H2	26944692	0.05	25231850	106.79	60	120	
Ge Internal Standard	72	2	HMI He	770401	0.48	724676	106.31	60	120	
In Internal Standard	115	2	HMI He	1916860	0.99	1743517	109.94	60	120	
Ho-165	165	2	HMI He	16057058	1.74	14982339	107.17	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350723/1-a
Data File Name	153_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:55:05-07:00
Sample Type	Blank
Dilution	1
Comment	350723 S 6020A
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-23.463	ppb	-15.95936005	73234	0.5
Li	7	2	45	-28.138	ppb	-38.23040507	3490	0.5
Li	7	3	45	-26.220	ppb	-11.16011331	3581318	10
Be	9	1	6	0.032	ppb	99.91401106	10	0.5
B	11	1	6	84.181	ppb	4.912213374	57838	0.5
Na	23	1	45	281.563	ppb	1.602406285	1324981	25
Na	23	2	45	290.827	ppb	2.454371853	43602	25
Mg	24	2	45	50.970	ppb	7.78099606	3350	25
Al	27	2	45	12.540	ppb	18.25423305	167	15
K	39	1	45	-992.225	ppb	-2.228096406	5971495	50
K	39	2	45	24.091	ppb	61.58565171	5131	50
Ca	40	1	45	215.026	ppb	1.773789289	1794685	50
Ca	44	2	45	181.332	ppb	21.45254725	277	25
Ti	47	2	45	-8406.828	ppb	-1.45204E-06	0	0.5
V	51	2	72	-0.166	ppb	-288.0682959	-49	1
Cr	52	2	72	0.936	ppb	4.346243768	1390	1
Mn	55	2	72	0.467	ppb	66.61848085	157	0.5
Fe	57	2	72	30.465	ppb	16.97697908	700	25
Co	59	2	72	0.008	ppb	44.59323877	50	0.5
Ni	60	2	72	0.582	ppb	24.89200973	563	1
Cu	63	2	72	0.539	ppb	35.31619577	5681	1
Zn	66	2	72	7.378	ppb	10.33969452	1663	5
As	75	2	72	0.058	ppb	88.32773847	14	1
Se	78	1	72	-0.015	ppb	-126.0590243	44	1
Sr	88	2	72	0.521	ppb	30.93621815	153	0.5
Zr	90	2	72	3.414	ppb	60.59660991	53	1
Nb	93	2	72	0.162	ppb	26.69589426	673	2
Mo	95	2	115	0.049	ppb	64.07346441	67	0.5
Pd	105	2	115	0.056	ppb	9.48907351	123	1
Ag	107	2	115	0.010	ppb	64.72631426	47	1
Cd	111	2	115	0.028	ppb	240.5594544	13	0.5
Sn	120	2	115	0.206	ppb	43.45972854	217	1
Sb	121	2	115	0.038	ppb	126.882844	37	0.6
Ba	137	2	115	1.009	ppb	35.64102634	200	0.5
W	182	2	165	0.065	ppb	10.09360446	847	1
Pt	195	2	165	0.012	ppb	71.78514831	253	1
Tl	205	2	165	0.017	ppb	30.92929298	350	0.1
Pb	208	2	165	0.102	ppb	10.7535659	2917	0.5
Th	232	2	165	0.084	ppb	16.29911631	1370	1
U	238	2	165	0.016	ppb	32.02053444	330	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	974800	0.65	1030374	94.61	60	120	
Sc (IS)	45	1	HMI H2	53037948	0.59	50049516	105.97	60	120	
Sc (IS)	45	2	HMI He	485507	0.78	455282	106.64	60	120	
Sc (IS)	45	3	No Gas	129981981	0.07	129118738	100.67	60	120	
Ge Internal Standard	72	1	HMI H2	26679343	0.10	25231850	105.74	60	120	
Ge Internal Standard	72	2	HMI He	767870	0.93	724676	105.96	60	120	
In Internal Standard	115	2	HMI He	1950918	1.75	1743517	111.90	60	120	
Ho-165	165	2	HMI He	16297119	0.21	14982339	108.78	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350723/2-a
Data File Name	154LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T00:58:52-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350723 S 6020A
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	195.504	195.504	ppb	2.621	61847	200	97.8	80	120	
Na	23	2	45	309.573	309.573	ppb	3.658	46369	200	154.8	80	120	NewName Main CR1 Failed
Mg	24	2	45	64.406	64.406	ppb	6.035	4124	200000	0.0	80	120	NewName Main CR1 Failed
Al	27	2	45	1965.882	1965.882	ppb	2.943	20686	200000	1.0	80	120	NewName Main CR1 Failed
K	39	2	45	3.377	3.377	ppb	492.691	4747	200000	0.0	80	120	NewName Main CR1 Failed
Ca	44	2	45	1574.172	1574.172	ppb	14.011	2170	200000	0.8	80	120	NewName Main CR1 Failed
V	51	2	72	200.716	200.716	ppb	1.160	173337	200	100.4	80	120	
Cr	52	2	72	198.235	198.235	ppb	0.744	229846	200	99.1	80	120	
(Cr)	53	2	72	197.557	197.557	ppb	2.382	28580	200	98.8	80	120	
Mn	55	2	72	200.341	200.341	ppb	0.299	60011	200	100.2	80	120	
Fe	57	2	72	1978.325	1978.325	ppb	2.343	40921	200000	1.0	80	120	NewName Main CR1 Failed
Co	59	2	72	196.974	196.974	ppb	0.819	522469	200	98.5	80	120	
Ni	60	2	72	197.857	197.857	ppb	0.871	159548	200	98.9	80	120	
Cu	63	2	72	189.176	189.176	ppb	0.365	464925	200	94.6	80	120	
Zn	66	2	72	197.659	197.659	ppb	3.114	38606	200	98.8	80	120	
As	75	2	72	197.096	197.096	ppb	0.940	23158	200	98.5	80	120	
Se	78	1	72	188.709	188.709	ppb	1.038	117805	200	94.4	80	120	
(Se)	82	1	72	182.292	182.292	ppb	1.605	52934	200	91.1	80	120	
Nb	93	2	72	0.138	0.138	ppb	21.035	593	400	0.0	80	120	NewName Main CR1 Failed
Mo	95	2	115	195.266	195.266	ppb	0.321	193351	200	97.6	80	120	
Pd	105	2	115	0.039	0.039	ppb	13.321	90	200	0.0	80	120	NewName Main CR1 Failed
Ag	107	2	115	184.090	184.090	ppb	0.516	746248	200	92.0	80	120	
Cd	111	2	115	188.717	188.717	ppb	1.321	62368	200	94.4	80	120	
(Cd)	114	2	115	185.184	185.184	ppb	0.707	165612	200	92.6	80	120	
Sn	120	2	115	190.115	190.115	ppb	0.861	144654	200	95.1	80	120	
Sb	121	2	115	188.434	188.434	ppb	1.870	125262	200	94.2	80	110	
Ba	137	2	115	196.700	196.700	ppb	1.807	36615	200	98.4	80	120	
W	182	2	165	178.574	178.574	ppb	2.069	1418663	200	89.3	80	120	
Pt	195	2	165	0.008	0.008	ppb	31.838	227	200	0.0	80	120	NewName Main CR1 Failed
Tl	205	2	165	193.753	193.753	ppb	2.137	1983915	200	96.9	80	120	
(Pb)	206	2	165	186.815	186.815	ppb	0.958	595003	200	93.4	80	120	
(Pb)	207	2	165	188.166	188.166	ppb	1.413	551015	200	94.1	80	120	
Pb	208	2	165	188.811	188.811	ppb	0.906	2503614	200	94.4	80	120	
Th	232	2	165	192.692	192.692	ppb	0.550	3084595	200	96.3	80	120	
U	238	2	165	188.177	188.177	ppb	1.854	3474349	200	94.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	969115	1.05	1030374	94.05	60	120	
Sc (IS)	45	1	HMI H2	53552956	0.15	50049516	107.00	60	120	
Sc (IS)	45	2	HMI He	488692	1.32	455282	107.34	60	120	
Sc (IS)	45	3	No Gas	130797871	0.31	129118738	101.30	60	120	
Ge Internal Standard	72	1	HMI H2	26941514	0.38	25231850	106.78	60	120	
Ge Internal Standard	72	2	HMI He	771013	0.88	724676	106.39	60	120	
In Internal Standard	115	2	HMI He	1946264	0.47	1743517	111.63	60	120	
Ho-165	165	2	HMI He	16365240	1.59	14982339	109.23	60	120	

Sample Report

Sample Table

Sample Name	280-90642-a-3-b
Data File Name	155SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:02:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350723 S 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	63.902	ppb	63.902	2.80	105084	500000	
Li	7	2	45	63.388	ppb	63.388	37.15	5228	500000	
Li	7	3	45	70.522	ppb	70.522	1.01	5277483	50000	
Be	9	1	6	11.989	ppb	11.989	2.27	3347	2000	
B	11	1	6	97.556	ppb	97.556	3.37	55026	2000	
Na	23	1	45	1381.726	ppb	1381.726	1.12	5960905	2000	
Na	23	2	45	1362.519	ppb	1362.519	3.22	184235	400000	
Mg	24	2	45	16887.181	ppb	16887.181	2.36	932690	400000	
Al	27	2	45	156865.460	ppb	156865.460	1.98	1627376	400000	
K	39	1	45	11075.780	ppb	11075.780	0.60	62170256	400000	
K	39	2	45	11979.078	ppb	11979.078	1.60	242581	400000	
Ca	40	1	45	172371.113	ppb	172371.113	0.16	1353722913	400000	
Ca	44	2	45	165296.892	ppb	165296.892	0.78	221963	400000	
Ti	47	2	45	29157793.601	ppb	29157793.601	2.44	12348	4000	>LDR
V	51	2	72	223.792	ppb	223.792	1.17	186034	2000	
Cr	52	2	72	219.327	ppb	219.327	0.19	244764	5000	
Mn	55	2	72	4868.428	ppb	4868.428	1.52	1403415	10000	
Fe	57	2	72	200286.114	ppb	200286.114	0.57	3980835	400000	
Co	59	2	72	63.704	ppb	63.704	1.00	162669	2000	
Ni	60	2	72	127.051	ppb	127.051	2.10	98650	5000	
Cu	63	2	72	145.358	ppb	145.358	0.75	344839	5000	
Zn	66	2	72	664.033	ppb	664.033	1.56	124326	5000	
As	75	2	72	136.076	ppb	136.076	2.38	15392	2000	
Se	78	1	72	5.358	ppb	5.358	5.33	3196	2000	
Sr	88	2	72	533.162	ppb	533.162	1.65	134590	4000	
Zr	90	2	72	16891.800	ppb	16891.800	0.21	119924	1000	>LDR
Nb	93	2	72	3.187	ppb	3.187	3.46	11187	200	
Mo	95	2	115	4.600	ppb	4.600	6.36	4367	2000	
Pd	105	2	115	0.090	ppb	0.090	41.46	180	100	
Ag	107	2	115	0.552	ppb	0.552	14.64	2147	100	
Cd	111	2	115	1.766	ppb	1.766	17.46	560	2000	
Sn	120	2	115	5.319	ppb	5.319	3.49	3921	2000	
Sb	121	2	115	3.921	ppb	3.921	3.90	2500	1000	
Ba	137	2	115	2662.077	ppb	2662.077	1.41	473377	5000	
W	182	2	165	0.489	ppb	0.489	11.46	4081	100	
Pt	195	2	165	0.004	ppb	0.004	41.37	183	100	
Tl	205	2	165	2.184	ppb	2.184	1.71	21806	2000	
Pb	208	2	165	1573.652	ppb	1573.652	2.00	20170836	5000	
Th	232	2	165	45.388	ppb	45.388	1.29	702738	2000	
U	238	2	165	6.237	ppb	6.237	0.20	111444	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	855107	0.24	1030374	82.99	60	120	
Sc (IS)	45	1	HMI H2	52214991	0.77	50049516	104.33	60	120	
Sc (IS)	45	2	HMI He	482546	0.68	455282	105.99	60	120	
Sc (IS)	45	3	No Gas	128035141	0.31	129118738	99.16	60	120	
Ge Internal Standard	72	1	HMI H2	25342771	0.59	25231850	100.44	60	120	
Ge Internal Standard	72	2	HMI He	742166	0.36	724676	102.41	60	120	
In Internal Standard	115	2	HMI He	1859917	1.75	1743517	106.68	60	120	
Ho-165	165	2	HMI He	15829369	1.18	14982339	105.65	60	120	

Sample Report

Sample Table

Sample Name	280-90642-a-3-bSD@5
Data File Name	156SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:06:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350723 S 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.246	ppb	-6.246	-21.55	79265	500000	
Li	7	2	45	-12.401	ppb	-12.401	-100.32	3754	500000	
Li	7	3	45	-11.183	ppb	-11.183	-26.42	3901664	50000	
Be	9	1	6	2.089	ppb	2.089	13.23	640	2000	
B	11	1	6	20.527	ppb	20.527	15.52	33324	2000	
Na	23	1	45	361.475	ppb	361.475	2.42	1656449	2000	
Na	23	2	45	344.375	ppb	344.375	1.74	50123	400000	
Mg	24	2	45	3397.313	ppb	3397.313	0.30	187148	400000	
Al	27	2	45	30249.391	ppb	30249.391	1.31	312313	400000	
K	39	1	45	2066.616	ppb	2066.616	2.53	20316480	400000	
K	39	2	45	2458.926	ppb	2458.926	3.38	53204	400000	
Ca	40	1	45	34705.055	ppb	34705.055	0.45	274927316	400000	
Ca	44	2	45	31767.816	ppb	31767.816	1.97	42471	400000	
Ti	47	2	45	5282761.985	ppb	5282761.985	2.69	2230	4000	>LDR
V	51	2	72	43.915	ppb	43.915	5.72	37057	2000	
Cr	52	2	72	46.314	ppb	46.314	1.62	52585	5000	
Mn	55	2	72	920.251	ppb	920.251	1.00	268673	10000	
Fe	57	2	72	38527.236	ppb	38527.236	0.98	775495	400000	
Co	59	2	72	12.727	ppb	12.727	2.24	32928	2000	
Ni	60	2	72	25.407	ppb	25.407	0.34	20052	5000	
Cu	63	2	72	29.959	ppb	29.959	2.82	75370	5000	
Zn	66	2	72	135.639	ppb	135.639	3.38	25900	5000	
As	75	2	72	27.827	ppb	27.827	2.63	3193	2000	
Se	78	1	72	1.152	ppb	1.152	10.54	765	2000	
Sr	88	2	72	103.115	ppb	103.115	2.09	26374	4000	
Zr	90	2	72	3141.387	ppb	3141.387	2.97	22609	1000	
Nb	93	2	72	0.590	ppb	0.590	9.47	2170	200	
Mo	95	2	115	1.015	ppb	1.015	19.41	973	2000	
Pd	105	2	115	0.028	ppb	0.028	58.17	67	100	
Ag	107	2	115	0.121	ppb	0.121	8.61	473	100	
Cd	111	2	115	0.455	ppb	0.455	31.99	147	2000	
Sn	120	2	115	1.070	ppb	1.070	19.24	830	2000	
Sb	121	2	115	0.911	ppb	0.911	11.22	587	1000	
Ba	137	2	115	527.145	ppb	527.145	2.57	93326	5000	
W	182	2	165	0.110	ppb	0.110	18.70	1163	100	
Pt	195	2	165	-0.001	ppb	-0.001	-398.20	147	100	
Tl	205	2	165	0.434	ppb	0.434	5.25	4481	2000	
Pb	208	2	165	322.706	ppb	322.706	1.03	4138716	5000	
Th	232	2	165	8.990	ppb	8.990	0.59	139256	2000	
U	238	2	165	1.281	ppb	1.281	2.95	22908	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	939269	1.07	1030374	91.16	60	120	
Sc (IS)	45	1	HMI H2	52657803	1.19	50049516	105.21	60	120	
Sc (IS)	45	2	HMI He	480230	1.61	455282	105.48	60	120	
Sc (IS)	45	3	No Gas	131475365	0.34	129118738	101.83	60	120	
Ge Internal Standard	72	1	HMI H2	26705258	1.09	25231850	105.84	60	120	
Ge Internal Standard	72	2	HMI He	751594	1.04	724676	103.71	60	120	
In Internal Standard	115	2	HMI He	1851452	0.46	1743517	106.19	60	120	
Ho-165	165	2	HMI He	15832821	1.01	14982339	105.68	60	120	

Sample Table

Sample Name	280-90642-a-3-c ms
Data File Name	157SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:10:13-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350723 S 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	379.779	ppb	379.779	0.79	210459	500000	
Li	7	2	45	402.189	ppb	402.189	3.26	11107	500000	
Li	7	3	45	403.106	ppb	403.106	1.29	10540798	50000	
Be	9	1	6	228.384	ppb	228.384	1.63	58757	2000	
B	11	1	6	219.688	ppb	219.688	1.02	86772	2000	
Na	23	1	45	1424.471	ppb	1424.471	0.05	5761882	2000	
Na	23	2	45	1392.286	ppb	1392.286	1.18	178126	400000	
Mg	24	2	45	45263.800	ppb	45263.800	1.34	2365847	400000	
Al	27	2	45	157751.398	ppb	157751.398	2.17	1549190	400000	
K	39	1	45	11862.313	ppb	11862.313	1.01	61764834	400000	
K	39	2	45	12555.074	ppb	12555.074	1.88	240461	400000	
Ca	40	1	45	299389.701	ppb	299389.701	0.46	2205640927	400000	
Ca	44	2	45	283562.351	ppb	283562.351	1.03	360445	400000	
Ti	47	2	45	35187469.763	ppb	35187469.763	2.65	14106	4000	>LDR
V	51	2	72	435.124	ppb	435.124	1.32	343916	2000	
Cr	52	2	72	420.537	ppb	420.537	0.88	446071	5000	
Mn	55	2	72	5489.712	ppb	5489.712	1.72	1504911	10000	
Fe	57	2	72	193308.982	ppb	193308.982	1.51	3653848	400000	
Co	59	2	72	256.200	ppb	256.200	1.10	622080	2000	
Ni	60	2	72	310.995	ppb	310.995	1.42	229518	5000	
Cu	63	2	72	336.847	ppb	336.847	0.52	754763	5000	
Zn	66	2	72	1038.678	ppb	1038.678	0.28	184830	5000	
As	75	2	72	303.985	ppb	303.985	0.57	32694	2000	
Se	78	1	72	187.380	ppb	187.380	0.52	104967	2000	
Sr	88	2	72	853.722	ppb	853.722	0.56	204962	4000	
Zr	90	2	72	37995.515	ppb	37995.515	1.12	256510	1000	>LDR
Nb	93	2	72	3.552	ppb	3.552	15.86	11840	200	
Mo	95	2	115	190.042	ppb	190.042	1.77	170183	2000	
Pd	105	2	115	0.052	ppb	0.052	38.02	103	100	
Ag	107	2	115	179.502	ppb	179.502	2.41	658007	100	
Cd	111	2	115	191.451	ppb	191.451	1.13	57226	2000	
Sn	120	2	115	67.068	ppb	67.068	3.53	46180	2000	
Sb	121	2	115	20.975	ppb	20.975	8.60	12609	1000	
Ba	137	2	115	2742.240	ppb	2742.240	1.46	461535	5000	
W	182	2	165	78.811	ppb	78.811	0.80	583328	100	
Pt	195	2	165	0.006	ppb	0.006	21.29	190	100	
Tl	205	2	165	187.265	ppb	187.265	1.35	1785996	2000	
Pb	208	2	165	1343.432	ppb	1343.432	0.88	16580655	5000	
Th	232	2	165	234.188	ppb	234.188	1.01	3491234	2000	
U	238	2	165	195.461	ppb	195.461	1.15	3361257	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	788021	0.19	1030374	76.48	60	120	
Sc (IS)	45	1	HMI H2	48982403	0.12	50049516	97.87	60	120	
Sc (IS)	45	2	HMI He	456839	1.03	455282	100.34	60	120	
Sc (IS)	45	3	No Gas	119506412	0.27	129118738	92.56	60	120	
Ge Internal Standard	72	1	HMI H2	24175701	0.41	25231850	95.81	60	120	
Ge Internal Standard	72	2	HMI He	705862	0.91	724676	97.40	60	120	
In Internal Standard	115	2	HMI He	1760501	1.79	1743517	100.97	60	120	
Ho-165	165	2	HMI He	15240003	0.39	14982339	101.72	60	120	

Sample Table

Sample Name	280-90642-a-3-d msd
Data File Name	158SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:14:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350723 S 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	389.830	ppb	389.830	1.66	211172	500000	
Li	7	2	45	412.649	ppb	412.649	6.09	10947	500000	
Li	7	3	45	424.478	ppb	424.478	1.04	10741238	50000	
Be	9	1	6	233.787	ppb	233.787	0.68	58539	2000	
B	11	1	6	231.104	ppb	231.104	0.94	87731	2000	
Na	23	1	45	1628.543	ppb	1628.543	0.75	6484422	2000	
Na	23	2	45	1623.861	ppb	1623.861	0.86	200574	400000	
Mg	24	2	45	22119.145	ppb	22119.145	0.25	1120798	400000	
Al	27	2	45	192083.773	ppb	192083.773	1.75	1828368	400000	
K	39	1	45	14127.515	ppb	14127.515	0.44	70720614	400000	
K	39	2	45	15049.265	ppb	15049.265	1.25	278548	400000	
Ca	40	1	45	318142.992	ppb	318142.992	0.41	2312525886	400000	
Ca	44	2	45	304499.508	ppb	304499.508	1.37	375164	400000	
Ti	47	2	45	37362650.014	ppb	37362650.014	2.38	14516	4000	>LDR
V	51	2	72	519.834	ppb	519.834	0.83	397372	2000	
Cr	52	2	72	499.288	ppb	499.288	1.02	512185	5000	
Mn	55	2	72	6459.151	ppb	6459.151	1.01	1712694	10000	
Fe	57	2	72	276737.470	ppb	276737.470	0.99	5059227	400000	
Co	59	2	72	281.392	ppb	281.392	0.62	660888	2000	
Ni	60	2	72	348.125	ppb	348.125	1.24	248475	5000	
Cu	63	2	72	360.134	ppb	360.134	1.48	780094	5000	
Zn	66	2	72	1152.596	ppb	1152.596	0.94	198344	5000	
As	75	2	72	363.540	ppb	363.540	1.77	37813	2000	
Se	78	1	72	189.648	ppb	189.648	1.14	105035	2000	
Sr	88	2	72	994.822	ppb	994.822	1.11	231003	4000	
Zr	90	2	72	43751.466	ppb	43751.466	1.32	285710	1000	>LDR
Nb	93	2	72	3.681	ppb	3.681	3.27	11871	200	
Mo	95	2	115	189.434	ppb	189.434	1.94	164466	2000	
Pd	105	2	115	0.043	ppb	0.043	22.38	87	100	
Ag	107	2	115	181.320	ppb	181.320	1.15	644503	100	
Cd	111	2	115	189.758	ppb	189.758	1.12	54996	2000	
Sn	120	2	115	79.784	ppb	79.784	0.61	53264	2000	
Sb	121	2	115	18.016	ppb	18.016	1.84	10514	1000	
Ba	137	2	115	3411.051	ppb	3411.051	1.11	556612	5000	
W	182	2	165	76.354	ppb	76.354	1.28	547808	100	
Pt	195	2	165	0.006	ppb	0.006	61.87	187	100	
Tl	205	2	165	192.782	ppb	192.782	1.20	1782235	2000	
Pb	208	2	165	1209.278	ppb	1209.278	0.63	14467857	5000	
Th	232	2	165	246.871	ppb	246.871	0.28	3567442	2000	
U	238	2	165	202.027	ppb	202.027	0.78	3367860	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	766937	0.73	1030374	74.43	60	120	
Sc (IS)	45	1	HMI H2	48328933	0.50	50049516	96.56	60	120	
Sc (IS)	45	2	HMI He	442748	0.90	455282	97.25	60	120	
Sc (IS)	45	3	No Gas	117749188	0.69	129118738	91.19	60	120	
Ge Internal Standard	72	1	HMI H2	23901617	0.75	25231850	94.73	60	120	
Ge Internal Standard	72	2	HMI He	682694	0.96	724676	94.21	60	120	
In Internal Standard	115	2	HMI He	1706852	2.00	1743517	97.90	60	120	
Ho-165	165	2	HMI He	14773278	1.00	14982339	98.60	60	120	

Sample Report

Sample Table

Sample Name	280-90642-a-3-bPDS
Data File Name	159SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:17:50-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350723 S 6020A
ISTD Ref FileName	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.075	ppb	57.075	4.17	96593	500000	
Li	7	2	45	68.588	ppb	68.588	27.34	4968	500000	
Li	7	3	45	60.878	ppb	60.878	4.73	4788329	50000	
Be	9	1	6	222.624	ppb	222.624	1.35	58590	2000	
B	11	1	6	62.458	ppb	62.458	10.57	41263	2000	
Na	23	1	45	1335.879	ppb	1335.879	0.04	5434184	2000	
Na	23	2	45	1323.610	ppb	1323.610	1.00	167067	400000	
Mg	24	2	45	16278.870	ppb	16278.870	1.34	838579	400000	
Al	27	2	45	152021.757	ppb	152021.757	1.80	1470886	400000	
K	39	1	45	10672.213	ppb	10672.213	0.36	56808394	400000	
K	39	2	45	11658.658	ppb	11658.658	1.24	220305	400000	
Ca	40	1	45	168012.106	ppb	168012.106	0.24	1243306621	400000	
Ca	44	2	45	159676.715	ppb	159676.715	1.87	199972	400000	
Ti	47	2	45	27523377.042	ppb	27523377.042	5.74	10871	4000	>LDR
V	51	2	72	430.524	ppb	430.524	1.60	336891	2000	
Cr	52	2	72	422.179	ppb	422.179	1.10	443331	5000	
Mn	55	2	72	4702.477	ppb	4702.477	0.21	1276320	10000	
Fe	57	2	72	195013.566	ppb	195013.566	0.71	3649437	400000	
Co	59	2	72	260.540	ppb	260.540	1.66	626282	2000	
Ni	60	2	72	323.377	ppb	323.377	2.64	236248	5000	
Cu	63	2	72	334.585	ppb	334.585	0.64	742183	5000	
Zn	66	2	72	848.123	ppb	848.123	2.20	149447	5000	
As	75	2	72	338.846	ppb	338.846	1.05	36080	2000	
Se	78	1	72	196.916	ppb	196.916	0.98	112584	2000	
Sr	88	2	72	503.934	ppb	503.934	0.64	119780	4000	
Zr	90	2	72	47890.370	ppb	47890.370	0.93	320101	1000	>LDR
Nb	93	2	72	3.134	ppb	3.134	6.53	10360	200	
Mo	95	2	115	207.169	ppb	207.169	2.88	181880	2000	
Pd	105	2	115	0.093	ppb	0.093	18.95	173	100	
Ag	107	2	115	39.352	ppb	39.352	1.10	141479	100	
Cd	111	2	115	197.331	ppb	197.331	1.99	57829	2000	
Sn	120	2	115	197.023	ppb	197.023	1.94	132913	2000	
Sb	121	2	115	200.154	ppb	200.154	1.93	117974	1000	
Ba	137	2	115	2745.156	ppb	2745.156	1.20	452976	5000	
W	182	2	165	186.045	ppb	186.045	1.45	1350996	100	
Pt	195	2	165	0.092	ppb	0.092	10.98	850	100	
Tl	205	2	165	199.815	ppb	199.815	0.13	1870374	2000	
Pb	208	2	165	1707.237	ppb	1707.237	1.00	20678874	5000	
Th	232	2	165	44.199	ppb	44.199	1.06	646657	2000	
U	238	2	165	199.472	ppb	199.472	0.70	3366605	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	806152	0.88	1030374	78.24	60	120	
Sc (IS)	45	1	HMI H2	49200404	0.34	50049516	98.30	60	120	
Sc (IS)	45	2	HMI He	450060	0.53	455282	98.85	60	120	
Sc (IS)	45	3	No Gas	120137155	0.19	129118738	93.04	60	120	
Ge Internal Standard	72	1	HMI H2	24674945	0.24	25231850	97.79	60	120	
Ge Internal Standard	72	2	HMI He	698799	0.74	724676	96.43	60	120	
In Internal Standard	115	2	HMI He	1725956	1.49	1743517	98.99	60	120	
Ho-165	165	2	HMI He	14957399	1.01	14982339	99.83	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	160_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:21:39-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	403.681	ppb	0.257	232077	500	80.7	90	110	>+\-10%
Li	7	2	45	428.593	ppb	6.748	11624	500	85.7	90	110	>+\-10%
Li	7	3	45	405.691	ppb	1.307	11334431	500	81.1	90	110	>+\-10%
Be	9	1	6	52.258	ppb	1.232	15664	50	104.5	90	110	
B	11	1	6	27.788	ppb	9.446	35081	50	55.6	90	110	>+\-10%
Na	23	1	45	4810.571	ppb	0.341	20360830	5000	96.2	90	110	
Na	23	2	45	4854.221	ppb	0.779	611033	5000	97.1	90	110	
Mg	24	2	45	4892.999	ppb	0.601	257028	5000	97.9	90	110	
Al	27	2	45	5051.046	ppb	0.876	49802	5000	101.0	90	110	
K	39	1	45	4836.460	ppb	1.483	32883102	5000	96.7	90	110	
K	39	2	45	5144.032	ppb	0.169	101442	5000	102.9	90	110	
Ca	40	1	45	5067.381	ppb	0.440	39651154	5000	101.3	90	110	
Ca	44	2	45	5225.966	ppb	2.590	6695	5000	104.5	90	110	
Ti	47	2	45	-76.765	ppb	-18795.129	3	50	-153.5	90	110	>+\-10%
V	51	2	72	52.784	ppb	1.491	43663	50	105.6	90	110	
Cr	52	2	72	50.971	ppb	2.642	56748	50	101.9	90	110	
Mn	55	2	72	51.831	ppb	1.561	14860	50	103.7	90	110	
Fe	57	2	72	4965.986	ppb	1.278	98128	5000	99.3	90	110	
Co	59	2	72	51.023	ppb	0.939	129446	50	102.0	90	110	
Ni	60	2	72	50.853	ppb	0.808	39284	50	101.7	90	110	
Cu	63	2	72	49.704	ppb	0.358	119915	50	99.4	90	110	
Zn	66	2	72	52.181	ppb	3.545	9917	50	104.4	90	110	
As	75	2	72	52.128	ppb	0.797	5863	50	104.3	90	110	
Se	78	1	72	50.223	ppb	0.901	30579	50	100.4	90	110	
Sr	88	2	72	48.925	ppb	3.899	12285	50	97.9	90	110	
Zr	90	2	72	83.600	ppb	1.580	617	50	167.2	90	110	>+\-10%
Nb	93	2	72	97.076	ppb	1.179	335969	100	97.1	90	110	
Mo	95	2	115	48.397	ppb	2.547	44712	50	96.8	90	110	
Pd	105	2	115	48.442	ppb	1.648	87242	50	96.9	90	110	
Ag	107	2	115	49.198	ppb	0.645	186038	50	98.4	90	110	
Cd	111	2	115	50.925	ppb	2.208	15704	50	101.8	90	110	
Sn	120	2	115	47.986	ppb	0.509	34098	50	96.0	90	110	
Sb	121	2	115	48.858	ppb	0.815	30305	50	97.7	90	110	
Ba	137	2	115	50.913	ppb	4.174	8846	50	101.8	90	110	
W	182	2	165	46.453	ppb	0.823	346009	50	92.9	90	110	
Pt	195	2	165	45.448	ppb	0.589	358557	50	90.9	90	110	
Tl	205	2	165	49.082	ppb	0.429	471039	50	98.2	90	110	
Pb	208	2	165	49.077	ppb	1.423	610721	50	98.2	90	110	
Th	232	2	165	48.557	ppb	1.234	728171	50	97.1	90	110	
U	238	2	165	48.108	ppb	0.520	832281	50	96.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	918081	1.46	1030374	89.10	60	120	
Sc (IS)	45	1	HMI H2	51924831	0.53	50049516	103.75	60	120	
Sc (IS)	45	2	HMI He	458310	0.57	455282	100.67	60	120	
Sc (IS)	45	3	No Gas	127974335	0.34	129118738	99.11	60	120	
Ge Internal Standard	72	1	HMI H2	26242645	1.07	25231850	104.01	60	120	
Ge Internal Standard	72	2	HMI He	737362	0.44	724676	101.75	60	120	
In Internal Standard	115	2	HMI He	1815561	1.02	1743517	104.13	60	120	
Ho-165	165	2	HMI He	15331388	1.02	14982339	102.33	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	161_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:25:56-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-30.445	ppb	-13.1	3471312	10	
Be	9	1	6	0.088	ppb	80.3	27	0.5	
B	11	1	6	-16.895	ppb	-1.2	20228	0.5	
Na	23	1	45	46.714	ppb	5.3	310032	25	>RL
Na	23	2	45	49.004	ppb	5.0	11354	25	>RL
Mg	24	2	45	-2.116	ppb	-46.3	393	25	
Al	27	2	45	12.253	ppb	27.6	160	15	
K	39	1	45	-91.998	ppb	-57.2	10066629	50	
K	39	2	45	23.373	ppb	77.2	5004	50	
Ca	40	1	45	19.493	ppb	2.9	230960	50	
Ca	44	2	45	1.578	ppb	259.8	33	25	
Ti	47	2	45	-331.350	ppb	-4221.3	3	0.5	
V	51	2	72	-0.220	ppb	-125.6	-94	1	
Cr	52	2	72	0.001	ppb	4924.4	307	1	
Mn	55	2	72	0.271	ppb	64.8	97	0.5	
Fe	57	2	72	14.058	ppb	9.2	357	25	
Co	59	2	72	0.024	ppb	63.9	90	0.5	
Ni	60	2	72	0.016	ppb	582.1	107	1	
Cu	63	2	72	-0.277	ppb	-45.0	3634	1	
Zn	66	2	72	0.196	ppb	314.8	270	5	
As	75	2	72	0.072	ppb	187.0	16	1	
Se	78	1	72	0.010	ppb	324.2	59	1	
Sr	88	2	72	0.036	ppb	327.8	27	0.5	
Zr	90	2	72	16.521	ppb	73.0	147	1	>RL
Nb	93	2	72	0.766	ppb	11.5	2800	2	
Mo	95	2	115	0.051	ppb	29.6	67	0.5	
Pd	105	2	115	0.044	ppb	54.1	97	1	
Ag	107	2	115	0.029	ppb	30.6	120	1	
Cd	111	2	115	0.009	ppb	378.1	7	0.5	
Sn	120	2	115	0.089	ppb	29.2	123	1	
Sb	121	2	115	0.072	ppb	110.2	57	0.6	
Ba	137	2	115	0.179	ppb	88.5	43	0.5	
W	182	2	165	0.068	ppb	3.6	833	1	
Pt	195	2	165	0.000	ppb	-1799.2	147	1	
Tl	205	2	165	0.042	ppb	15.3	590	0.1	
Pb	208	2	165	0.096	ppb	16.3	2744	0.5	
Th	232	2	165	0.050	ppb	4.3	803	1	
U	238	2	165	0.032	ppb	6.3	603	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	942402	2.36	1030374	91.46	60	120	
Sc (IS)	45	1	HMI H2	52173938	2.39	50049516	104.24	60	120	
Sc (IS)	45	2	HMI He	474911	1.05	455282	104.31	60	120	
Sc (IS)	45	3	No Gas	128783608	0.36	129118738	99.74	60	120	
Ge Internal Standard	72	1	HMI H2	26377028	2.78	25231850	104.54	60	120	
Ge Internal Standard	72	2	HMI He	754024	0.48	724676	104.05	60	120	
In Internal Standard	115	2	HMI He	1886018	1.79	1743517	108.17	60	120	
Ho-165	165	2	HMI He	15712384	0.51	14982339	104.87	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	162LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:31:16-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	13.199	ppb	29.351	4243616	50	26.4	70	130	>+/-30%
Be	9	1	6	1.050	ppb	8.105	330	1	105.0	70	130	
Na	23	2	45	101.761	ppb	3.297	18153	50	203.5	70	130	>+/-30%
Mg	24	2	45	49.015	ppb	3.395	3167	50	98.0	70	130	
Al	27	2	45	39.404	ppb	8.750	437	30	131.3	70	130	>+/-30%
K	39	2	45	129.308	ppb	11.408	7065	100	129.3	70	130	
Ca	44	2	45	34.577	ppb	51.718	77	50	69.2	70	130	>+/-30%
V	51	2	72	4.608	ppb	2.381	4005	5	92.2	70	130	
Cr	52	2	72	1.887	ppb	2.985	2457	2	94.3	70	130	
Mn	55	2	72	1.502	ppb	13.795	460	1	150.2	70	130	>+/-30%
Fe	57	2	72	53.990	ppb	4.875	1170	50	108.0	70	130	
Co	59	2	72	0.972	ppb	3.310	2564	1	97.2	70	130	
Ni	60	2	72	2.139	ppb	15.123	1790	2	107.0	70	130	
Cu	63	2	72	1.758	ppb	7.145	8529	2	87.9	70	130	
Zn	66	2	72	9.753	ppb	11.215	2097	10	97.5	70	130	
As	75	2	72	4.963	ppb	4.262	581	5	99.3	70	130	
Se	78	1	72	4.884	ppb	5.264	3082	5	97.7	70	130	
Sr	88	2	72	1.199	ppb	26.110	327	1	119.9	70	130	
Zr	90	2	72	36.132	ppb	42.561	290	0.5	7226.5	70	130	>+/-30%
Nb	93	2	72	0.879	ppb	12.955	3220	2	44.0	70	130	>+/-30%
Mo	95	2	115	1.826	ppb	10.648	1780	2	91.3	70	130	
Pd	105	2	115	0.010	ppb	112.673	33	1	1.0	70	130	>+/-30%
Ag	107	2	115	4.697	ppb	1.417	18584	5	93.9	70	130	
Cd	111	2	115	0.838	ppb	21.341	273	1	83.8	70	130	
Sn	120	2	115	9.876	ppb	7.461	7382	10	98.8	70	130	
Sb	121	2	115	1.974	ppb	6.465	1290	2	98.7	70	130	
Ba	137	2	115	1.078	ppb	25.618	207	1	107.8	70	130	
W	182	2	165	4.637	ppb	1.457	35884	1	463.7	70	130	>+/-30%
Pt	195	2	165	0.001	ppb	405.473	160	1	0.1	70	130	>+/-30%
Tl	205	2	165	1.005	ppb	4.800	10107	1	100.5	70	130	
Pb	208	2	165	0.996	ppb	1.715	14270	1	99.6	70	130	
Th	232	2	165	1.988	ppb	2.509	30758	2	99.4	70	130	
U	238	2	165	0.980	ppb	3.198	17500	1	98.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	961861	1.42	1030374	93.35	60	120	
Sc (IS)	45	1	HMI H2	52633656	0.60	50049516	105.16	60	120	
Sc (IS)	45	2	HMI He	474224	1.20	455282	104.16	60	120	
Sc (IS)	45	3	No Gas	128116721	0.66	129118738	99.22	60	120	
Ge Internal Standard	72	1	HMI H2	26765980	0.53	25231850	106.08	60	120	
Ge Internal Standard	72	2	HMI He	758591	0.07	724676	104.68	60	120	
In Internal Standard	115	2	HMI He	1898628	1.02	1743517	108.90	60	120	
Ho-165	165	2	HMI He	15799933	0.71	14982339	105.46	60	120	

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	163WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:35:03-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.068	ppb	48.40175905	20	0.5
Na	23	2	45	107.270	ppb	3.62865421	16945	25
Mg	24	2	45	-1.686	ppb	-182.142194	373	25
Al	27	2	45	0.567	ppb	722.4873912	37	15
K	39	2	45	34.135	ppb	48.05026635	4677	50
Ca	44	2	45	-9.597	ppb	-49.41783405	17	25
V	51	2	72	-0.189	ppb	-67.82629334	-61	1
Cr	52	2	72	0.083	ppb	67.65057072	357	1
Mn	55	2	72	0.183	ppb	43.54515544	63	0.5
Fe	57	2	72	10.070	ppb	46.4899416	247	25
Co	59	2	72	0.001	ppb	612.196713	27	0.5
Ni	60	2	72	-0.019	ppb	-147.3030722	70	1
Cu	63	2	72	-0.796	ppb	-10.51534238	2140	1
Zn	66	2	72	0.921	ppb	88.16764426	363	5
As	75	2	72	-0.002	ppb	-4015.157493	7	1
Se	78	1	72	0.064	ppb	13.21226179	85	1
Nb	93	2	72	0.087	ppb	39.66958613	357	2
Mo	95	2	115	0.009	ppb	207.6013011	23	0.5
Pd	105	2	115	0.081	ppb	34.97639335	150	1
Ag	107	2	115	0.043	ppb	16.70623289	157	1
Cd	111	2	115	0.012	ppb	327.0242016	7	0.5
Sn	120	2	115	0.336	ppb	47.25310518	273	1
Sb	121	2	115	0.064	ppb	84.0397404	47	0.6
Ba	137	2	115	0.002	ppb	2594.37271	10	0.5
W	182	2	165	0.049	ppb	27.22384718	633	1
Pt	195	2	165	-0.008	ppb	-51.12394263	80	1
Tl	205	2	165	0.039	ppb	39.1979401	517	0.1
Pb	208	2	165	0.038	ppb	16.02043166	1840	0.5
Th	232	2	165	0.057	ppb	16.53815287	837	1
U	238	2	165	0.010	ppb	23.57514584	187	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	889667	1.84	1030374	86.34	60	120	
Sc (IS)	45	1	HMI H2	48440578	0.92	50049516	96.79	60	120	
Sc (IS)	45	2	HMI He	426009	1.14	455282	93.57	60	120	
Sc (IS)	45	3	No Gas	121020415	0.45	129118738	93.73	60	120	
Ge Internal Standard	72	1	HMI H2	24512664	0.22	25231850	97.15	60	120	
Ge Internal Standard	72	2	HMI He	672958	0.38	724676	92.86	60	120	
In Internal Standard	115	2	HMI He	1694996	1.55	1743517	97.22	60	120	
Ho-165	165	2	HMI He	14416781	0.46	14982339	96.23	60	120	

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	164WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:38:50-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.120	ppb	57.42401941	37	0.5
Na	23	2	45	60.394	ppb	1.06237995	12121	25
Mg	24	2	45	-6.168	ppb	-5.059985731	163	25
Al	27	2	45	2.817	ppb	195.3843858	60	15
K	39	2	45	33.868	ppb	35.03001233	4924	50
Ca	44	2	45	-7.605	ppb	-1.042265479	20	25
V	51	2	72	-0.157	ppb	-171.494473	-38	1
Cr	52	2	72	-0.124	ppb	-31.14425356	157	1
Mn	55	2	72	0.168	ppb	68.86924863	63	0.5
Fe	57	2	72	2.293	ppb	56.34577707	113	25
Co	59	2	72	0.000	ppb	2092.059441	27	0.5
Ni	60	2	72	-0.079	ppb	-50.60459497	30	1
Cu	63	2	72	-0.835	ppb	-9.074685458	2190	1
Zn	66	2	72	-0.190	ppb	-69.02199968	187	5
As	75	2	72	0.031	ppb	122.1171405	10	1
Se	78	1	72	-0.028	ppb	-160.8241445	35	1
Nb	93	2	72	0.026	ppb	16.77721021	173	2
Mo	95	2	115	0.011	ppb	116.4599487	27	0.5
Pd	105	2	115	0.018	ppb	64.37661967	47	1
Ag	107	2	115	0.012	ppb	22.57885123	50	1
Cd	111	2	115	-0.011	ppb	-1.48951E-06	0	0.5
Sn	120	2	115	0.131	ppb	117.3362452	147	1
Sb	121	2	115	0.010	ppb	240.3477219	17	0.6
Ba	137	2	115	-0.002	ppb	-3859.918305	10	0.5
W	182	2	165	0.021	ppb	64.24625901	460	1
Pt	195	2	165	-0.004	ppb	-76.76694388	117	1
Tl	205	2	165	0.007	ppb	88.54226609	233	0.1
Pb	208	2	165	-0.012	ppb	-140.1391165	1310	0.5
Th	232	2	165	0.012	ppb	8.764820001	207	1
U	238	2	165	0.008	ppb	45.58567836	163	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	941098	2.12	1030374	91.34	60	120	
Sc (IS)	45	1	HMI H2	50285661	0.31	50049516	100.47	60	120	
Sc (IS)	45	2	HMI He	448787	0.49	455282	98.57	60	120	
Sc (IS)	45	3	No Gas	125873005	1.16	129118738	97.49	60	120	
Ge Internal Standard	72	1	HMI H2	25477204	0.52	25231850	100.97	60	120	
Ge Internal Standard	72	2	HMI He	716819	0.33	724676	98.92	60	120	
In Internal Standard	115	2	HMI He	1795654	0.64	1743517	102.99	60	120	
Ho-165	165	2	HMI He	15069622	0.27	14982339	100.58	60	120	

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	165WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:42:38-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.055	ppb	34.74548466	17	0.5
Na	23	2	45	58.763	ppb	4.472147152	12141	25
Mg	24	2	45	-6.158	ppb	-8.521921833	167	25
Al	27	2	45	3.391	ppb	94.53205324	67	15
K	39	2	45	18.033	ppb	67.68101882	4717	50
Ca	44	2	45	-10.496	ppb	-155.4492344	17	25
V	51	2	72	-0.100	ppb	-115.6913785	7	1
Cr	52	2	72	-0.011	ppb	-437.9724858	280	1
Mn	55	2	72	0.167	ppb	44.50497383	63	0.5
Fe	57	2	72	1.574	ppb	118.9591917	100	25
Co	59	2	72	0.004	ppb	113.1524769	37	0.5
Ni	60	2	72	-0.061	ppb	-44.94661003	43	1
Cu	63	2	72	-0.808	ppb	-14.70204047	2264	1
Zn	66	2	72	0.044	ppb	1609.352915	230	5
As	75	2	72	-0.006	ppb	-485.603968	7	1
Se	78	1	72	-0.021	ppb	-112.1524848	39	1
Nb	93	2	72	0.033	ppb	63.63828613	197	2
Mo	95	2	115	0.032	ppb	108.2849295	47	0.5
Pd	105	2	115	0.011	ppb	28.41244963	33	1
Ag	107	2	115	0.008	ppb	38.55817311	37	1
Cd	111	2	115	0.010	ppb	358.3452558	7	0.5
Sn	120	2	115	0.092	ppb	67.70995705	120	1
Sb	121	2	115	0.010	ppb	246.1998982	17	0.6
Ba	137	2	115	0.036	ppb	93.65016689	17	0.5
W	182	2	165	0.021	ppb	68.40663447	460	1
Pt	195	2	165	-0.007	ppb	-73.68048634	93	1
Tl	205	2	165	0.003	ppb	62.98480677	200	0.1
Pb	208	2	165	0.006	ppb	46.14184824	1540	0.5
Th	232	2	165	0.008	ppb	13.09115842	147	1
U	238	2	165	0.003	ppb	44.54593147	90	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	933163	0.16	1030374	90.57	60	120	
Sc (IS)	45	1	HMI H2	49914971	0.13	50049516	99.73	60	120	
Sc (IS)	45	2	HMI He	457042	1.40	455282	100.39	60	120	
Sc (IS)	45	3	No Gas	124904488	0.39	129118738	96.74	60	120	
Ge Internal Standard	72	1	HMI H2	25462222	0.47	25231850	100.91	60	120	
Ge Internal Standard	72	2	HMI He	720661	0.22	724676	99.45	60	120	
In Internal Standard	115	2	HMI He	1815547	1.16	1743517	104.13	60	120	
Ho-165	165	2	HMI He	15144121	0.11	14982339	101.08	60	120	

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	166WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:46:26-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	007CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.022	ppb	86.60380563	7	0.5
Na	23	2	45	59.570	ppb	8.049404049	12094	25
Mg	24	2	45	-6.897	ppb	-3.433402717	127	25
Al	27	2	45	2.079	ppb	76.54256125	53	15
K	39	2	45	22.987	ppb	33.23652587	4754	50
Ca	44	2	45	0.254	ppb	95.98678903	30	25
V	51	2	72	-0.181	ppb	-141.4170845	-57	1
Cr	52	2	72	-0.066	ppb	-40.06858894	220	1
Mn	55	2	72	0.180	ppb	101.4256166	67	0.5
Fe	57	2	72	1.231	ppb	123.8516446	93	25
Co	59	2	72	-0.005	ppb	-113.6890385	13	0.5
Ni	60	2	72	-0.057	ppb	-57.9410835	47	1
Cu	63	2	72	-0.891	ppb	-3.982416669	2077	1
Zn	66	2	72	-0.326	ppb	-113.7636904	163	5
As	75	2	72	0.007	ppb	739.1671701	8	1
Se	78	1	72	-0.001	ppb	-3509.167741	51	1
Nb	93	2	72	0.015	ppb	61.88226329	137	2
Mo	95	2	115	-0.004	ppb	-167.8301244	13	0.5
Pd	105	2	115	-0.006	ppb	-52.81957276	3	1
Ag	107	2	115	0.007	ppb	57.18186535	33	1
Cd	111	2	115	0.000	ppb	-4563.248615	3	0.5
Sn	120	2	115	0.110	ppb	27.08231234	133	1
Sb	121	2	115	-0.011	ppb	-80.90142868	3	0.6
Ba	137	2	115	-0.021	ppb	-330.824095	7	0.5
W	182	2	165	0.008	ppb	98.21259699	367	1
Pt	195	2	165	-0.003	ppb	-338.4322668	120	1
Tl	205	2	165	0.003	ppb	147.0808738	200	0.1
Pb	208	2	165	-0.007	ppb	-134.9497946	1377	0.5
Th	232	2	165	0.009	ppb	31.34376115	170	1
U	238	2	165	0.004	ppb	55.87299818	93	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	916755	1.60	1030374	88.97	60	120	
Sc (IS)	45	1	HMI H2	50496229	0.61	50049516	100.89	60	120	
Sc (IS)	45	2	HMI He	451627	1.03	455282	99.20	60	120	
Sc (IS)	45	3	No Gas	124340268	0.37	129118738	96.30	60	120	
Ge Internal Standard	72	1	HMI H2	25588869	0.78	25231850	101.41	60	120	
Ge Internal Standard	72	2	HMI He	721425	1.01	724676	99.55	60	120	
In Internal Standard	115	2	HMI He	1814382	2.05	1743517	104.06	60	120	
Ho-165	165	2	HMI He	15181620	0.13	14982339	101.33	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-4238446
Data File Name	167CALB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:50:14-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	93021	0.00
Li	7	2	HMI He	4384	0.08
Li	7	3	No Gas	4516969	0.00
Be	9	1	HMI H2	20	661.44
B	11	1	HMI H2	16742	0.03
Na	23	1	HMI H2	335214	0.00
Na	23	2	HMI He	12358	0.04
Mg	24	2	HMI He	233	6.45
Al	27	2	HMI He	73	10.74
K	39	2	HMI He	4901	0.08
Ca	44	2	HMI He	20	250.00
Ti	47	2	HMI He	10	1732.05
V	51	2	HMI He	50	801.42
Cr	52	2	HMI He	310	6.50
Mn	55	2	HMI He	37	261.21
Fe	57	2	HMI He	137	40.54
Co	59	2	HMI He	23	106.04
Ni	60	2	HMI He	53	73.18
Cu	63	2	HMI He	2174	0.20
Zn	66	2	HMI He	153	6.50
As	75	2	HMI He	8	830.03
Se	78	1	HMI H2	37	87.68
Sr	88	2	HMI He	17	549.91
Zr	90	2	HMI He	47	147.61
Nb	93	2	HMI He	130	15.65
Mo	95	2	HMI He	0	#VALUE!
Pd	105	2	HMI He	23	280.57
Ag	107	2	HMI He	67	46.84
Cd	111	2	HMI He	13	649.52
Sn	120	2	HMI He	80	82.68
Sb	121	2	HMI He	23	280.57
Ba	137	2	HMI He	7	1299.04
W	182	2	HMI He	410	2.14
Pt	195	2	HMI He	100	36.06
Tl	205	2	HMI He	137	29.49
Pb	208	2	HMI He	1113	1.07
Th	232	2	HMI He	120	31.82
U	238	2	HMI He	63	112.42

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	911621	3.20
Sc (IS)	45	1	HMI H2	50068556	0.45
Sc (IS)	45	2	HMI He	451776	0.51
Sc (IS)	45	3	No Gas	123511628	0.48
Ge Internal Standard	72	1	HMI H2	25603826	0.11
Ge Internal Standard	72	2	HMI He	720714	1.03
In Internal Standard	115	2	HMI He	1819211	1.35
Ho-165	165	2	HMI He	15094203	0.74

Calibration Standard Report

Sample Table

Sample Name	IC-4238447
Data File Name	168CALS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:54:02-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	417306	0.00
Li	7	2	HMI He	19941	0.01
Li	7	3	No Gas	19689734	0.00
Be	9	1	HMI H2	30833	0.01
B	11	1	HMI H2	50987	0.00
Na	23	1	HMI H2	39800695	0.00
Na	23	2	HMI He	1239453	0.00
Mg	24	2	HMI He	502299	0.00
Al	27	2	HMI He	98092	0.00
K	39	1	HMI H2	56730167	0.00
K	39	2	HMI He	197407	0.00
Ca	40	1	HMI H2	76589412	0.00
Ca	44	2	HMI He	12932	0.05
Ti	47	2	HMI He	13	1299.04
V	51	2	HMI He	82754	0.00
Cr	52	2	HMI He	112044	0.00
Mn	55	2	HMI He	28844	0.01
Fe	57	2	HMI He	190675	0.00
Co	59	2	HMI He	247450	0.00
Ni	60	2	HMI He	75346	0.00
Cu	63	2	HMI He	226653	0.00
Zn	66	2	HMI He	19281	0.01
As	75	2	HMI He	11515	0.01
Se	78	1	HMI H2	60251	0.00
Sr	88	2	HMI He	24775	0.02
Zr	90	2	HMI He	937	0.87
Nb	93	2	HMI He	690687	0.00
Mo	95	2	HMI He	89722	0.00
Pd	105	2	HMI He	170898	0.00
Ag	107	2	HMI He	362277	0.00
Cd	111	2	HMI He	29994	0.01
Sn	120	2	HMI He	70758	0.00
Sb	121	2	HMI He	61258	0.00
Ba	137	2	HMI He	16669	0.02
Nd	146	1	HMI H2	12132	0.03
Nd	146	2	HMI He	913	0.57
Sm	147	1	HMI H2	10611	0.03
Sm	147	2	HMI He	803	1.05
Sm	150	1	HMI H2	9173	0.07
Sm	150	2	HMI He	787	1.32
Gd	156	1	HMI H2	14447	0.04
Gd	156	2	HMI He	2870	0.35
Gd	157	1	HMI H2	10794	0.00
Gd	157	2	HMI He	2060	0.25
W	182	2	HMI He	694296	0.00
Pt	195	2	HMI He	719770	0.00
Tl	205	2	HMI He	921768	0.00
Pb	208	2	HMI He	1187735	0.00
Th	232	2	HMI He	1487723	0.00
U	238	2	HMI He	1717266	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	871647	3.54	911621	95.62	60	120	
Sc (IS)	45	1	HMI H2	49593141	0.33	50068556	99.05	60	120	
Sc (IS)	45	2	HMI He	446100	0.81	451776	98.74	60	120	
Sc (IS)	45	3	No Gas	119929338	0.35	123511628	97.10	60	120	
Ge Internal Standard	72	1	HMI H2	25221650	0.49	25603826	98.51	60	120	
Ge Internal Standard	72	2	HMI He	710032	0.56	720714	98.52	60	120	
In Internal Standard	115	2	HMI He	1777949	1.69	1819211	97.73	60	120	
Ho-165	165	2	HMI He	14937606	0.42	15094203	98.96	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	169_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T01:57:49-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	508.945	ppb	1.624	257007	500	101.8	90	110	
Li	7	2	45	525.636	ppb	2.026	12485	500	105.1	90	110	
Li	7	3	45	511.201	ppb	0.788	12457946	500	102.2	90	110	
Be	9	1	6	53.798	ppb	6.691	16728	50	107.6	90	110	
B	11	1	6	37.157	ppb	5.688	29220	50	74.3	90	110	>+\-10%
Na	23	1	45	5174.254	ppb	0.622	20704400	5000	103.5	90	110	
Na	23	2	45	5030.098	ppb	1.298	626893	5000	100.6	90	110	
Mg	24	2	45	5187.351	ppb	2.144	259582	5000	103.7	90	110	
Al	27	2	45	5042.790	ppb	3.852	49287	5000	100.9	90	110	
K	39	1	45	5068.264	ppb	1.126	33596497	5000	101.4	90	110	
K	39	2	45	5153.248	ppb	1.570	103632	5000	103.1	90	110	
Ca	40	1	45	5154.793	ppb	0.313	39443271	5000	103.1	90	110	
Ca	44	2	45	5285.160	ppb	2.178	6815	5000	105.7	90	110	
Ti	47	2	45	-297.903	ppb	0.000	0	50	-595.8	90	110	>+\-10%
V	51	2	72	52.503	ppb	1.197	43754	50	105.0	90	110	
Cr	52	2	72	50.419	ppb	1.014	57002	50	100.8	90	110	
Mn	55	2	72	51.618	ppb	2.839	15000	50	103.2	90	110	
Fe	57	2	72	5130.023	ppb	0.458	98511	5000	102.6	90	110	
Co	59	2	72	52.153	ppb	0.815	129890	50	104.3	90	110	
Ni	60	2	72	52.024	ppb	3.790	39475	50	104.0	90	110	
Cu	63	2	72	52.082	ppb	1.729	119831	50	104.2	90	110	
Zn	66	2	72	49.663	ppb	3.748	9713	50	99.3	90	110	
As	75	2	72	52.140	ppb	0.730	6047	50	104.3	90	110	
Se	78	1	72	51.838	ppb	1.228	31296	50	103.7	90	110	
Sr	88	2	72	50.886	ppb	2.220	12695	50	101.8	90	110	
Zr	90	2	72	21.233	ppb	29.172	237	50	42.5	90	110	>+\-10%
Nb	93	2	72	101.320	ppb	1.320	352221	100	101.3	90	110	
Mo	95	2	115	51.353	ppb	1.337	46253	50	102.7	90	110	
Pd	105	2	115	52.131	ppb	1.988	89443	50	104.3	90	110	
Ag	107	2	115	51.698	ppb	1.402	188013	50	103.4	90	110	
Cd	111	2	115	51.928	ppb	2.938	15638	50	103.9	90	110	
Sn	120	2	115	50.312	ppb	1.772	35769	50	100.6	90	110	
Sb	121	2	115	51.267	ppb	3.640	31524	50	102.5	90	110	
Ba	137	2	115	55.144	ppb	2.443	9226	50	110.3	90	110	>+\-10%
W	182	2	165	50.404	ppb	1.169	350360	50	100.8	90	110	
Pt	195	2	165	50.879	ppb	2.071	366450	50	101.8	90	110	
Tl	205	2	165	52.396	ppb	1.770	483284	50	104.8	90	110	
Pb	208	2	165	52.508	ppb	1.208	624537	50	105.0	90	110	
Th	232	2	165	50.360	ppb	2.069	749586	50	100.7	90	110	
U	238	2	165	49.580	ppb	1.342	851893	50	99.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	877530	1.80	911621	96.26	60	120	
Sc (IS)	45	1	HMI H2	49472594	0.45	50068556	98.81	60	120	
Sc (IS)	45	2	HMI He	444257	1.39	451776	98.34	60	120	
Sc (IS)	45	3	No Gas	122371322	0.22	123511628	99.08	60	120	
Ge Internal Standard	72	1	HMI H2	25259662	0.42	25603826	98.66	60	120	
Ge Internal Standard	72	2	HMI He	714577	0.51	720714	99.15	60	120	
In Internal Standard	115	2	HMI He	1784152	1.00	1819211	98.07	60	120	
Ho-165	165	2	HMI He	14947925	1.66	15094203	99.03	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	170_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:01:36-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.887	ppb	-61.2	4387587	10	
Be	9	1	6	0.000	ppb	-7004.5	20	0.5	
B	11	1	6	-2.771	ppb	-12.6	15610	0.5	
Na	23	1	45	5.481	ppb	21.2	351343	25	
Na	23	2	45	-3.241	ppb	-70.5	11874	25	
Mg	24	2	45	4.253	ppb	41.5	447	25	
Al	27	2	45	1.742	ppb	267.4	90	15	
K	39	1	45	-12.414	ppb	-206.4	9865081	50	
K	39	2	45	-6.901	ppb	-271.3	4734	50	
Ca	40	1	45	2.839	ppb	24.0	141144	50	
Ca	44	2	45	-2.465	ppb	-477.4	17	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	-0.091	ppb	-101.7	-27	1	
Cr	52	2	72	-0.043	ppb	-32.9	257	1	
Mn	55	2	72	0.014	ppb	681.6	40	0.5	
Fe	57	2	72	1.520	ppb	212.9	163	25	
Co	59	2	72	0.027	ppb	68.9	90	0.5	
Ni	60	2	72	0.050	ppb	81.1	90	1	
Cu	63	2	72	0.098	ppb	107.7	2350	1	
Zn	66	2	72	0.068	ppb	287.9	163	5	
As	75	2	72	0.002	ppb	629.8	8	1	
Se	78	1	72	0.063	ppb	61.5	75	1	
Sr	88	2	72	0.055	ppb	147.3	30	0.5	
Zr	90	2	72	2.331	ppb	292.8	67	1	>RL
Nb	93	2	72	1.005	ppb	7.9	3580	2	
Mo	95	2	115	0.096	ppb	29.5	87	0.5	
Pd	105	2	115	0.058	ppb	29.3	123	1	
Ag	107	2	115	0.022	ppb	17.9	147	1	
Cd	111	2	115	0.034	ppb	148.8	23	0.5	
Sn	120	2	115	0.072	ppb	21.2	130	1	
Sb	121	2	115	0.097	ppb	83.1	83	0.6	
Ba	137	2	115	0.060	ppb	57.7	17	0.5	
W	182	2	165	0.073	ppb	23.2	907	1	
Pt	195	2	165	0.022	ppb	64.0	260	1	
Tl	205	2	165	0.065	ppb	14.0	730	0.1	
Pb	208	2	165	0.036	ppb	24.5	1527	0.5	
Th	232	2	165	0.064	ppb	22.3	1073	1	
U	238	2	165	0.037	ppb	1.7	690	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	904029	2.17	911621	99.17	60	120	
Sc (IS)	45	1	HMI H2	49267286	0.64	50068556	98.40	60	120	
Sc (IS)	45	2	HMI He	448774	0.22	451776	99.34	60	120	
Sc (IS)	45	3	No Gas	121193662	0.30	123511628	98.12	60	120	
Ge Internal Standard	72	1	HMI H2	25164015	0.45	25603826	98.28	60	120	
Ge Internal Standard	72	2	HMI He	706769	0.87	720714	98.07	60	120	
In Internal Standard	115	2	HMI He	1793184	0.73	1819211	98.57	60	120	
Ho-165	165	2	HMI He	14890753	0.71	15094203	98.65	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	171LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:05:27-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	49.654	ppb	12.388	5207885	50	99.3	70	130	
Be	9	1	6	1.110	ppb	35.656	373	1	111.0	70	130	
Na	23	2	45	48.483	ppb	15.204	18039	50	97.0	70	130	
Mg	24	2	45	56.022	ppb	9.656	3024	50	112.0	70	130	
Al	27	2	45	28.174	ppb	26.978	347	30	93.9	70	130	
K	39	2	45	97.224	ppb	7.146	6671	100	97.2	70	130	
Ca	44	2	45	46.888	ppb	58.737	80	50	93.8	70	130	
V	51	2	72	4.757	ppb	6.114	4013	5	95.1	70	130	
Cr	52	2	72	2.055	ppb	2.724	2620	2	102.8	70	130	
Mn	55	2	72	1.275	ppb	26.827	407	1	127.5	70	130	
Fe	57	2	72	56.694	ppb	20.807	1223	50	113.4	70	130	
Co	59	2	72	1.071	ppb	8.441	2694	1	107.1	70	130	
Ni	60	2	72	2.419	ppb	7.804	1887	2	120.9	70	130	
Cu	63	2	72	2.219	ppb	5.801	7175	2	111.0	70	130	
Zn	66	2	72	10.425	ppb	9.730	2160	10	104.2	70	130	
As	75	2	72	4.941	ppb	7.066	581	5	98.8	70	130	
Se	78	1	72	5.449	ppb	2.375	3327	5	109.0	70	130	
Sr	88	2	72	1.190	ppb	10.648	313	1	119.0	70	130	
Zr	90	2	72	5.954	ppb	48.699	100	0.5	1190.8	70	130	>+/-30%
Nb	93	2	72	1.379	ppb	3.016	4924	2	68.9	70	130	>+/-30%
Mo	95	2	115	2.261	ppb	7.192	2044	2	113.0	70	130	
Pd	105	2	115	0.020	ppb	113.275	57	1	2.0	70	130	>+/-30%
Ag	107	2	115	5.135	ppb	3.430	18804	5	102.7	70	130	
Cd	111	2	115	0.905	ppb	22.080	287	1	90.5	70	130	
Sn	120	2	115	10.190	ppb	2.894	7335	10	101.9	70	130	
Sb	121	2	115	1.880	ppb	13.597	1183	2	94.0	70	130	
Ba	137	2	115	1.231	ppb	23.225	213	1	123.1	70	130	
W	182	2	165	5.066	ppb	2.407	35724	1	506.6	70	130	>+/-30%
Pt	195	2	165	0.008	ppb	34.839	157	1	0.8	70	130	>+/-30%
Tl	205	2	165	1.066	ppb	5.528	10007	1	106.6	70	130	
Pb	208	2	165	1.050	ppb	2.408	13626	1	105.0	70	130	
Th	232	2	165	2.087	ppb	0.483	31306	2	104.3	70	130	
U	238	2	165	0.976	ppb	2.805	16903	1	97.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	905262	3.94	911621	99.30	60	120	
Sc (IS)	45	1	HMI H2	49358944	0.40	50068556	98.58	60	120	
Sc (IS)	45	2	HMI He	443434	0.80	451776	98.15	60	120	
Sc (IS)	45	3	No Gas	121378925	0.93	123511628	98.27	60	120	
Ge Internal Standard	72	1	HMI H2	25291115	0.75	25603826	98.78	60	120	
Ge Internal Standard	72	2	HMI He	715152	0.53	720714	99.23	60	120	
In Internal Standard	115	2	HMI He	1791204	0.62	1819211	98.46	60	120	
Ho-165	165	2	HMI He	15007194	0.62	15094203	99.42	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350722/1-a
Data File Name	172_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:09:17-07:00
Sample Type	Blank
Dilution	1
Comment	350722 S 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-8.954	ppb	-31.75051844	88784	0.5
Li	7	2	45	16.074	ppb	130.5013862	4594	0.5
Li	7	3	45	-7.486	ppb	-20.34250977	4202524	10
Be	9	1	6	-0.030	ppb	-108.7286654	10	0.5
B	11	1	6	1.417	ppb	21.8387689	16431	0.5
Na	23	1	45	144.147	ppb	1.038157963	896483	25
Na	23	2	45	129.777	ppb	3.904187443	28212	25
Mg	24	2	45	56.378	ppb	6.685228342	3070	25
Al	27	2	45	0.430	ppb	1203.266408	77	15
K	39	1	45	-936.856	ppb	-1.899180049	5582251	50
K	39	2	45	6.950	ppb	218.3856	4988	50
Ca	40	1	45	231.268	ppb	3.002602313	1879250	50
Ca	44	2	45	283.436	ppb	11.321017	387	25
Ti	47	2	45	-198.457	ppb	-86.79299037	3	0.5
V	51	2	72	0.082	ppb	342.4903788	117	1
Cr	52	2	72	0.438	ppb	23.60798179	800	1
Mn	55	2	72	0.424	ppb	59.34077215	160	0.5
Fe	57	2	72	21.439	ppb	26.41195666	547	25
Co	59	2	72	0.028	ppb	51.80697048	93	0.5
Ni	60	2	72	0.773	ppb	17.54136569	637	1
Cu	63	2	72	0.599	ppb	14.18045333	3504	1
Zn	66	2	72	4.913	ppb	7.302130239	1097	5
As	75	2	72	0.041	ppb	65.22581939	13	1
Se	78	1	72	0.015	ppb	139.7738769	45	1
Sr	88	2	72	0.656	ppb	24.21854806	180	0.5
Zr	90	2	72	5.227	ppb	29.77991015	93	1
Nb	93	2	72	0.226	ppb	27.72581422	917	2
Mo	95	2	115	0.054	ppb	105.618861	50	0.5
Pd	105	2	115	0.057	ppb	75.14992309	123	1
Ag	107	2	115	0.002	ppb	300.6523146	73	1
Cd	111	2	115	-0.011	ppb	-305.6964825	10	0.5
Sn	120	2	115	0.098	ppb	49.50082824	150	1
Sb	121	2	115	0.011	ppb	261.2503716	30	0.6
Ba	137	2	115	0.902	ppb	29.5349134	160	0.5
W	182	2	165	0.084	ppb	36.6102137	1007	1
Pt	195	2	165	0.016	ppb	39.45805653	217	1
Tl	205	2	165	0.045	ppb	3.688380936	560	0.1
Pb	208	2	165	0.135	ppb	10.77132746	2760	0.5
Th	232	2	165	0.096	ppb	9.487240104	1583	1
U	238	2	165	0.016	ppb	21.21524117	337	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	866990	1.31	911621	95.10	60	120	
Sc (IS)	45	1	HMI H2	49347324	0.82	50068556	98.56	60	120	
Sc (IS)	45	2	HMI He	447385	0.56	451776	99.03	60	120	
Sc (IS)	45	3	No Gas	117995592	0.21	123511628	95.53	60	120	
Ge Internal Standard	72	1	HMI H2	25078229	0.08	25603826	97.95	60	120	
Ge Internal Standard	72	2	HMI He	713812	1.68	720714	99.04	60	120	
In Internal Standard	115	2	HMI He	1815044	0.93	1819211	99.77	60	120	
Ho-165	165	2	HMI He	15240034	0.79	15094203	100.97	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350722/2-a
Data File Name	173LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:13:06-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350722 S 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	192.539	192.539	ppb	1.345	57948	200	96.3	80	120	
Na	23	2	45	172.919	172.919	ppb	2.494	33718	200	86.5	80	120	
Mg	24	2	45	64.385	64.385	ppb	3.418	3494	200000	0.0	80	120	NewName Main CR1 Failed
Al	27	2	45	1886.159	1886.159	ppb	3.741	18724	200000	0.9	80	120	NewName Main CR1 Failed
K	39	2	45	19.373	19.373	ppb	14.316	5258	200000	0.0	80	120	NewName Main CR1 Failed
Ca	44	2	45	1736.896	1736.896	ppb	14.121	2284	200000	0.9	80	120	NewName Main CR1 Failed
V	51	2	72	195.421	195.421	ppb	0.513	163199	200	97.7	80	120	
Cr	52	2	72	194.808	194.808	ppb	1.030	220006	200	97.4	80	120	
(Cr)	53	2	72	196.018	196.018	ppb	2.462	27676	200	98.0	80	120	
Mn	55	2	72	200.575	200.575	ppb	0.376	58352	200	100.3	80	120	
Fe	57	2	72	1995.878	1995.878	ppb	2.307	38516	200000	1.0	80	120	NewName Main CR1 Failed
Co	59	2	72	198.849	198.849	ppb	1.537	496564	200	99.4	80	120	
Ni	60	2	72	198.188	198.188	ppb	1.628	150658	200	99.1	80	120	
Cu	63	2	72	196.512	196.512	ppb	0.702	447456	200	98.3	80	120	
Zn	66	2	72	192.823	192.823	ppb	2.551	37394	200	96.4	80	120	
As	75	2	72	194.349	194.349	ppb	1.160	22581	200	97.2	80	120	
Se	78	1	72	186.823	186.823	ppb	0.471	111724	200	93.4	80	120	
(Se)	82	1	72	189.985	189.985	ppb	0.696	50223	200	95.0	80	120	
Nb	93	2	72	0.190	0.190	ppb	8.390	790	400	0.0	80	120	NewName Main CR1 Failed
Mo	95	2	115	204.005	204.005	ppb	0.970	187782	200	102.0	80	120	
Pd	105	2	115	0.017	0.017	ppb	75.487	53	200	0.0	80	120	NewName Main CR1 Failed
Ag	107	2	115	194.286	194.286	ppb	1.140	721971	200	97.1	80	120	
Cd	111	2	115	190.832	190.832	ppb	1.592	58702	200	95.4	80	120	
(Cd)	114	2	115	193.327	193.327	ppb	1.467	156962	200	96.7	80	120	
Sn	120	2	115	190.820	190.820	ppb	0.410	138444	200	95.4	80	120	
Sb	121	2	115	195.334	195.334	ppb	0.779	122717	200	97.7	80	110	
Ba	137	2	115	205.544	205.544	ppb	4.578	35118	200	102.8	80	120	
W	182	2	165	193.311	193.311	ppb	1.401	1373874	200	96.7	80	120	
Pt	195	2	165	0.013	0.013	ppb	48.708	197	200	0.0	80	120	NewName Main CR1 Failed
Tl	205	2	165	204.284	204.284	ppb	1.309	1927790	200	102.1	80	120	
(Pb)	206	2	165	196.891	196.891	ppb	1.322	574079	200	98.4	80	120	
(Pb)	207	2	165	197.202	197.202	ppb	0.562	529935	200	98.6	80	120	
Pb	208	2	165	198.155	198.155	ppb	0.901	2408481	200	99.1	80	120	
Th	232	2	165	194.839	194.839	ppb	0.070	2967509	200	97.4	80	120	
U	238	2	165	194.037	194.037	ppb	0.576	3411352	200	97.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	850083	0.03	911621	93.25	60	120	
Sc (IS)	45	1	HMI H2	49054046	0.45	50068556	97.97	60	120	
Sc (IS)	45	2	HMI He	449990	0.86	451776	99.60	60	120	
Sc (IS)	45	3	No Gas	117954138	0.44	123511628	95.50	60	120	
Ge Internal Standard	72	1	HMI H2	25041206	0.38	25603826	97.80	60	120	
Ge Internal Standard	72	2	HMI He	716674	1.24	720714	99.44	60	120	
In Internal Standard	115	2	HMI He	1823582	1.09	1819211	100.24	60	120	
Ho-165	165	2	HMI He	15293818	0.86	15094203	101.32	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-1-b
Data File Name	174SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:16:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	52.451	ppb	52.451	3.28	109001	500000	
Li	7	2	45	68.556	ppb	68.556	35.86	5494	500000	
Li	7	3	45	59.211	ppb	59.211	8.52	5059973	50000	
Be	9	1	6	5.971	ppb	5.971	5.19	1733	2000	
B	11	1	6	39.710	ppb	39.710	2.88	27875	2000	
Na	23	1	45	8992.088	ppb	8992.088	0.28	35759518	2000	
Na	23	2	45	8591.076	ppb	8591.076	0.53	1085586	400000	
Mg	24	2	45	10351.414	ppb	10351.414	0.29	529214	400000	
Al	27	2	45	66747.377	ppb	66747.377	1.32	665984	400000	
K	39	1	45	11271.074	ppb	11271.074	1.05	62558182	400000	
K	39	2	45	12176.066	ppb	12176.066	0.59	243574	400000	
Ca	40	1	45	18622.564	ppb	18622.564	0.49	142273208	400000	
Ca	44	2	45	30684.209	ppb	30684.209	1.41	40336	400000	
Ti	47	2	45	325608.045	ppb	325608.045	3.99	11054	4000	>LDR
V	51	2	72	141.905	ppb	141.905	0.70	117759	2000	
Cr	52	2	72	133.548	ppb	133.548	0.82	149954	5000	
Mn	55	2	72	1292.435	ppb	1292.435	0.32	373405	10000	
Fe	57	2	72	205297.560	ppb	205297.560	1.20	3923043	400000	
Co	59	2	72	32.355	ppb	32.355	1.72	80318	2000	
Ni	60	2	72	113.815	ppb	113.815	2.01	85992	5000	
Cu	63	2	72	117.324	ppb	117.324	1.43	266307	5000	
Zn	66	2	72	254.523	ppb	254.523	0.56	48985	5000	
As	75	2	72	16.871	ppb	16.871	7.17	1956	2000	
Se	78	1	72	1.793	ppb	1.793	15.20	1105	2000	
Sr	88	2	72	1936.987	ppb	1936.987	0.98	480899	4000	
Zr	90	2	72	3353.262	ppb	3353.262	1.87	29993	1000	
Nb	93	2	72	2.827	ppb	2.827	3.36	9917	200	
Mo	95	2	115	6.963	ppb	6.963	7.01	6238	2000	
Pd	105	2	115	0.063	ppb	0.063	33.53	130	100	
Ag	107	2	115	0.100	ppb	0.100	5.93	427	100	
Cd	111	2	115	0.893	ppb	0.893	39.33	280	2000	
Sn	120	2	115	0.385	ppb	0.385	36.96	350	2000	
Sb	121	2	115	0.191	ppb	0.191	92.00	140	1000	
Ba	137	2	115	4148.024	ppb	4148.024	1.58	689954	5000	
W	182	2	165	0.362	ppb	0.362	8.37	2960	100	
Pt	195	2	165	0.015	ppb	0.015	47.67	207	100	
Tl	205	2	165	0.731	ppb	0.731	4.56	6975	2000	
Pb	208	2	165	85.496	ppb	85.496	0.45	1030604	5000	
Th	232	2	165	27.537	ppb	27.537	0.95	415768	2000	
U	238	2	165	3.768	ppb	3.768	1.67	65720	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	811920	0.91	911621	89.06	60	120	
Sc (IS)	45	1	HMI H2	49505263	1.04	50068556	98.87	60	120	
Sc (IS)	45	2	HMI He	454038	0.52	451776	100.50	60	120	
Sc (IS)	45	3	No Gas	114675582	0.82	123511628	92.85	60	120	
Ge Internal Standard	72	1	HMI H2	24984670	1.37	25603826	97.58	60	120	
Ge Internal Standard	72	2	HMI He	712098	0.91	720714	98.80	60	120	
In Internal Standard	115	2	HMI He	1775289	1.57	1819211	97.59	60	120	
Ho-165	165	2	HMI He	15157636	0.23	15094203	100.42	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-1-bSD@5
Data File Name	175SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:20:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	4.803	ppb	4.803	42.63	94646	500000	
Li	7	2	45	14.007	ppb	14.007	69.19	4544	500000	
Li	7	3	45	4.055	ppb	4.055	107.79	4486500	50000	
Be	9	1	6	0.950	ppb	0.950	26.81	313	2000	
B	11	1	6	-0.091	ppb	-0.091	-465.21	16044	2000	
Na	23	1	45	1797.142	ppb	1797.142	1.09	7499477	2000	
Na	23	2	45	1764.858	ppb	1764.858	0.86	228624	400000	
Mg	24	2	45	2178.818	ppb	2178.818	2.44	109552	400000	
Al	27	2	45	13801.229	ppb	13801.229	0.23	135248	400000	
K	39	1	45	2164.284	ppb	2164.284	4.83	20304878	400000	
K	39	2	45	2457.668	ppb	2457.668	1.20	52126	400000	
Ca	40	1	45	3717.205	ppb	3717.205	0.82	28831372	400000	
Ca	44	2	45	5897.862	ppb	5897.862	3.01	7629	400000	
Ti	47	2	45	61789.128	ppb	61789.128	5.04	2067	4000	>LDR
V	51	2	72	28.870	ppb	28.870	2.63	24144	2000	
Cr	52	2	72	26.448	ppb	26.448	3.36	30129	5000	
Mn	55	2	72	259.552	ppb	259.552	1.80	75473	10000	
Fe	57	2	72	40156.390	ppb	40156.390	0.57	772114	400000	
Co	59	2	72	6.620	ppb	6.620	3.28	16552	2000	
Ni	60	2	72	23.177	ppb	23.177	1.03	17659	5000	
Cu	63	2	72	24.079	ppb	24.079	2.87	56698	5000	
Zn	66	2	72	54.600	ppb	54.600	5.61	10687	5000	
As	75	2	72	3.316	ppb	3.316	4.24	393	2000	
Se	78	1	72	0.340	ppb	0.340	26.53	243	2000	
Sr	88	2	72	372.908	ppb	372.908	1.68	93162	4000	
Zr	90	2	72	604.853	ppb	604.853	2.34	5481	1000	
Nb	93	2	72	0.559	ppb	0.559	17.08	2080	200	
Mo	95	2	115	1.528	ppb	1.528	16.05	1373	2000	
Pd	105	2	115	0.026	ppb	0.026	66.60	67	100	
Ag	107	2	115	0.025	ppb	0.025	24.61	157	100	
Cd	111	2	115	0.167	ppb	0.167	60.36	63	2000	
Sn	120	2	115	0.201	ppb	0.201	7.27	220	2000	
Sb	121	2	115	0.055	ppb	0.055	90.50	57	1000	
Ba	137	2	115	820.405	ppb	820.405	0.19	136989	5000	
W	182	2	165	0.079	ppb	0.079	15.11	960	100	
Pt	195	2	165	0.001	ppb	0.001	358.40	107	100	
Tl	205	2	165	0.174	ppb	0.174	12.10	1744	2000	
Pb	208	2	165	17.393	ppb	17.393	1.14	208526	5000	
Th	232	2	165	5.392	ppb	5.392	1.40	80729	2000	
U	238	2	165	0.759	ppb	0.759	3.42	13163	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	874614	1.54	911621	95.94	60	120	
Sc (IS)	45	1	HMI H2	50091654	0.91	50068556	100.05	60	120	
Sc (IS)	45	2	HMI He	445749	0.70	451776	98.67	60	120	
Sc (IS)	45	3	No Gas	120969388	0.16	123511628	97.94	60	120	
Ge Internal Standard	72	1	HMI H2	25346201	0.76	25603826	98.99	60	120	
Ge Internal Standard	72	2	HMI He	716397	1.20	720714	99.40	60	120	
In Internal Standard	115	2	HMI He	1781898	0.43	1819211	97.95	60	120	
Ho-165	165	2	HMI He	15012225	0.92	15094203	99.46	60	120	

Sample Table

Sample Name	280-90588-a-1-c ms
Data File Name	176SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:24:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	446.544	ppb	446.544	1.97	228169	500000	
Li	7	2	45	464.420	ppb	464.420	2.01	11434	500000	
Li	7	3	45	444.848	ppb	444.848	1.81	10558072	50000	
Be	9	1	6	207.228	ppb	207.228	1.93	57684	2000	
B	11	1	6	130.606	ppb	130.606	0.97	55697	2000	
Na	23	1	45	11171.094	ppb	11171.094	0.45	42708246	2000	>LDR
Na	23	2	45	11036.192	ppb	11036.192	2.01	1349510	400000	
Mg	24	2	45	13837.656	ppb	13837.656	0.80	686262	400000	
Al	27	2	45	94312.906	ppb	94312.906	1.13	912965	400000	
K	39	1	45	14784.483	ppb	14784.483	1.70	76037037	400000	
K	39	2	45	15591.295	ppb	15591.295	0.92	301242	400000	
Ca	40	1	45	23370.897	ppb	23370.897	0.25	171932837	400000	
Ca	44	2	45	38951.463	ppb	38951.463	0.62	49673	400000	
Ti	47	2	45	296275.769	ppb	296275.769	1.77	9760	4000	>LDR
V	51	2	72	380.692	ppb	380.692	1.45	305522	2000	
Cr	52	2	72	361.755	ppb	361.755	1.80	392422	5000	
Mn	55	2	72	1838.664	ppb	1838.664	1.49	513856	10000	
Fe	57	2	72	264901.116	ppb	264901.116	2.12	4897163	400000	
Co	59	2	72	241.000	ppb	241.000	0.66	578543	2000	
Ni	60	2	72	343.919	ppb	343.919	1.01	251285	5000	
Cu	63	2	72	337.027	ppb	337.027	1.88	736122	5000	
Zn	66	2	72	513.959	ppb	513.959	2.20	95533	5000	
As	75	2	72	209.448	ppb	209.448	0.35	23392	2000	
Se	78	1	72	187.600	ppb	187.600	0.64	107196	2000	
Sr	88	2	72	2571.958	ppb	2571.958	1.04	617720	4000	
Zr	90	2	72	25735.845	ppb	25735.845	0.41	222380	1000	>LDR
Nb	93	2	72	3.021	ppb	3.021	5.38	10247	200	
Mo	95	2	115	190.496	ppb	190.496	0.93	164252	2000	
Pd	105	2	115	0.025	ppb	0.025	83.85	63	100	
Ag	107	2	115	189.475	ppb	189.475	0.61	659604	100	
Cd	111	2	115	194.252	ppb	194.252	0.53	55976	2000	
Sn	120	2	115	11.111	ppb	11.111	1.92	7622	2000	
Sb	121	2	115	4.325	ppb	4.325	3.76	2567	1000	
Ba	137	2	115	5393.984	ppb	5393.984	0.12	863374	5000	
W	182	2	165	55.486	ppb	55.486	0.98	380136	100	
Pt	195	2	165	0.011	ppb	0.011	102.17	173	100	
Tl	205	2	165	196.503	ppb	196.503	0.99	1786402	2000	
Pb	208	2	165	305.957	ppb	305.957	1.46	3581752	5000	
Th	232	2	165	228.814	ppb	228.814	0.20	3357101	2000	
U	238	2	165	197.571	ppb	197.571	0.09	3346173	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	786270	0.28	911621	86.25	60	120	
Sc (IS)	45	1	HMI H2	47678833	0.67	50068556	95.23	60	120	
Sc (IS)	45	2	HMI He	440512	1.05	451776	97.51	60	120	
Sc (IS)	45	3	No Gas	113119595	0.46	123511628	91.59	60	120	
Ge Internal Standard	72	1	HMI H2	23927849	0.71	25603826	93.45	60	120	
Ge Internal Standard	72	2	HMI He	688896	1.05	720714	95.59	60	120	
In Internal Standard	115	2	HMI He	1708148	1.20	1819211	93.89	60	120	
Ho-165	165	2	HMI He	14732843	0.78	15094203	97.61	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-1-d msd
Data File Name	177SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:28:19-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	437.313	ppb	437.313	2.95	224434	500000	
Li	7	2	45	505.787	ppb	505.787	4.33	11808	500000	
Li	7	3	45	443.301	ppb	443.301	2.11	10408485	50000	
Be	9	1	6	209.119	ppb	209.119	2.72	58061	2000	
B	11	1	6	154.020	ppb	154.020	1.09	62927	2000	
Na	23	1	45	9317.840	ppb	9317.840	0.86	35542424	2000	
Na	23	2	45	9086.683	ppb	9086.683	0.83	1088854	400000	
Mg	24	2	45	12389.801	ppb	12389.801	0.34	600999	400000	
Al	27	2	45	84962.507	ppb	84962.507	1.37	804402	400000	
K	39	1	45	12732.013	ppb	12732.013	0.39	66568724	400000	
K	39	2	45	13738.495	ppb	13738.495	1.66	260181	400000	
Ca	40	1	45	18843.582	ppb	18843.582	0.56	138132021	400000	
Ca	44	2	45	33330.050	ppb	33330.050	1.61	41576	400000	
Ti	47	2	45	365535.946	ppb	365535.946	2.74	11774	4000	>LDR
V	51	2	72	363.321	ppb	363.321	0.42	289902	2000	
Cr	52	2	72	316.327	ppb	316.327	0.12	341207	5000	
Mn	55	2	72	1497.401	ppb	1497.401	0.67	416060	10000	
Fe	57	2	72	194634.254	ppb	194634.254	0.41	3577286	400000	
Co	59	2	72	239.347	ppb	239.347	0.51	571214	2000	
Ni	60	2	72	301.806	ppb	301.806	0.38	219244	5000	
Cu	63	2	72	294.513	ppb	294.513	0.54	639821	5000	
Zn	66	2	72	458.607	ppb	458.607	0.21	84773	5000	
As	75	2	72	207.496	ppb	207.496	1.58	23040	2000	
Se	78	1	72	186.455	ppb	186.455	1.52	107195	2000	
Sr	88	2	72	2092.134	ppb	2092.134	0.42	499575	4000	
Zr	90	2	72	25257.509	ppb	25257.509	2.22	216980	1000	>LDR
Nb	93	2	72	3.518	ppb	3.518	2.25	11838	200	
Mo	95	2	115	200.370	ppb	200.370	1.67	171243	2000	
Pd	105	2	115	0.026	ppb	0.026	63.58	63	100	
Ag	107	2	115	195.304	ppb	195.304	1.84	673848	100	
Cd	111	2	115	201.299	ppb	201.299	2.48	57528	2000	
Sn	120	2	115	18.870	ppb	18.870	2.82	12775	2000	
Sb	121	2	115	10.015	ppb	10.015	6.27	5861	1000	
Ba	137	2	115	4206.976	ppb	4206.976	1.29	667480	5000	
W	182	2	165	83.061	ppb	83.061	0.27	558345	100	
Pt	195	2	165	0.008	ppb	0.008	66.38	153	100	
Tl	205	2	165	200.967	ppb	200.967	1.59	1793428	2000	
Pb	208	2	165	290.835	ppb	290.835	0.67	3341961	5000	
Th	232	2	165	232.591	ppb	232.591	1.62	3349179	2000	
U	238	2	165	202.097	ppb	202.097	1.03	3359487	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	784217	0.24	911621	86.02	60	120	
Sc (IS)	45	1	HMI H2	47501346	0.74	50068556	94.87	60	120	
Sc (IS)	45	2	HMI He	430825	0.52	451776	95.36	60	120	
Sc (IS)	45	3	No Gas	111756892	0.64	123511628	90.48	60	120	
Ge Internal Standard	72	1	HMI H2	24074241	0.38	25603826	94.03	60	120	
Ge Internal Standard	72	2	HMI He	684850	0.64	720714	95.02	60	120	
In Internal Standard	115	2	HMI He	1693477	2.15	1819211	93.09	60	120	
Ho-165	165	2	HMI He	14461038	1.27	15094203	95.81	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-1-bPDS
Data File Name	178SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:32:06-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	52.773	ppb	52.773	7.40	103851	500000	
Li	7	2	45	76.160	ppb	76.160	34.61	5324	500000	
Li	7	3	45	53.435	ppb	53.435	6.68	4840569	50000	
Be	9	1	6	205.377	ppb	205.377	0.66	57576	2000	
B	11	1	6	33.303	ppb	33.303	9.60	25141	2000	
Na	23	1	45	8727.590	ppb	8727.590	0.45	33043056	2000	
Na	23	2	45	8512.902	ppb	8512.902	0.80	1019896	400000	
Mg	24	2	45	10379.643	ppb	10379.643	0.98	503075	400000	
Al	27	2	45	67580.634	ppb	67580.634	0.68	639245	400000	
K	39	1	45	11007.494	ppb	11007.494	2.21	58369071	400000	
K	39	2	45	11955.072	ppb	11955.072	0.56	226804	400000	
Ca	40	1	45	18218.943	ppb	18218.943	0.18	132479938	400000	
Ca	44	2	45	30069.755	ppb	30069.755	3.32	37477	400000	
Ti	47	2	45	339342.599	ppb	339342.599	8.82	10920	4000	>LDR
V	51	2	72	341.603	ppb	341.603	1.55	272201	2000	
Cr	52	2	72	348.351	ppb	348.351	1.09	375216	5000	
Mn	55	2	72	1459.285	ppb	1459.285	0.68	404964	10000	
Fe	57	2	72	202002.700	ppb	202002.700	1.29	3707592	400000	
Co	59	2	72	236.466	ppb	236.466	0.41	563622	2000	
Ni	60	2	72	317.391	ppb	317.391	1.44	230272	5000	
Cu	63	2	72	312.666	ppb	312.666	0.80	678287	5000	
Zn	66	2	72	440.343	ppb	440.343	1.42	81293	5000	
As	75	2	72	212.400	ppb	212.400	1.38	23550	2000	
Se	78	1	72	191.954	ppb	191.954	1.42	109676	2000	
Sr	88	2	72	1841.358	ppb	1841.358	0.46	439116	4000	
Zr	90	2	72	28359.137	ppb	28359.137	0.83	243289	1000	>LDR
Nb	93	2	72	3.390	ppb	3.390	4.55	11401	200	
Mo	95	2	115	214.329	ppb	214.329	0.45	182402	2000	
Pd	105	2	115	0.028	ppb	0.028	92.56	67	100	
Ag	107	2	115	41.205	ppb	41.205	0.60	141620	100	
Cd	111	2	115	205.801	ppb	205.801	0.56	58531	2000	
Sn	120	2	115	199.773	ppb	199.773	2.30	133998	2000	
Sb	121	2	115	201.795	ppb	201.795	2.08	117212	1000	
Ba	137	2	115	4254.564	ppb	4254.564	1.58	672136	5000	
W	182	2	165	197.490	ppb	197.490	1.72	1338478	100	
Pt	195	2	165	0.096	ppb	0.096	10.43	770	100	
Tl	205	2	165	205.808	ppb	205.808	2.61	1852154	2000	
Pb	208	2	165	284.518	ppb	284.518	0.67	3297600	5000	
Th	232	2	165	26.638	ppb	26.638	0.43	387001	2000	
U	238	2	165	200.788	ppb	200.788	0.98	3366471	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	791842	1.07	911621	86.86	60	120	
Sc (IS)	45	1	HMI H2	47117883	0.74	50068556	94.11	60	120	
Sc (IS)	45	2	HMI He	430431	0.26	451776	95.28	60	120	
Sc (IS)	45	3	No Gas	111564748	0.68	123511628	90.33	60	120	
Ge Internal Standard	72	1	HMI H2	23927171	0.74	25603826	93.45	60	120	
Ge Internal Standard	72	2	HMI He	683959	0.86	720714	94.90	60	120	
In Internal Standard	115	2	HMI He	1685952	0.18	1819211	92.67	60	120	
Ho-165	165	2	HMI He	14584896	0.59	15094203	96.63	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-2-b
Data File Name	179SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:35:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	36.164	ppb	36.164	8.53	100120	500000	
Li	7	2	45	62.077	ppb	62.077	36.43	5128	500000	
Li	7	3	45	40.721	ppb	40.721	4.51	4544606	50000	
Be	9	1	6	6.146	ppb	6.146	9.15	1727	2000	
B	11	1	6	13.532	ppb	13.532	8.53	18717	2000	
Na	23	1	45	7381.055	ppb	7381.055	0.87	28393570	2000	
Na	23	2	45	7180.929	ppb	7180.929	0.20	864598	400000	
Mg	24	2	45	18229.942	ppb	18229.942	0.22	885877	400000	
Al	27	2	45	94134.219	ppb	94134.219	1.45	892865	400000	
K	39	1	45	13530.489	ppb	13530.489	1.07	70569782	400000	
K	39	2	45	14435.951	ppb	14435.951	1.15	273672	400000	
Ca	40	1	45	26866.665	ppb	26866.665	0.48	198093324	400000	
Ca	44	2	45	26353.710	ppb	26353.710	1.15	32937	400000	
Ti	47	2	45	269547.283	ppb	269547.283	6.41	8699	4000	>LDR
V	51	2	72	187.878	ppb	187.878	0.38	146986	2000	
Cr	52	2	72	90.667	ppb	90.667	1.65	96077	5000	
Mn	55	2	72	2595.728	ppb	2595.728	0.46	707057	10000	
Fe	57	2	72	115214.570	ppb	115214.570	0.80	2075987	400000	
Co	59	2	72	41.543	ppb	41.543	0.33	97214	2000	
Ni	60	2	72	70.041	ppb	70.041	1.38	49917	5000	
Cu	63	2	72	73.361	ppb	73.361	0.69	157763	5000	
Zn	66	2	72	238.211	ppb	238.211	1.62	43234	5000	
As	75	2	72	23.936	ppb	23.936	4.00	2612	2000	
Se	78	1	72	3.937	ppb	3.937	4.18	2276	2000	
Sr	88	2	72	200.166	ppb	200.166	1.53	46871	4000	
Zr	90	2	72	4788.963	ppb	4788.963	2.24	40361	1000	
Nb	93	2	72	3.035	ppb	3.035	3.36	10030	200	
Mo	95	2	115	4.182	ppb	4.182	5.86	3571	2000	
Pd	105	2	115	0.009	ppb	0.009	194.25	37	100	
Ag	107	2	115	0.234	ppb	0.234	12.26	867	100	
Cd	111	2	115	1.348	ppb	1.348	12.39	397	2000	
Sn	120	2	115	0.396	ppb	0.396	20.01	340	2000	
Sb	121	2	115	0.180	ppb	0.180	18.20	127	1000	
Ba	137	2	115	815.250	ppb	815.250	2.91	129196	5000	
W	182	2	165	0.216	ppb	0.216	22.68	1860	100	
Pt	195	2	165	0.012	ppb	0.012	60.60	180	100	
Tl	205	2	165	0.965	ppb	0.965	8.62	8816	2000	
Pb	208	2	165	85.265	ppb	85.265	0.83	989296	5000	
Th	232	2	165	29.813	ppb	29.813	1.20	433250	2000	
U	238	2	165	4.980	ppb	4.980	0.77	83595	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	785863	0.06	911621	86.20	60	120	
Sc (IS)	45	1	HMI H2	47789964	0.43	50068556	95.45	60	120	
Sc (IS)	45	2	HMI He	431652	0.56	451776	95.55	60	120	
Sc (IS)	45	3	No Gas	108808565	0.40	123511628	88.10	60	120	
Ge Internal Standard	72	1	HMI H2	23846490	0.53	25603826	93.14	60	120	
Ge Internal Standard	72	2	HMI He	671384	0.59	720714	93.16	60	120	
In Internal Standard	115	2	HMI He	1691510	1.32	1819211	92.98	60	120	
Ho-165	165	2	HMI He	14589977	0.86	15094203	96.66	60	120	

Sample Report

Sample Table

Sample Name	280-90588-a-3-a
Data File Name	180SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:39:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350722 S 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	36.863	ppb	36.863	10.91	98616	500000	
Li	7	2	45	58.812	ppb	58.812	34.05	5088	500000	
Li	7	3	45	41.060	ppb	41.060	4.65	4475080	50000	
Be	9	1	6	5.330	ppb	5.330	12.49	1480	2000	
B	11	1	6	2.867	ppb	2.867	95.16	15147	2000	
Na	23	1	45	471.350	ppb	471.350	1.34	2076419	2000	
Na	23	2	45	429.959	ppb	429.959	1.06	62973	400000	
Mg	24	2	45	18913.025	ppb	18913.025	2.02	920470	400000	
Al	27	2	45	89498.000	ppb	89498.000	2.62	850181	400000	
K	39	1	45	13969.523	ppb	13969.523	0.44	71299694	400000	
K	39	2	45	14764.368	ppb	14764.368	3.12	280219	400000	
Ca	40	1	45	22171.219	ppb	22171.219	0.77	160679984	400000	
Ca	44	2	45	21741.272	ppb	21741.272	1.09	27221	400000	
Ti	47	2	45	392081.029	ppb	392081.029	3.71	12678	4000	>LDR
V	51	2	72	176.042	ppb	176.042	4.65	138934	2000	
Cr	52	2	72	85.519	ppb	85.519	2.71	91443	5000	
Mn	55	2	72	1609.832	ppb	1609.832	1.09	442438	10000	
Fe	57	2	72	108727.817	ppb	108727.817	1.21	1976480	400000	
Co	59	2	72	45.024	ppb	45.024	2.82	106285	2000	
Ni	60	2	72	64.233	ppb	64.233	2.53	46184	5000	
Cu	63	2	72	68.683	ppb	68.683	2.46	149129	5000	
Zn	66	2	72	202.633	ppb	202.633	3.11	37120	5000	
As	75	2	72	20.440	ppb	20.440	7.01	2252	2000	
Se	78	1	72	2.035	ppb	2.035	6.38	1183	2000	
Sr	88	2	72	151.261	ppb	151.261	6.17	35735	4000	
Zr	90	2	72	2913.384	ppb	2913.384	2.93	24789	1000	
Nb	93	2	72	2.892	ppb	2.892	3.11	9646	200	
Mo	95	2	115	5.734	ppb	5.734	5.31	4904	2000	
Pd	105	2	115	0.011	ppb	0.011	95.09	40	100	
Ag	107	2	115	0.129	ppb	0.129	19.61	507	100	
Cd	111	2	115	0.540	ppb	0.540	43.13	167	2000	
Sn	120	2	115	0.202	ppb	0.202	39.67	210	2000	
Sb	121	2	115	0.054	ppb	0.054	36.61	53	1000	
Ba	137	2	115	624.305	ppb	624.305	1.88	99129	5000	
W	182	2	165	0.155	ppb	0.155	10.04	1450	100	
Pt	195	2	165	0.007	ppb	0.007	54.68	147	100	
Tl	205	2	165	0.696	ppb	0.696	3.10	6412	2000	
Pb	208	2	165	62.751	ppb	62.751	2.62	730392	5000	
Th	232	2	165	37.387	ppb	37.387	2.46	544802	2000	
U	238	2	165	4.695	ppb	4.695	2.36	79024	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	775483	0.48	911621	85.07	60	120	
Sc (IS)	45	1	HMI H2	46967598	0.41	50068556	93.81	60	120	
Sc (IS)	45	2	HMI He	432413	1.86	451776	95.71	60	120	
Sc (IS)	45	3	No Gas	107033742	1.15	123511628	86.66	60	120	
Ge Internal Standard	72	1	HMI H2	23634498	0.29	25603826	92.31	60	120	
Ge Internal Standard	72	2	HMI He	677410	1.28	720714	93.99	60	120	
In Internal Standard	115	2	HMI He	1694491	0.51	1819211	93.14	60	120	
Ho-165	165	2	HMI He	14633469	1.51	15094203	96.95	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	181_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:43:34-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	489.738	ppb	1.450	246140	500	97.9	90	110	
Li	7	2	45	549.474	ppb	2.942	12531	500	109.9	90	110	
Li	7	3	45	488.816	ppb	1.629	11329078	500	97.8	90	110	
Be	9	1	6	50.599	ppb	4.573	14923	50	101.2	90	110	
B	11	1	6	25.419	ppb	3.876	23796	50	50.8	90	110	>+\-10%
Na	23	1	45	5122.290	ppb	0.562	20120595	5000	102.4	90	110	
Na	23	2	45	4945.859	ppb	2.246	601116	5000	98.9	90	110	
Mg	24	2	45	5202.435	ppb	2.683	253797	5000	104.0	90	110	
Al	27	2	45	5097.476	ppb	0.367	48579	5000	101.9	90	110	
K	39	1	45	4932.173	ppb	0.815	32353535	5000	98.6	90	110	
K	39	2	45	5175.075	ppb	2.509	101440	5000	103.5	90	110	
Ca	40	1	45	5163.355	ppb	0.239	38778001	5000	103.3	90	110	
Ca	44	2	45	5249.278	ppb	1.468	6598	5000	105.0	90	110	
Ti	47	2	45	112.775	ppb	415.732	13	50	225.5	90	110	>+\-10%
V	51	2	72	52.435	ppb	0.938	42610	50	104.9	90	110	
Cr	52	2	72	50.542	ppb	1.024	55717	50	101.1	90	110	
Mn	55	2	72	53.463	ppb	1.436	15150	50	106.9	90	110	
Fe	57	2	72	5239.494	ppb	2.179	98089	5000	104.8	90	110	
Co	59	2	72	53.289	ppb	1.743	129399	50	106.6	90	110	
Ni	60	2	72	52.825	ppb	0.926	39084	50	105.7	90	110	
Cu	63	2	72	52.115	ppb	1.425	116929	50	104.2	90	110	
Zn	66	2	72	48.045	ppb	5.014	9166	50	96.1	90	110	
As	75	2	72	52.243	ppb	1.174	5908	50	104.5	90	110	
Se	78	1	72	51.081	ppb	0.843	30509	50	102.2	90	110	
Sr	88	2	72	52.368	ppb	3.919	12739	50	104.7	90	110	
Zr	90	2	72	43.677	ppb	9.361	427	50	87.4	90	110	>+\-10%
Nb	93	2	72	99.019	ppb	1.168	335623	100	99.0	90	110	
Mo	95	2	115	51.354	ppb	2.442	45437	50	102.7	90	110	
Pd	105	2	115	51.990	ppb	1.561	87654	50	104.0	90	110	
Ag	107	2	115	52.142	ppb	0.088	186321	50	104.3	90	110	
Cd	111	2	115	51.590	ppb	1.709	15267	50	103.2	90	110	
Sn	120	2	115	50.003	ppb	1.896	34927	50	100.0	90	110	
Sb	121	2	115	51.142	ppb	3.118	30899	50	102.3	90	110	
Ba	137	2	115	51.683	ppb	4.731	8496	50	103.4	90	110	
W	182	2	165	49.912	ppb	1.196	341742	50	99.8	90	110	
Pt	195	2	165	50.412	ppb	1.143	357689	50	100.8	90	110	
Tl	205	2	165	52.268	ppb	1.372	474921	50	104.5	90	110	
Pb	208	2	165	52.416	ppb	0.947	614139	50	104.8	90	110	
Th	232	2	165	50.126	ppb	1.256	735017	50	100.3	90	110	
U	238	2	165	49.016	ppb	1.226	829663	50	98.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	832275	0.07	911621	91.30	60	120	
Sc (IS)	45	1	HMI H2	48558133	0.11	50068556	96.98	60	120	
Sc (IS)	45	2	HMI He	433089	0.57	451776	95.86	60	120	
Sc (IS)	45	3	No Gas	114491255	0.52	123511628	92.70	60	120	
Ge Internal Standard	72	1	HMI H2	24988540	0.28	25603826	97.60	60	120	
Ge Internal Standard	72	2	HMI He	696786	1.19	720714	96.68	60	120	
In Internal Standard	115	2	HMI He	1752996	1.53	1819211	96.36	60	120	
Ho-165	165	2	HMI He	14723739	1.10	15094203	97.55	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	182_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:47:25-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-12.225	ppb	-39.7	4047303	10	
Be	9	1	6	-0.007	ppb	-696.5	17	0.5	
B	11	1	6	-12.732	ppb	-6.7	11220	0.5	
Na	23	1	45	-17.410	ppb	-2.6	256576	25	
Na	23	2	45	-19.620	ppb	-8.6	9720	25	
Mg	24	2	45	4.828	ppb	33.9	470	25	
Al	27	2	45	2.171	ppb	174.5	93	15	
K	39	1	45	-25.092	ppb	-103.5	9618705	50	
K	39	2	45	-12.839	ppb	-72.6	4557	50	
Ca	40	1	45	4.254	ppb	10.7	149013	50	
Ca	44	2	45	-7.505	ppb	-1.4	10	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	0.051	ppb	263.1	91	1	
Cr	52	2	72	0.037	ppb	178.4	347	1	
Mn	55	2	72	0.083	ppb	85.4	60	0.5	
Fe	57	2	72	6.921	ppb	48.3	267	25	
Co	59	2	72	0.030	ppb	33.5	97	0.5	
Ni	60	2	72	0.032	ppb	86.7	77	1	
Cu	63	2	72	-0.006	ppb	-1366.9	2124	1	
Zn	66	2	72	-0.160	ppb	-67.5	120	5	
As	75	2	72	0.030	ppb	205.5	12	1	
Se	78	1	72	0.058	ppb	46.1	71	1	
Sr	88	2	72	0.163	ppb	29.3	57	0.5	
Zr	90	2	72	2.301	ppb	202.1	67	1	>RL
Nb	93	2	72	1.068	ppb	0.9	3807	2	
Mo	95	2	115	0.095	ppb	6.8	87	0.5	
Pd	105	2	115	0.042	ppb	68.2	97	1	
Ag	107	2	115	0.027	ppb	11.0	167	1	
Cd	111	2	115	0.022	ppb	293.0	20	0.5	
Sn	120	2	115	0.048	ppb	73.2	113	1	
Sb	121	2	115	0.064	ppb	100.4	63	0.6	
Ba	137	2	115	0.256	ppb	39.6	50	0.5	
W	182	2	165	0.060	ppb	40.3	823	1	
Pt	195	2	165	0.023	ppb	23.0	263	1	
Tl	205	2	165	0.072	ppb	33.7	797	0.1	
Pb	208	2	165	0.037	ppb	44.8	1537	0.5	
Th	232	2	165	0.056	ppb	10.5	950	1	
U	238	2	165	0.026	ppb	30.7	503	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	845671	0.63	911621	92.77	60	120	
Sc (IS)	45	1	HMI H2	48323873	0.54	50068556	96.52	60	120	
Sc (IS)	45	2	HMI He	442837	1.39	451776	98.02	60	120	
Sc (IS)	45	3	No Gas	115613272	1.00	123511628	93.61	60	120	
Ge Internal Standard	72	1	HMI H2	24922359	0.60	25603826	97.34	60	120	
Ge Internal Standard	72	2	HMI He	708554	0.66	720714	98.31	60	120	
In Internal Standard	115	2	HMI He	1804952	0.43	1819211	99.22	60	120	
Ho-165	165	2	HMI He	14913467	1.12	15094203	98.80	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-12-b
Data File Name	183SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:51:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	24.724	ppb	24.724	33.72	92774	500000	
Li	7	2	45	45.355	ppb	45.355	41.96	4704	500000	
Li	7	3	45	34.471	ppb	34.471	7.61	4479211	50000	
Be	9	1	6	0.065	ppb	0.065	147.64	33	2000	
B	11	1	6	1591.610	ppb	1591.610	1.09	481277	2000	
Na	23	1	45	191474.414	ppb	191474.414	0.18	700220416	2000	>LDR
Na	23	2	45	183969.616	ppb	183969.616	1.23	21106826	400000	
Mg	24	2	45	69677.375	ppb	69677.375	0.50	3269001	400000	
Al	27	2	45	37.002	ppb	37.002	9.69	407	400000	
K	39	1	45	9652.207	ppb	9652.207	1.43	51033506	400000	
K	39	2	45	10691.968	ppb	10691.968	0.88	196914	400000	
Ca	40	1	45	197783.824	ppb	197783.824	0.29	1400836672	400000	
Ca	44	2	45	260446.272	ppb	260446.272	0.90	314203	400000	
Ti	47	2	45	-192.405	ppb	-192.405	-94.97	3	4000	
V	51	2	72	0.136	ppb	0.136	120.68	149	2000	
Cr	52	2	72	0.181	ppb	0.181	67.13	473	5000	
Mn	55	2	72	29.194	ppb	29.194	1.82	7869	10000	
Fe	57	2	72	2108.689	ppb	2108.689	3.78	37567	400000	
Co	59	2	72	0.117	ppb	0.117	28.16	290	2000	
Ni	60	2	72	0.339	ppb	0.339	40.46	287	5000	
Cu	63	2	72	0.827	ppb	0.827	14.29	3727	5000	
Zn	66	2	72	3.233	ppb	3.233	26.77	717	5000	
As	75	2	72	0.647	ppb	0.647	3.74	77	2000	
Se	78	1	72	0.037	ppb	0.037	28.81	55	2000	
Sr	88	2	72	11680.416	ppb	11680.416	0.99	2694114	4000	
Zr	90	2	72	7.273	ppb	7.273	19.82	103	1000	
Nb	93	2	72	0.826	ppb	0.826	7.43	2777	200	
Mo	95	2	115	0.644	ppb	0.644	15.49	543	2000	
Pd	105	2	115	0.020	ppb	0.020	33.97	53	100	
Ag	107	2	115	0.004	ppb	0.004	162.97	73	100	
Cd	111	2	115	-0.019	ppb	-0.019	-106.14	7	2000	
Sn	120	2	115	0.090	ppb	0.090	81.69	133	2000	
Sb	121	2	115	0.015	ppb	0.015	233.20	30	1000	
Ba	137	2	115	15.829	ppb	15.829	4.97	2480	5000	
W	182	2	165	0.040	ppb	0.040	25.06	657	100	
Pt	195	2	165	0.004	ppb	0.004	158.16	127	100	
Tl	205	2	165	0.028	ppb	0.028	16.93	380	2000	
Pb	208	2	165	0.237	ppb	0.237	9.01	3757	5000	
Th	232	2	165	0.174	ppb	0.174	17.77	2590	2000	
U	238	2	165	0.053	ppb	0.053	18.81	937	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	731874	0.78	911621	80.28	60	120	
Sc (IS)	45	1	HMI H2	45929614	0.43	50068556	91.73	60	120	
Sc (IS)	45	2	HMI He	416836	1.41	451776	92.27	60	120	
Sc (IS)	45	3	No Gas	109330585	0.52	123511628	88.52	60	120	
Ge Internal Standard	72	1	HMI H2	23412110	1.03	25603826	91.44	60	120	
Ge Internal Standard	72	2	HMI He	661558	0.54	720714	91.79	60	120	
In Internal Standard	115	2	HMI He	1668613	1.64	1819211	91.72	60	120	
Ho-165	165	2	HMI He	14356268	1.59	15094203	95.11	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-13-b
Data File Name	184SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:55:06-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	28.519	ppb	28.519	15.81	94291	500000	
Li	7	2	45	54.859	ppb	54.859	8.38	4841	500000	
Li	7	3	45	33.824	ppb	33.824	10.63	4593628	50000	
Be	9	1	6	0.037	ppb	0.037	156.37	27	2000	
B	11	1	6	1624.937	ppb	1624.937	2.03	507510	2000	
Na	23	1	45	222904.115	ppb	222904.115	1.02	818322174	2000	>LDR
Na	23	2	45	213230.423	ppb	213230.423	1.73	24436382	400000	
Mg	24	2	45	66819.719	ppb	66819.719	2.57	3131169	400000	
Al	27	2	45	168.123	ppb	168.123	10.51	1607	400000	
K	39	1	45	9898.073	ppb	9898.073	0.37	52305279	400000	
K	39	2	45	10788.024	ppb	10788.024	1.97	198414	400000	
Ca	40	1	45	180158.070	ppb	180158.070	0.50	1281046114	400000	
Ca	44	2	45	232525.925	ppb	232525.925	0.24	280226	400000	
Ti	47	2	45	1837.373	ppb	1837.373	48.58	67	4000	
V	51	2	72	0.298	ppb	0.298	55.01	276	2000	
Cr	52	2	72	0.447	ppb	0.447	24.15	753	5000	
Mn	55	2	72	30.530	ppb	30.530	5.63	8269	10000	
Fe	57	2	72	406.937	ppb	406.937	7.30	7385	400000	
Co	59	2	72	0.143	ppb	0.143	25.81	353	2000	
Ni	60	2	72	0.658	ppb	0.658	15.95	513	5000	
Cu	63	2	72	1.234	ppb	1.234	4.16	4597	5000	
Zn	66	2	72	3.006	ppb	3.006	7.11	680	5000	
As	75	2	72	0.201	ppb	0.201	16.75	29	2000	
Se	78	1	72	0.102	ppb	0.102	30.93	92	2000	
Sr	88	2	72	10919.994	ppb	10919.994	0.81	2530989	4000	
Zr	90	2	72	34.426	ppb	34.426	40.40	330	1000	
Nb	93	2	72	0.368	ppb	0.368	8.39	1310	200	
Mo	95	2	115	0.847	ppb	0.847	9.87	717	2000	
Pd	105	2	115	0.024	ppb	0.024	26.59	60	100	
Ag	107	2	115	0.008	ppb	0.008	194.50	90	100	
Cd	111	2	115	0.015	ppb	0.015	354.09	17	2000	
Sn	120	2	115	0.059	ppb	0.059	73.22	113	2000	
Sb	121	2	115	0.124	ppb	0.124	51.79	93	1000	
Ba	137	2	115	19.353	ppb	19.353	5.84	3050	5000	
W	182	2	165	0.043	ppb	0.043	22.73	673	100	
Pt	195	2	165	0.005	ppb	0.005	177.28	130	100	
Tl	205	2	165	0.034	ppb	0.034	17.51	433	2000	
Pb	208	2	165	0.335	ppb	0.335	4.68	4854	5000	
Th	232	2	165	0.144	ppb	0.144	15.22	2157	2000	
U	238	2	165	0.242	ppb	0.242	8.41	4034	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	756317	0.48	911621	82.96	60	120	
Sc (IS)	45	1	HMI H2	46110898	0.51	50068556	92.10	60	120	
Sc (IS)	45	2	HMI He	416424	1.55	451776	92.17	60	120	
Sc (IS)	45	3	No Gas	112349735	0.41	123511628	90.96	60	120	
Ge Internal Standard	72	1	HMI H2	23601849	0.55	25603826	92.18	60	120	
Ge Internal Standard	72	2	HMI He	664753	0.92	720714	92.24	60	120	
In Internal Standard	115	2	HMI He	1677825	1.44	1819211	92.23	60	120	
Ho-165	165	2	HMI He	14284396	0.48	15094203	94.63	60	120	

Sample Table

Sample Name	280-90393-a-14-b
Data File Name	185SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T02:58:57-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	22.833	ppb	22.833	7.39	92978	500000	
Li	7	2	45	55.218	ppb	55.218	8.86	4894	500000	
Li	7	3	45	25.128	ppb	25.128	2.57	4474889	50000	
Be	9	1	6	0.072	ppb	0.072	107.29	37	2000	
B	11	1	6	1349.651	ppb	1349.651	1.49	429789	2000	
Na	23	1	45	103202.498	ppb	103202.498	0.98	380692088	2000	>LDR
Na	23	2	45	99463.057	ppb	99463.057	1.85	11519223	400000	
Mg	24	2	45	51293.720	ppb	51293.720	1.61	2428057	400000	
Al	27	2	45	9.912	ppb	9.912	31.39	160	400000	
K	39	1	45	7186.274	ppb	7186.274	1.59	40695578	400000	
K	39	2	45	8228.227	ppb	8228.227	2.80	153930	400000	
Ca	40	1	45	182697.125	ppb	182697.125	0.74	1304759261	400000	
Ca	44	2	45	224200.700	ppb	224200.700	1.24	272906	400000	
Ti	47	2	45	-86.312	ppb	-86.312	-212.32	7	4000	
V	51	2	72	0.103	ppb	0.103	113.65	126	2000	
Cr	52	2	72	0.220	ppb	0.220	8.81	523	5000	
Mn	55	2	72	36.969	ppb	36.969	3.42	10143	10000	
Fe	57	2	72	345.909	ppb	345.909	1.56	6385	400000	
Co	59	2	72	0.398	ppb	0.398	3.77	957	2000	
Ni	60	2	72	0.705	ppb	0.705	32.99	553	5000	
Cu	63	2	72	1.276	ppb	1.276	15.75	4754	5000	
Zn	66	2	72	4.604	ppb	4.604	12.47	980	5000	
As	75	2	72	0.227	ppb	0.227	20.93	33	2000	
Se	78	1	72	0.069	ppb	0.069	69.29	73	2000	
Sr	88	2	72	8774.624	ppb	8774.624	1.00	2061720	4000	
Zr	90	2	72	7.450	ppb	7.450	105.96	107	1000	
Nb	93	2	72	0.132	ppb	0.132	10.16	553	200	
Mo	95	2	115	1.111	ppb	1.111	5.71	947	2000	
Pd	105	2	115	0.005	ppb	0.005	318.03	30	100	
Ag	107	2	115	0.004	ppb	0.004	78.77	77	100	
Cd	111	2	115	-0.008	ppb	-0.008	-428.53	10	2000	
Sn	120	2	115	0.039	ppb	0.039	37.98	100	2000	
Sb	121	2	115	0.077	ppb	0.077	84.19	67	1000	
Ba	137	2	115	15.425	ppb	15.425	4.33	2447	5000	
W	182	2	165	0.042	ppb	0.042	49.02	673	100	
Pt	195	2	165	0.000	ppb	0.000	-3262.68	93	100	
Tl	205	2	165	0.020	ppb	0.020	26.88	303	2000	
Pb	208	2	165	0.288	ppb	0.288	2.83	4347	5000	
Th	232	2	165	0.022	ppb	0.022	15.16	423	2000	
U	238	2	165	0.096	ppb	0.096	3.20	1643	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	766941	1.16	911621	84.13	60	120	
Sc (IS)	45	1	HMI H2	46312444	0.30	50068556	92.50	60	120	
Sc (IS)	45	2	HMI He	420576	0.81	451776	93.09	60	120	
Sc (IS)	45	3	No Gas	112497682	0.45	123511628	91.08	60	120	
Ge Internal Standard	72	1	HMI H2	23668636	0.93	25603826	92.44	60	120	
Ge Internal Standard	72	2	HMI He	673950	1.01	720714	93.51	60	120	
In Internal Standard	115	2	HMI He	1688773	0.29	1819211	92.83	60	120	
Ho-165	165	2	HMI He	14371004	0.13	15094203	95.21	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-15-b
Data File Name	186SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:02:50-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-12.726	ppb	-12.726	-4.28	81796	500000	
Li	7	2	45	-1.160	ppb	-1.160	-849.51	4077	500000	
Li	7	3	45	-13.442	ppb	-13.442	-19.76	3982770	50000	
Be	9	1	6	-0.013	ppb	-0.013	-430.81	13	2000	
B	11	1	6	64.508	ppb	64.508	6.41	33431	2000	
Na	23	1	45	164791.332	ppb	164791.332	0.30	604858844	2000	>LDR
Na	23	2	45	157053.143	ppb	157053.143	1.63	18236610	400000	
Mg	24	2	45	6939.591	ppb	6939.591	0.65	329699	400000	
Al	27	2	45	129.224	ppb	129.224	6.07	1267	400000	
K	39	1	45	-503.458	ppb	-503.458	-0.17	7097081	400000	
K	39	2	45	331.295	ppb	331.295	5.73	10610	400000	
Ca	40	1	45	336215.852	ppb	336215.852	0.42	2389834631	400000	
Ca	44	2	45	328847.466	ppb	328847.466	0.93	401491	400000	
Ti	47	2	45	551.424	ppb	551.424	144.69	27	4000	
V	51	2	72	0.836	ppb	0.836	98.06	683	2000	
Cr	52	2	72	16.369	ppb	16.369	3.52	17265	5000	
Mn	55	2	72	200.636	ppb	200.636	0.72	53692	10000	
Fe	57	2	72	1041.224	ppb	1041.224	3.45	18547	400000	
Co	59	2	72	2.979	ppb	2.979	8.05	6865	2000	
Ni	60	2	72	2.058	ppb	2.058	8.49	1487	5000	
Cu	63	2	72	1.231	ppb	1.231	12.14	4554	5000	
Zn	66	2	72	3.582	ppb	3.582	10.62	777	5000	
As	75	2	72	3.151	ppb	3.151	14.03	344	2000	
Se	78	1	72	0.338	ppb	0.338	13.59	221	2000	
Sr	88	2	72	2866.937	ppb	2866.937	0.90	658986	4000	
Zr	90	2	72	15.380	ppb	15.380	13.71	170	1000	
Nb	93	2	72	0.099	ppb	0.099	16.58	437	200	
Mo	95	2	115	0.492	ppb	0.492	13.90	410	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-75.58	13	100	
Ag	107	2	115	-0.001	ppb	-0.001	-400.12	57	100	
Cd	111	2	115	0.040	ppb	0.040	135.24	23	2000	
Sn	120	2	115	0.103	ppb	0.103	54.26	140	2000	
Sb	121	2	115	0.050	ppb	0.050	36.16	50	1000	
Ba	137	2	115	149.847	ppb	149.847	2.05	23220	5000	
W	182	2	165	0.010	ppb	0.010	131.66	453	100	
Pt	195	2	165	0.000	ppb	0.000	-8148.28	93	100	
Tl	205	2	165	0.024	ppb	0.024	26.50	337	2000	
Pb	208	2	165	0.168	ppb	0.168	20.57	2947	5000	
Th	232	2	165	0.070	ppb	0.070	6.36	1110	2000	
U	238	2	165	2.197	ppb	2.197	2.43	35933	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	754769	0.33	911621	82.79	60	120	
Sc (IS)	45	1	HMI H2	46095548	0.31	50068556	92.06	60	120	
Sc (IS)	45	2	HMI He	421845	1.23	451776	93.37	60	120	
Sc (IS)	45	3	No Gas	114267132	0.35	123511628	92.52	60	120	
Ge Internal Standard	72	1	HMI H2	23216345	0.27	25603826	90.68	60	120	
Ge Internal Standard	72	2	HMI He	659221	1.00	720714	91.47	60	120	
In Internal Standard	115	2	HMI He	1653068	1.08	1819211	90.87	60	120	
Ho-165	165	2	HMI He	14205360	1.13	15094203	94.11	60	120	

Sample Report

Sample Table

Sample Name	280-90393-c-17-b
Data File Name	187SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:06:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	28.053	ppb	28.053	11.19	93326	500000	
Li	7	2	45	53.862	ppb	53.862	29.15	4841	500000	
Li	7	3	45	30.119	ppb	30.119	4.98	4594791	50000	
Be	9	1	6	-0.063	ppb	-0.063	0.00	0	2000	
B	11	1	6	1660.438	ppb	1660.438	1.92	517241	2000	
Na	23	1	45	247595.402	ppb	247595.402	0.57	900954120	2000	>LDR
Na	23	2	45	235949.036	ppb	235949.036	0.85	27133634	400000	
Mg	24	2	45	39124.081	ppb	39124.081	1.04	1839998	400000	
Al	27	2	45	2.374	ppb	2.374	373.43	90	400000	
K	39	1	45	8179.676	ppb	8179.676	1.74	44439938	400000	
K	39	2	45	9182.927	ppb	9182.927	1.21	170162	400000	
Ca	40	1	45	102479.624	ppb	102479.624	0.95	722323269	400000	
Ca	44	2	45	133859.090	ppb	133859.090	0.51	161871	400000	
Ti	47	2	45	243.623	ppb	243.623	385.00	17	4000	
V	51	2	72	-0.065	ppb	-0.065	-129.71	-5	2000	
Cr	52	2	72	-0.018	ppb	-0.018	-393.06	267	5000	
Mn	55	2	72	6.192	ppb	6.192	14.34	1703	10000	
Fe	57	2	72	705.213	ppb	705.213	6.16	12705	400000	
Co	59	2	72	0.162	ppb	0.162	29.20	397	2000	
Ni	60	2	72	0.479	ppb	0.479	25.54	387	5000	
Cu	63	2	72	0.142	ppb	0.142	62.57	2304	5000	
Zn	66	2	72	1.447	ppb	1.447	39.22	400	5000	
As	75	2	72	0.461	ppb	0.461	14.56	58	2000	
Se	78	1	72	0.059	ppb	0.059	90.34	67	2000	
Sr	88	2	72	6376.600	ppb	6376.600	2.23	1478140	4000	
Zr	90	2	72	4.032	ppb	4.032	139.30	77	1000	
Nb	93	2	72	0.057	ppb	0.057	30.25	303	200	
Mo	95	2	115	3.246	ppb	3.246	4.49	2744	2000	
Pd	105	2	115	0.026	ppb	0.026	27.03	63	100	
Ag	107	2	115	0.004	ppb	0.004	344.11	73	100	
Cd	111	2	115	-0.031	ppb	-0.031	-65.17	3	2000	
Sn	120	2	115	0.140	ppb	0.140	69.98	167	2000	
Sb	121	2	115	0.020	ppb	0.020	130.47	33	1000	
Ba	137	2	115	24.504	ppb	24.504	1.24	3851	5000	
W	182	2	165	0.201	ppb	0.201	10.07	1710	100	
Pt	195	2	165	-0.003	ppb	-0.003	-83.61	77	100	
Tl	205	2	165	0.009	ppb	0.009	21.73	207	2000	
Pb	208	2	165	0.103	ppb	0.103	13.07	2207	5000	
Th	232	2	165	0.012	ppb	0.012	29.32	277	2000	
U	238	2	165	0.085	ppb	0.085	4.15	1447	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	754823	0.40	911621	82.80	60	120	
Sc (IS)	45	1	HMI H2	45706386	0.81	50068556	91.29	60	120	
Sc (IS)	45	2	HMI He	417840	1.22	451776	92.49	60	120	
Sc (IS)	45	3	No Gas	113691232	0.30	123511628	92.05	60	120	
Ge Internal Standard	72	1	HMI H2	23224752	0.86	25603826	90.71	60	120	
Ge Internal Standard	72	2	HMI He	664821	0.89	720714	92.24	60	120	
In Internal Standard	115	2	HMI He	1674433	0.74	1819211	92.04	60	120	
Ho-165	165	2	HMI He	14195536	0.84	15094203	94.05	60	120	

Sample Report

Sample Table

Sample Name	280-90393-c-18-b
Data File Name	188SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:10:29-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	29.645	ppb	29.645	8.57	93772	500000	
Li	7	2	45	72.196	ppb	72.196	30.16	5124	500000	
Li	7	3	45	34.686	ppb	34.686	10.41	4658950	50000	
Be	9	1	6	-0.013	ppb	-0.013	-681.35	13	2000	
B	11	1	6	1574.285	ppb	1574.285	0.91	486905	2000	
Na	23	1	45	221191.225	ppb	221191.225	0.44	804664015	2000	>LDR
Na	23	2	45	210604.508	ppb	210604.508	0.53	24299504	400000	
Mg	24	2	45	50279.175	ppb	50279.175	0.32	2372346	400000	
Al	27	2	45	3.810	ppb	3.810	156.32	103	400000	
K	39	1	45	8289.616	ppb	8289.616	0.25	44902863	400000	
K	39	2	45	9105.605	ppb	9105.605	0.07	169312	400000	
Ca	40	1	45	158685.786	ppb	158685.786	1.36	1118114490	400000	
Ca	44	2	45	197149.214	ppb	197149.214	0.25	239166	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	0.209	ppb	0.209	138.88	209	2000	
Cr	52	2	72	2.112	ppb	2.112	4.92	2500	5000	
Mn	55	2	72	6.768	ppb	6.768	7.53	1864	10000	
Fe	57	2	72	85.713	ppb	85.713	15.84	1660	400000	
Co	59	2	72	0.281	ppb	0.281	2.73	673	2000	
Ni	60	2	72	1.864	ppb	1.864	10.28	1367	5000	
Cu	63	2	72	0.513	ppb	0.513	5.88	3090	5000	
Zn	66	2	72	3.598	ppb	3.598	11.38	787	5000	
As	75	2	72	0.187	ppb	0.187	102.23	28	2000	
Se	78	1	72	0.439	ppb	0.439	7.80	276	2000	
Sr	88	2	72	8119.196	ppb	8119.196	1.21	1885317	4000	
Zr	90	2	72	5.166	ppb	5.166	91.54	87	1000	
Nb	93	2	72	0.073	ppb	0.073	13.71	357	200	
Mo	95	2	115	7.841	ppb	7.841	5.23	6592	2000	
Pd	105	2	115	0.007	ppb	0.007	296.59	33	100	
Ag	107	2	115	0.010	ppb	0.010	33.80	93	100	
Cd	111	2	115	-0.019	ppb	-0.019	-212.42	7	2000	
Sn	120	2	115	0.011	ppb	0.011	150.19	80	2000	
Sb	121	2	115	0.102	ppb	0.102	59.87	80	1000	
Ba	137	2	115	27.001	ppb	27.001	12.29	4217	5000	
W	182	2	165	0.045	ppb	0.045	52.82	687	100	
Pt	195	2	165	0.000	ppb	0.000	638.49	97	100	
Tl	205	2	165	0.008	ppb	0.008	121.13	200	2000	
Pb	208	2	165	0.095	ppb	0.095	18.81	2117	5000	
Th	232	2	165	0.015	ppb	0.015	17.65	323	2000	
U	238	2	165	0.292	ppb	0.292	2.60	4824	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	748312	0.07	911621	82.09	60	120	
Sc (IS)	45	1	HMI H2	45692456	0.55	50068556	91.26	60	120	
Sc (IS)	45	2	HMI He	419178	1.38	451776	92.78	60	120	
Sc (IS)	45	3	No Gas	113643808	0.60	123511628	92.01	60	120	
Ge Internal Standard	72	1	HMI H2	23121717	0.96	25603826	90.31	60	120	
Ge Internal Standard	72	2	HMI He	665944	1.10	720714	92.40	60	120	
In Internal Standard	115	2	HMI He	1665763	1.21	1819211	91.57	60	120	
Ho-165	165	2	HMI He	14214384	0.53	15094203	94.17	60	120	

Sample Table

Sample Name	280-90393-a-19-b
Data File Name	189SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:14:17-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	4.537	ppb	4.537	58.43	87874	500000	
Li	7	2	45	31.689	ppb	31.689	64.99	4651	500000	
Li	7	3	45	9.239	ppb	9.239	18.10	4339886	50000	
Be	9	1	6	-0.039	ppb	-0.039	-106.73	7	2000	
B	11	1	6	1316.852	ppb	1316.852	2.01	422664	2000	
Na	23	1	45	234522.797	ppb	234522.797	0.75	869196280	2000	>LDR
Na	23	2	45	222934.168	ppb	222934.168	1.01	26395505	400000	
Mg	24	2	45	10093.049	ppb	10093.049	0.38	488881	400000	
Al	27	2	45	13.032	ppb	13.032	95.28	193	400000	
K	39	1	45	4598.107	ppb	4598.107	0.57	29550850	400000	
K	39	2	45	5698.040	ppb	5698.040	1.09	110474	400000	
Ca	40	1	45	26287.958	ppb	26287.958	0.54	188818017	400000	
Ca	44	2	45	36915.482	ppb	36915.482	2.21	45976	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	0.594	ppb	0.594	15.19	520	2000	
Cr	52	2	72	0.204	ppb	0.204	27.75	513	5000	
Mn	55	2	72	1.542	ppb	1.542	9.85	463	10000	
Fe	57	2	72	18.309	ppb	18.309	20.05	467	400000	
Co	59	2	72	0.021	ppb	0.021	61.09	73	2000	
Ni	60	2	72	0.573	ppb	0.573	15.62	467	5000	
Cu	63	2	72	1.573	ppb	1.573	4.21	5468	5000	
Zn	66	2	72	2.957	ppb	2.957	15.94	690	5000	
As	75	2	72	0.737	ppb	0.737	37.99	90	2000	
Se	78	1	72	0.052	ppb	0.052	37.27	64	2000	
Sr	88	2	72	1832.522	ppb	1832.522	0.52	437150	4000	
Zr	90	2	72	5.677	ppb	5.677	28.85	93	1000	
Nb	93	2	72	0.042	ppb	0.042	46.82	263	200	
Mo	95	2	115	4.060	ppb	4.060	1.57	3517	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-37.14	7	100	
Ag	107	2	115	-0.006	ppb	-0.006	-26.69	43	100	
Cd	111	2	115	-0.020	ppb	-0.020	-100.01	7	2000	
Sn	120	2	115	0.026	ppb	0.026	258.64	93	2000	
Sb	121	2	115	0.030	ppb	0.030	202.66	40	1000	
Ba	137	2	115	46.764	ppb	46.764	9.41	7529	5000	
W	182	2	165	2.149	ppb	2.149	0.47	14804	100	
Pt	195	2	165	0.004	ppb	0.004	127.72	127	100	
Tl	205	2	165	0.009	ppb	0.009	93.64	210	2000	
Pb	208	2	165	0.067	ppb	0.067	15.31	1833	5000	
Th	232	2	165	0.016	ppb	0.016	19.43	343	2000	
U	238	2	165	0.175	ppb	0.175	10.96	2970	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	772406	1.43	911621	84.73	60	120	
Sc (IS)	45	1	HMI H2	46552663	0.84	50068556	92.98	60	120	
Sc (IS)	45	2	HMI He	430159	0.56	451776	95.22	60	120	
Sc (IS)	45	3	No Gas	114962415	0.82	123511628	93.08	60	120	
Ge Internal Standard	72	1	HMI H2	23629800	0.77	25603826	92.29	60	120	
Ge Internal Standard	72	2	HMI He	684212	1.35	720714	94.94	60	120	
In Internal Standard	115	2	HMI He	1715995	1.52	1819211	94.33	60	120	
Ho-165	165	2	HMI He	14434459	1.23	15094203	95.63	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	190_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:18:04-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	495.601	ppb	3.384	243786	500	99.1	90	110	
Li	7	2	45	524.511	ppb	2.762	12225	500	104.9	90	110	
Li	7	3	45	499.130	ppb	0.556	11626760	500	99.8	90	110	
Be	9	1	6	50.930	ppb	4.516	14917	50	101.9	90	110	
B	11	1	6	73.182	ppb	2.812	39493	50	146.4	90	110	>+\-10%
Na	23	1	45	5286.558	ppb	0.772	20402544	5000	105.7	90	110	
Na	23	2	45	5012.536	ppb	1.672	612737	5000	100.3	90	110	
Mg	24	2	45	5161.275	ppb	2.185	253300	5000	103.2	90	110	
Al	27	2	45	5018.267	ppb	1.270	48121	5000	100.4	90	110	
K	39	1	45	5047.091	ppb	2.418	32317700	5000	100.9	90	110	
K	39	2	45	5162.760	ppb	0.575	101844	5000	103.3	90	110	
Ca	40	1	45	5246.032	ppb	0.554	38728264	5000	104.9	90	110	
Ca	44	2	45	5171.374	ppb	4.683	6541	5000	103.4	90	110	
Ti	47	2	45	-194.091	ppb	-92.641	3	50	-388.2	90	110	>+\-10%
V	51	2	72	50.245	ppb	2.788	40800	50	100.5	90	110	
Cr	52	2	72	49.939	ppb	2.008	54995	50	99.9	90	110	
Mn	55	2	72	51.766	ppb	4.750	14650	50	103.5	90	110	
Fe	57	2	72	5197.547	ppb	1.871	97217	5000	104.0	90	110	
Co	59	2	72	51.537	ppb	1.476	125012	50	103.1	90	110	
Ni	60	2	72	51.206	ppb	2.399	37845	50	102.4	90	110	
Cu	63	2	72	51.596	ppb	1.140	115638	50	103.2	90	110	
Zn	66	2	72	51.634	ppb	2.046	9830	50	103.3	90	110	
As	75	2	72	52.514	ppb	2.132	5930	50	105.0	90	110	
Se	78	1	72	50.870	ppb	1.835	29693	50	101.7	90	110	
Sr	88	2	72	53.009	ppb	0.975	12879	50	106.0	90	110	
Zr	90	2	72	23.480	ppb	11.227	250	50	47.0	90	110	>+\-10%
Nb	93	2	72	99.238	ppb	1.081	336004	100	99.2	90	110	
Mo	95	2	115	51.274	ppb	2.080	45157	50	102.5	90	110	
Pd	105	2	115	51.829	ppb	1.188	86960	50	103.7	90	110	
Ag	107	2	115	52.413	ppb	1.457	186461	50	104.8	90	110	
Cd	111	2	115	51.716	ppb	1.236	15234	50	103.4	90	110	
Sn	120	2	115	50.390	ppb	3.867	35047	50	100.8	90	110	
Sb	121	2	115	52.019	ppb	1.488	31286	50	104.0	90	110	
Ba	137	2	115	54.210	ppb	6.977	8863	50	108.4	90	110	
W	182	2	165	50.374	ppb	0.856	343752	50	100.7	90	110	
Pt	195	2	165	50.292	ppb	0.843	355645	50	100.6	90	110	
Tl	205	2	165	51.662	ppb	0.673	467863	50	103.3	90	110	
Pb	208	2	165	51.865	ppb	1.391	605640	50	103.7	90	110	
Th	232	2	165	50.029	ppb	0.993	731124	50	100.1	90	110	
U	238	2	165	49.321	ppb	1.280	831966	50	98.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	826727	0.91	911621	90.69	60	120	
Sc (IS)	45	1	HMI H2	47735461	1.28	50068556	95.34	60	120	
Sc (IS)	45	2	HMI He	435748	1.62	451776	96.45	60	120	
Sc (IS)	45	3	No Gas	115962402	0.48	123511628	93.89	60	120	
Ge Internal Standard	72	1	HMI H2	24421662	0.48	25603826	95.38	60	120	
Ge Internal Standard	72	2	HMI He	696028	1.80	720714	96.57	60	120	
In Internal Standard	115	2	HMI He	1744955	1.84	1819211	95.92	60	120	
Ho-165	165	2	HMI He	14674585	1.69	15094203	97.22	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	191_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:21:50-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.557	ppb	-100.3	4227809	10	
Be	9	1	6	-0.008	ppb	-672.0	17	0.5	
B	11	1	6	6.062	ppb	25.5	17712	0.5	>RL
Na	23	1	45	39.976	ppb	3.0	475808	25	>RL
Na	23	2	45	36.779	ppb	16.9	16141	25	>RL
Mg	24	2	45	5.529	ppb	32.0	490	25	
Al	27	2	45	0.371	ppb	1903.5	73	15	
K	39	1	45	-48.777	ppb	-38.4	9481647	50	
K	39	2	45	9.194	ppb	22.3	4844	50	
Ca	40	1	45	13.115	ppb	5.6	214343	50	
Ca	44	2	45	11.358	ppb	105.2	33	25	
Ti	47	2	45	-195.521	ppb	-90.7	3	0.5	
V	51	2	72	-0.042	ppb	-374.6	13	1	
Cr	52	2	72	-0.074	ppb	-43.8	217	1	
Mn	55	2	72	0.028	ppb	73.9	43	0.5	
Fe	57	2	72	2.248	ppb	50.6	173	25	
Co	59	2	72	0.020	ppb	75.7	70	0.5	
Ni	60	2	72	0.044	ppb	17.6	83	1	
Cu	63	2	72	0.118	ppb	45.9	2344	1	
Zn	66	2	72	0.123	ppb	86.5	170	5	
As	75	2	72	0.021	ppb	176.1	10	1	
Se	78	1	72	0.020	ppb	175.5	48	1	
Sr	88	2	72	0.666	ppb	35.6	177	0.5	>RL
Zr	90	2	72	-2.498	ppb	-70.3	23	1	
Nb	93	2	72	1.054	ppb	9.6	3671	2	
Mo	95	2	115	0.053	ppb	13.9	47	0.5	
Pd	105	2	115	0.026	ppb	15.5	67	1	
Ag	107	2	115	0.021	ppb	31.6	140	1	
Cd	111	2	115	-0.009	ppb	-367.5	10	0.5	
Sn	120	2	115	0.056	ppb	181.9	117	1	
Sb	121	2	115	0.046	ppb	161.9	50	0.6	
Ba	137	2	115	0.042	ppb	83.0	13	0.5	
W	182	2	165	0.036	ppb	21.2	643	1	
Pt	195	2	165	0.014	ppb	83.4	193	1	
Tl	205	2	165	0.051	ppb	25.0	597	0.1	
Pb	208	2	165	0.020	ppb	20.6	1323	0.5	
Th	232	2	165	0.054	ppb	4.9	910	1	
U	238	2	165	0.021	ppb	15.3	423	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	850845	0.62	911621	93.33	60	120	
Sc (IS)	45	1	HMI H2	48176014	0.59	50068556	96.22	60	120	
Sc (IS)	45	2	HMI He	430806	1.04	451776	95.36	60	120	
Sc (IS)	45	3	No Gas	116648772	0.75	123511628	94.44	60	120	
Ge Internal Standard	72	1	HMI H2	24779355	0.47	25603826	96.78	60	120	
Ge Internal Standard	72	2	HMI He	691671	0.19	720714	95.97	60	120	
In Internal Standard	115	2	HMI He	1763443	2.09	1819211	96.93	60	120	
Ho-165	165	2	HMI He	14705652	0.20	15094203	97.43	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-20-b
Data File Name	192SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:25:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	31.392	ppb	31.392	25.16	95866	500000	
Li	7	2	45	32.321	ppb	32.321	48.09	4591	500000	
Li	7	3	45	41.031	ppb	41.031	11.91	4649377	50000	
Be	9	1	6	-0.002	ppb	-0.002	-3140.68	17	2000	
B	11	1	6	1234.294	ppb	1234.294	2.28	393654	2000	
Na	23	1	45	247210.547	ppb	247210.547	0.60	914264040	2000	>LDR
Na	23	2	45	233480.669	ppb	233480.669	1.11	27234362	400000	
Mg	24	2	45	33132.899	ppb	33132.899	0.48	1580668	400000	
Al	27	2	45	247.182	ppb	247.182	9.49	2370	400000	
K	39	1	45	7189.771	ppb	7189.771	0.55	40835588	400000	
K	39	2	45	8136.598	ppb	8136.598	1.50	153447	400000	
Ca	40	1	45	92420.617	ppb	92420.617	0.23	662116750	400000	
Ca	44	2	45	117597.352	ppb	117597.352	1.18	144254	400000	
Ti	47	2	45	1491.239	ppb	1491.239	23.98	57	4000	
V	51	2	72	0.494	ppb	0.494	13.79	435	2000	
Cr	52	2	72	0.385	ppb	0.385	23.82	700	5000	
Mn	55	2	72	12.739	ppb	12.739	4.89	3527	10000	
Fe	57	2	72	164.220	ppb	164.220	9.80	3107	400000	
Co	59	2	72	0.169	ppb	0.169	23.99	420	2000	
Ni	60	2	72	1.740	ppb	1.740	6.66	1297	5000	
Cu	63	2	72	0.477	ppb	0.477	18.57	3057	5000	
Zn	66	2	72	3.220	ppb	3.220	12.98	730	5000	
As	75	2	72	0.500	ppb	0.500	14.39	63	2000	
Se	78	1	72	0.303	ppb	0.303	24.81	204	2000	
Sr	88	2	72	4860.268	ppb	4860.268	0.98	1145199	4000	
Zr	90	2	72	25.503	ppb	25.503	30.54	260	1000	
Nb	93	2	72	0.820	ppb	0.820	13.60	2817	200	
Mo	95	2	115	9.332	ppb	9.332	3.14	7942	2000	
Pd	105	2	115	0.003	ppb	0.003	625.18	27	100	
Ag	107	2	115	-0.004	ppb	-0.004	-153.22	47	100	
Cd	111	2	115	-0.008	ppb	-0.008	-416.87	10	2000	
Sn	120	2	115	3.323	ppb	3.323	16.75	2300	2000	
Sb	121	2	115	0.353	ppb	0.353	18.60	227	1000	
Ba	137	2	115	17.803	ppb	17.803	6.56	2817	5000	
W	182	2	165	0.156	ppb	0.156	7.57	1427	100	
Pt	195	2	165	0.000	ppb	0.000	-843.10	93	100	
Tl	205	2	165	0.032	ppb	0.032	25.98	410	2000	
Pb	208	2	165	0.222	ppb	0.222	13.96	3590	5000	
Th	232	2	165	0.213	ppb	0.213	10.32	3157	2000	
U	238	2	165	2.061	ppb	2.061	1.75	34025	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	765706	0.40	911621	83.99	60	120	
Sc (IS)	45	1	HMI H2	46454028	0.43	50068556	92.78	60	120	
Sc (IS)	45	2	HMI He	423810	0.76	451776	93.81	60	120	
Sc (IS)	45	3	No Gas	111214835	0.71	123511628	90.04	60	120	
Ge Internal Standard	72	1	HMI H2	23462110	0.80	25603826	91.64	60	120	
Ge Internal Standard	72	2	HMI He	675797	0.17	720714	93.77	60	120	
In Internal Standard	115	2	HMI He	1685651	1.14	1819211	92.66	60	120	
Ho-165	165	2	HMI He	14338631	0.27	15094203	94.99	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-21-b
Data File Name	193SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:29:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	21.795	ppb	21.795	4.84	91099	500000	
Li	7	2	45	32.723	ppb	32.723	18.97	4537	500000	
Li	7	3	45	28.696	ppb	28.696	16.08	4498772	50000	
Be	9	1	6	-0.038	ppb	-0.038	-115.31	7	2000	
B	11	1	6	1562.332	ppb	1562.332	0.93	485695	2000	
Na	23	1	45	260121.137	ppb	260121.137	0.15	942883426	2000	>LDR
Na	23	2	45	247391.898	ppb	247391.898	0.36	28480576	400000	
Mg	24	2	45	23877.475	ppb	23877.475	3.34	1124211	400000	
Al	27	2	45	67.259	ppb	67.259	17.70	687	400000	
K	39	1	45	6880.074	ppb	6880.074	1.27	38694625	400000	
K	39	2	45	7786.697	ppb	7786.697	0.44	145139	400000	
Ca	40	1	45	63265.512	ppb	63265.512	0.46	444273100	400000	
Ca	44	2	45	83795.901	ppb	83795.901	2.99	101461	400000	
Ti	47	2	45	1091.386	ppb	1091.386	68.51	43	4000	
V	51	2	72	-0.156	ppb	-0.156	-98.12	-75	2000	
Cr	52	2	72	1.525	ppb	1.525	15.84	1884	5000	
Mn	55	2	72	2.394	ppb	2.394	24.94	680	10000	
Fe	57	2	72	60.976	ppb	60.976	4.81	1217	400000	
Co	59	2	72	0.045	ppb	0.045	23.87	127	2000	
Ni	60	2	72	0.923	ppb	0.923	24.30	700	5000	
Cu	63	2	72	0.463	ppb	0.463	23.23	2984	5000	
Zn	66	2	72	1.811	ppb	1.811	7.80	467	5000	
As	75	2	72	0.624	ppb	0.624	4.80	75	2000	
Se	78	1	72	0.087	ppb	0.087	28.75	81	2000	
Sr	88	2	72	3837.062	ppb	3837.062	1.51	890777	4000	
Zr	90	2	72	2.801	ppb	2.801	90.23	67	1000	
Nb	93	2	72	0.319	ppb	0.319	14.15	1153	200	
Mo	95	2	115	4.681	ppb	4.681	6.19	3964	2000	
Pd	105	2	115	0.010	ppb	0.010	152.71	37	100	
Ag	107	2	115	0.003	ppb	0.003	405.20	70	100	
Cd	111	2	115	-0.032	ppb	-0.032	-62.74	3	2000	
Sn	120	2	115	0.071	ppb	0.071	169.68	120	2000	
Sb	121	2	115	0.060	ppb	0.060	90.56	57	1000	
Ba	137	2	115	25.706	ppb	25.706	8.28	4044	5000	
W	182	2	165	0.354	ppb	0.354	1.90	2694	100	
Pt	195	2	165	0.001	ppb	0.001	714.64	97	100	
Tl	205	2	165	0.021	ppb	0.021	32.08	307	2000	
Pb	208	2	165	0.098	ppb	0.098	4.57	2137	5000	
Th	232	2	165	0.097	ppb	0.097	10.04	1467	2000	
U	238	2	165	0.830	ppb	0.830	3.83	13463	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	752034	0.80	911621	82.49	60	120	
Sc (IS)	45	1	HMI H2	45530506	0.27	50068556	90.94	60	120	
Sc (IS)	45	2	HMI He	418280	0.98	451776	92.59	60	120	
Sc (IS)	45	3	No Gas	111824442	0.85	123511628	90.54	60	120	
Ge Internal Standard	72	1	HMI H2	23009327	1.03	25603826	89.87	60	120	
Ge Internal Standard	72	2	HMI He	665916	1.21	720714	92.40	60	120	
In Internal Standard	115	2	HMI He	1677785	2.01	1819211	92.23	60	120	
Ho-165	165	2	HMI He	14063055	2.21	15094203	93.17	60	120	

Sample Table

Sample Name	280-90393-a-22-b
Data File Name	194SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:33:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.041	ppb	8.041	44.91	88473	500000	
Li	7	2	45	15.738	ppb	15.738	31.79	4337	500000	
Li	7	3	45	19.807	ppb	19.807	18.15	4344119	50000	
Be	9	1	6	-0.026	ppb	-0.026	-143.65	10	2000	
B	11	1	6	1899.558	ppb	1899.558	1.57	593566	2000	
Na	23	1	45	271549.248	ppb	271549.248	0.73	1001063425	2000	>LDR
Na	23	2	45	255828.512	ppb	255828.512	0.93	29780251	400000	
Mg	24	2	45	16593.098	ppb	16593.098	1.60	790063	400000	
Al	27	2	45	61.499	ppb	61.499	11.33	640	400000	
K	39	1	45	6605.830	ppb	6605.830	1.05	38156374	400000	
K	39	2	45	7492.320	ppb	7492.320	1.08	141389	400000	
Ca	40	1	45	39196.972	ppb	39196.972	0.70	279984949	400000	
Ca	44	2	45	54221.355	ppb	54221.355	0.93	66383	400000	
Ti	47	2	45	332.624	ppb	332.624	328.33	20	4000	
V	51	2	72	0.212	ppb	0.212	75.54	211	2000	
Cr	52	2	72	0.135	ppb	0.135	13.62	430	5000	
Mn	55	2	72	3.567	ppb	3.567	26.88	1003	10000	
Fe	57	2	72	355.959	ppb	355.959	5.23	6518	400000	
Co	59	2	72	0.066	ppb	0.066	25.67	177	2000	
Ni	60	2	72	0.099	ppb	0.099	69.93	120	5000	
Cu	63	2	72	0.415	ppb	0.415	23.94	2894	5000	
Zn	66	2	72	1.579	ppb	1.579	27.08	427	5000	
As	75	2	72	0.078	ppb	0.078	66.45	16	2000	
Se	78	1	72	-0.009	ppb	-0.009	-241.15	29	2000	
Sr	88	2	72	2862.343	ppb	2862.343	0.92	667522	4000	
Zr	90	2	72	9.931	ppb	9.931	46.30	127	1000	
Nb	93	2	72	0.202	ppb	0.202	29.43	777	200	
Mo	95	2	115	1.164	ppb	1.164	6.19	993	2000	
Pd	105	2	115	0.005	ppb	0.005	241.60	30	100	
Ag	107	2	115	0.000	ppb	0.000	2548.76	63	100	
Cd	111	2	115	-0.020	ppb	-0.020	-200.84	7	2000	
Sn	120	2	115	0.123	ppb	0.123	50.84	157	2000	
Sb	121	2	115	0.003	ppb	0.003	998.41	23	1000	
Ba	137	2	115	35.448	ppb	35.448	4.73	5621	5000	
W	182	2	165	0.422	ppb	0.422	6.61	3190	100	
Pt	195	2	165	0.001	ppb	0.001	263.34	103	100	
Tl	205	2	165	0.015	ppb	0.015	82.13	260	2000	
Pb	208	2	165	0.088	ppb	0.088	12.13	2050	5000	
Th	232	2	165	0.046	ppb	0.046	22.88	770	2000	
U	238	2	165	0.065	ppb	0.065	14.93	1130	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	759711	0.30	911621	83.34	60	120	
Sc (IS)	45	1	HMI H2	46305421	0.31	50068556	92.48	60	120	
Sc (IS)	45	2	HMI He	422968	0.91	451776	93.62	60	120	
Sc (IS)	45	3	No Gas	111114725	1.09	123511628	89.96	60	120	
Ge Internal Standard	72	1	HMI H2	23455731	0.71	25603826	91.61	60	120	
Ge Internal Standard	72	2	HMI He	668853	0.75	720714	92.80	60	120	
In Internal Standard	115	2	HMI He	1690658	0.54	1819211	92.93	60	120	
Ho-165	165	2	HMI He	14281569	0.56	15094203	94.62	60	120	

Sample Report

Sample Table

Sample Name	280-90393-a-23-b
Data File Name	195SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:37:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-11.309	ppb	-11.309	-7.35	83236	500000	
Li	7	2	45	-2.015	ppb	-2.015	-785.03	4084	500000	
Li	7	3	45	-7.865	ppb	-7.865	-26.63	4040724	50000	
Be	9	1	6	-0.040	ppb	-0.040	-99.23	7	2000	
B	11	1	6	53.796	ppb	53.796	7.28	32603	2000	
Na	23	1	45	212.632	ppb	212.632	4.24	1102128	2000	
Na	23	2	45	181.557	ppb	181.557	4.89	32777	400000	
Mg	24	2	45	4.061	ppb	4.061	69.09	413	400000	
Al	27	2	45	0.158	ppb	0.158	3030.96	70	400000	
K	39	1	45	-1030.103	ppb	-1030.103	-0.19	4868172	400000	
K	39	2	45	7.915	ppb	7.915	382.60	4744	400000	
Ca	40	1	45	23.649	ppb	23.649	8.74	283446	400000	
Ca	44	2	45	41.826	ppb	41.826	35.25	70	400000	
Ti	47	2	45	-87.478	ppb	-87.478	-416.64	7	4000	
V	51	2	72	0.144	ppb	0.144	56.61	161	2000	
Cr	52	2	72	0.441	ppb	0.441	21.56	763	5000	
Mn	55	2	72	0.115	ppb	0.115	140.35	67	10000	
Fe	57	2	72	6.609	ppb	6.609	23.97	250	400000	
Co	59	2	72	0.005	ppb	0.005	183.31	33	2000	
Ni	60	2	72	0.041	ppb	0.041	35.50	80	5000	
Cu	63	2	72	0.015	ppb	0.015	413.80	2084	5000	
Zn	66	2	72	1.033	ppb	1.033	53.90	333	5000	
As	75	2	72	0.022	ppb	0.022	122.62	10	2000	
Se	78	1	72	-0.010	ppb	-0.010	-366.95	29	2000	
Sr	88	2	72	0.539	ppb	0.539	32.30	143	4000	
Zr	90	2	72	-0.518	ppb	-0.518	-802.56	40	1000	
Nb	93	2	72	0.059	ppb	0.059	17.14	317	200	
Mo	95	2	115	0.015	ppb	0.015	42.97	13	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-73.60	7	100	
Ag	107	2	115	-0.004	ppb	-0.004	-147.79	50	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	-0.004	ppb	-0.004	-2619.36	73	2000	
Sb	121	2	115	-0.021	ppb	-0.021	-80.58	10	1000	
Ba	137	2	115	0.125	ppb	0.125	123.72	27	5000	
W	182	2	165	0.009	ppb	0.009	25.70	443	100	
Pt	195	2	165	0.001	ppb	0.001	694.61	100	100	
Tl	205	2	165	0.013	ppb	0.013	16.12	240	2000	
Pb	208	2	165	0.037	ppb	0.037	94.66	1470	5000	
Th	232	2	165	0.007	ppb	0.007	2.02	210	2000	
U	238	2	165	0.003	ppb	0.003	63.07	107	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	815228	0.49	911621	89.43	60	120	
Sc (IS)	45	1	HMI H2	46662699	0.47	50068556	93.20	60	120	
Sc (IS)	45	2	HMI He	424065	1.10	451776	93.87	60	120	
Sc (IS)	45	3	No Gas	113606625	0.35	123511628	91.98	60	120	
Ge Internal Standard	72	1	HMI H2	23938934	0.46	25603826	93.50	60	120	
Ge Internal Standard	72	2	HMI He	679695	1.21	720714	94.31	60	120	
In Internal Standard	115	2	HMI He	1734425	0.30	1819211	95.34	60	120	
Ho-165	165	2	HMI He	14219116	0.93	15094203	94.20	60	120	

Sample Table

Sample Name	280-90393-a-24-b
Data File Name	196SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:40:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.896	ppb	10.896	2.27	87840	500000	
Li	7	2	45	16.780	ppb	16.780	40.00	4317	500000	
Li	7	3	45	12.152	ppb	12.152	29.85	4227012	50000	
Be	9	1	6	-0.051	ppb	-0.051	-42.78	3	2000	
B	11	1	6	1279.137	ppb	1279.137	0.20	402051	2000	
Na	23	1	45	233229.567	ppb	233229.567	0.62	845381294	2000	>LDR
Na	23	2	45	219339.857	ppb	219339.857	0.60	25328796	400000	
Mg	24	2	45	9989.408	ppb	9989.408	1.33	471913	400000	
Al	27	2	45	6.356	ppb	6.356	52.51	127	400000	
K	39	1	45	4576.656	ppb	4576.656	1.41	28808291	400000	
K	39	2	45	5552.781	ppb	5552.781	1.50	105117	400000	
Ca	40	1	45	26238.428	ppb	26238.428	0.93	184306591	400000	
Ca	44	2	45	36675.335	ppb	36675.335	0.73	44546	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	0.483	ppb	0.483	43.01	422	2000	
Cr	52	2	72	0.056	ppb	0.056	119.10	347	5000	
Mn	55	2	72	3.111	ppb	3.111	23.02	880	10000	
Fe	57	2	72	25.929	ppb	25.929	10.62	593	400000	
Co	59	2	72	0.024	ppb	0.024	58.00	77	2000	
Ni	60	2	72	0.667	ppb	0.667	9.71	523	5000	
Cu	63	2	72	1.099	ppb	1.099	13.04	4347	5000	
Zn	66	2	72	3.443	ppb	3.443	11.18	763	5000	
As	75	2	72	0.602	ppb	0.602	18.24	73	2000	
Se	78	1	72	0.055	ppb	0.055	35.47	64	2000	
Sr	88	2	72	1834.691	ppb	1834.691	0.97	428293	4000	
Zr	90	2	72	4.338	ppb	4.338	82.34	80	1000	
Nb	93	2	72	0.080	ppb	0.080	17.70	380	200	
Mo	95	2	115	3.880	ppb	3.880	9.81	3260	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-449.63	17	100	
Ag	107	2	115	-0.009	ppb	-0.009	-94.92	30	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.097	ppb	0.097	33.66	137	2000	
Sb	121	2	115	0.003	ppb	0.003	1641.99	23	1000	
Ba	137	2	115	49.731	ppb	49.731	1.83	7765	5000	
W	182	2	165	1.979	ppb	1.979	1.23	13463	100	
Pt	195	2	165	0.001	ppb	0.001	816.53	100	100	
Tl	205	2	165	0.015	ppb	0.015	52.69	260	2000	
Pb	208	2	165	0.053	ppb	0.053	10.35	1647	5000	
Th	232	2	165	0.014	ppb	0.014	31.12	313	2000	
U	238	2	165	0.167	ppb	0.167	7.55	2790	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	755553	0.65	911621	82.88	60	120	
Sc (IS)	45	1	HMI H2	45528086	0.49	50068556	90.93	60	120	
Sc (IS)	45	2	HMI He	419544	0.24	451776	92.87	60	120	
Sc (IS)	45	3	No Gas	110887178	0.92	123511628	89.78	60	120	
Ge Internal Standard	72	1	HMI H2	23129272	0.28	25603826	90.34	60	120	
Ge Internal Standard	72	2	HMI He	669535	0.54	720714	92.90	60	120	
In Internal Standard	115	2	HMI He	1665382	1.38	1819211	91.54	60	120	
Ho-165	165	2	HMI He	14220646	0.62	15094203	94.21	60	120	

Sample Report

Sample Table

Sample Name	280-90393-c-30-b
Data File Name	197SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:44:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350338 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	46.420	ppb	46.420	11.30	96064	500000	
Li	7	2	45	64.679	ppb	64.679	35.64	4948	500000	
Li	7	3	45	55.827	ppb	55.827	4.84	4971471	50000	
Be	9	1	6	-0.037	ppb	-0.037	-122.79	7	2000	
B	11	1	6	720.478	ppb	720.478	0.84	221705	2000	
Na	23	1	45	199849.706	ppb	199849.706	0.28	706897776	2000	>LDR
Na	23	2	45	190132.219	ppb	190132.219	0.88	21648979	400000	
Mg	24	2	45	59459.837	ppb	59459.837	1.22	2768284	400000	
Al	27	2	45	50.780	ppb	50.780	29.88	530	400000	
K	39	1	45	8379.365	ppb	8379.365	0.64	44033736	400000	
K	39	2	45	9314.729	ppb	9314.729	0.16	170825	400000	
Ca	40	1	45	263402.329	ppb	263402.329	0.28	1804455600	400000	
Ca	44	2	45	306910.145	ppb	306910.145	0.90	367405	400000	
Ti	47	2	45	990.316	ppb	990.316	117.19	40	4000	
V	51	2	72	0.386	ppb	0.386	122.36	344	2000	
Cr	52	2	72	4.390	ppb	4.390	0.93	4828	5000	
Mn	55	2	72	3.557	ppb	3.557	9.53	983	10000	
Fe	57	2	72	130.585	ppb	130.585	15.04	2427	400000	
Co	59	2	72	0.066	ppb	0.066	29.50	173	2000	
Ni	60	2	72	2.441	ppb	2.441	8.17	1750	5000	
Cu	63	2	72	0.538	ppb	0.538	22.86	3100	5000	
Zn	66	2	72	3.503	ppb	3.503	28.92	760	5000	
As	75	2	72	2.218	ppb	2.218	14.05	244	2000	
Se	78	1	72	0.140	ppb	0.140	20.56	108	2000	
Sr	88	2	72	10464.689	ppb	10464.689	0.82	2400079	4000	
Zr	90	2	72	4.446	ppb	4.446	148.74	80	1000	
Nb	93	2	72	0.068	ppb	0.068	8.09	337	200	
Mo	95	2	115	5.098	ppb	5.098	4.87	4274	2000	
Pd	105	2	115	0.016	ppb	0.016	138.51	47	100	
Ag	107	2	115	0.001	ppb	0.001	767.26	63	100	
Cd	111	2	115	0.005	ppb	0.005	911.14	13	2000	
Sn	120	2	115	0.016	ppb	0.016	381.05	83	2000	
Sb	121	2	115	0.265	ppb	0.265	26.17	173	1000	
Ba	137	2	115	28.571	ppb	28.571	5.40	4447	5000	
W	182	2	165	0.066	ppb	0.066	24.77	810	100	
Pt	195	2	165	0.003	ppb	0.003	30.90	117	100	
Tl	205	2	165	0.023	ppb	0.023	46.90	327	2000	
Pb	208	2	165	0.155	ppb	0.155	18.58	2764	5000	
Th	232	2	165	0.038	ppb	0.038	18.77	647	2000	
U	238	2	165	0.262	ppb	0.262	1.07	4291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	720409	0.22	911621	79.03	60	120	
Sc (IS)	45	1	HMI H2	44425656	0.51	50068556	88.73	60	120	
Sc (IS)	45	2	HMI He	413675	1.80	451776	91.57	60	120	
Sc (IS)	45	3	No Gas	113782835	1.19	123511628	92.12	60	120	
Ge Internal Standard	72	1	HMI H2	22531856	0.58	25603826	88.00	60	120	
Ge Internal Standard	72	2	HMI He	657757	1.77	720714	91.26	60	120	
In Internal Standard	115	2	HMI He	1659898	1.68	1819211	91.24	60	120	
Ho-165	165	2	HMI He	14047690	2.22	15094203	93.07	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	198_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:48:30-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	489.112	ppb	1.483	240228	500	97.8	90	110	
Li	7	2	45	502.012	ppb	10.064	11664	500	100.4	90	110	
Li	7	3	45	489.594	ppb	0.716	11702315	500	97.9	90	110	
Be	9	1	6	48.647	ppb	1.026	14039	50	97.3	90	110	
B	11	1	6	61.198	ppb	1.519	34984	50	122.4	90	110	>+\-10%
Na	23	1	45	5232.491	ppb	0.126	20070758	5000	104.6	90	110	
Na	23	2	45	5031.571	ppb	0.277	604142	5000	100.6	90	110	
Mg	24	2	45	5158.435	ppb	0.813	248692	5000	103.2	90	110	
Al	27	2	45	5034.694	ppb	0.891	47416	5000	100.7	90	110	
K	39	1	45	4927.474	ppb	1.855	31580070	5000	98.5	90	110	
K	39	2	45	5111.965	ppb	1.627	99101	5000	102.2	90	110	
Ca	40	1	45	5262.283	ppb	0.457	38602549	5000	105.2	90	110	
Ca	44	2	45	5050.638	ppb	1.908	6275	5000	101.0	90	110	
Ti	47	2	45	-297.903	ppb	0.000	0	50	-595.8	90	110	>+\-10%
V	51	2	72	52.497	ppb	2.060	41774	50	105.0	90	110	
Cr	52	2	72	49.612	ppb	1.737	53554	50	99.2	90	110	
Mn	55	2	72	51.945	ppb	3.482	14416	50	103.9	90	110	
Fe	57	2	72	5096.974	ppb	1.739	93461	5000	101.9	90	110	
Co	59	2	72	51.886	ppb	1.258	123384	50	103.8	90	110	
Ni	60	2	72	52.046	ppb	0.745	37711	50	104.1	90	110	
Cu	63	2	72	51.424	ppb	0.183	112997	50	102.8	90	110	
Zn	66	2	72	50.361	ppb	1.640	9403	50	100.7	90	110	
As	75	2	72	51.315	ppb	1.444	5682	50	102.6	90	110	
Se	78	1	72	51.925	ppb	1.753	30190	50	103.8	90	110	
Sr	88	2	72	52.699	ppb	3.162	12548	50	105.4	90	110	
Zr	90	2	72	16.278	ppb	40.375	183	50	32.6	90	110	>+\-10%
Nb	93	2	72	98.846	ppb	0.211	328097	100	98.8	90	110	
Mo	95	2	115	51.586	ppb	0.970	44649	50	103.2	90	110	
Pd	105	2	115	51.952	ppb	1.339	85654	50	103.9	90	110	
Ag	107	2	115	51.532	ppb	0.671	180124	50	103.1	90	110	
Cd	111	2	115	50.783	ppb	0.481	14700	50	101.6	90	110	
Sn	120	2	115	49.986	ppb	2.159	34149	50	100.0	90	110	
Sb	121	2	115	49.802	ppb	3.524	29427	50	99.6	90	110	
Ba	137	2	115	54.610	ppb	1.900	8783	50	109.2	90	110	
W	182	2	165	50.005	ppb	0.619	333935	50	100.0	90	110	
Pt	195	2	165	50.140	ppb	1.129	346980	50	100.3	90	110	
Tl	205	2	165	51.383	ppb	1.199	455346	50	102.8	90	110	
Pb	208	2	165	51.820	ppb	0.429	592211	50	103.6	90	110	
Th	232	2	165	50.038	ppb	1.114	715582	50	100.1	90	110	
U	238	2	165	49.075	ppb	1.067	810081	50	98.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	814305	0.72	911621	89.32	60	120	
Sc (IS)	45	1	HMI H2	47433913	1.26	50068556	94.74	60	120	
Sc (IS)	45	2	HMI He	427980	1.65	451776	94.73	60	120	
Sc (IS)	45	3	No Gas	118150715	0.73	123511628	95.66	60	120	
Ge Internal Standard	72	1	HMI H2	24328085	0.94	25603826	95.02	60	120	
Ge Internal Standard	72	2	HMI He	682286	1.40	720714	94.67	60	120	
In Internal Standard	115	2	HMI He	1714784	1.81	1819211	94.26	60	120	
Ho-165	165	2	HMI He	14360220	1.79	15094203	95.14	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	199_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:52:16-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-8.507	ppb	-15.2	4117205	10	
Be	9	1	6	0.028	ppb	377.7	27	0.5	
B	11	1	6	6.118	ppb	10.7	17416	0.5	>RL
Na	23	1	45	48.813	ppb	0.7	504568	25	>RL
Na	23	2	45	43.656	ppb	18.7	16932	25	>RL
Mg	24	2	45	4.775	ppb	8.9	453	25	
Al	27	2	45	-0.676	ppb	-655.2	63	15	
K	39	1	45	-71.024	ppb	-5.9	9286423	50	
K	39	2	45	1.859	ppb	270.0	4701	50	
Ca	40	1	45	14.573	ppb	5.7	222918	50	
Ca	44	2	45	35.465	ppb	101.3	63	25	>RL
Ti	47	2	45	13.278	ppb	2350.5	10	0.5	>RL
V	51	2	72	0.000	ppb	16311.6	48	1	
Cr	52	2	72	-0.075	ppb	-70.3	217	1	
Mn	55	2	72	0.015	ppb	226.8	40	0.5	
Fe	57	2	72	4.143	ppb	92.6	210	25	
Co	59	2	72	0.014	ppb	118.9	57	0.5	
Ni	60	2	72	-0.011	ppb	-73.6	43	1	
Cu	63	2	72	-0.009	ppb	-395.6	2080	1	
Zn	66	2	72	-0.025	ppb	-445.1	143	5	
As	75	2	72	0.044	ppb	181.2	13	1	
Se	78	1	72	0.003	ppb	760.5	37	1	
Sr	88	2	72	0.456	ppb	46.2	127	0.5	
Zr	90	2	72	-1.363	ppb	-130.0	33	1	
Nb	93	2	72	1.001	ppb	1.0	3514	2	
Mo	95	2	115	0.064	ppb	21.2	57	0.5	
Pd	105	2	115	0.040	ppb	60.2	90	1	
Ag	107	2	115	0.013	ppb	70.6	113	1	
Cd	111	2	115	-0.010	ppb	-349.6	10	0.5	
Sn	120	2	115	0.042	ppb	129.4	107	1	
Sb	121	2	115	0.067	ppb	51.7	63	0.6	
Ba	137	2	115	0.042	ppb	167.1	13	0.5	
W	182	2	165	0.055	ppb	39.6	777	1	
Pt	195	2	165	0.017	ppb	67.3	220	1	
Tl	205	2	165	0.046	ppb	21.6	553	0.1	
Pb	208	2	165	0.024	ppb	60.0	1367	0.5	
Th	232	2	165	0.059	ppb	10.6	980	1	
U	238	2	165	0.022	ppb	35.2	437	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	835645	0.86	911621	91.67	60	120	
Sc (IS)	45	1	HMI H2	47690673	0.28	50068556	95.25	60	120	
Sc (IS)	45	2	HMI He	430135	0.52	451776	95.21	60	120	
Sc (IS)	45	3	No Gas	116024688	0.37	123511628	93.94	60	120	
Ge Internal Standard	72	1	HMI H2	24579115	0.85	25603826	96.00	60	120	
Ge Internal Standard	72	2	HMI He	696076	0.54	720714	96.58	60	120	
In Internal Standard	115	2	HMI He	1767627	0.93	1819211	97.16	60	120	
Ho-165	165	2	HMI He	14758458	1.50	15094203	97.78	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	200LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:56:05-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	42.957	ppb	13.429	4840030	50	85.9	70	130	
Be	9	1	6	0.834	ppb	13.094	267	1	83.4	70	130	
Na	23	2	45	72.942	ppb	9.076	20672	50	145.9	70	130	>+/-30%
Mg	24	2	45	61.250	ppb	9.587	3230	50	122.5	70	130	
Al	27	2	45	31.241	ppb	24.135	370	30	104.1	70	130	
K	39	2	45	84.766	ppb	23.576	6325	100	84.8	70	130	
Ca	44	2	45	50.747	ppb	23.891	83	50	101.5	70	130	
V	51	2	72	5.175	ppb	5.559	4316	5	103.5	70	130	
Cr	52	2	72	1.916	ppb	18.206	2440	2	95.8	70	130	
Mn	55	2	72	1.162	ppb	23.502	370	1	116.2	70	130	
Fe	57	2	72	46.778	ppb	6.654	1023	50	93.6	70	130	
Co	59	2	72	0.906	ppb	10.535	2257	1	90.6	70	130	
Ni	60	2	72	1.902	ppb	8.673	1480	2	95.1	70	130	
Cu	63	2	72	2.092	ppb	7.888	6818	2	104.6	70	130	
Zn	66	2	72	10.289	ppb	9.749	2114	10	102.9	70	130	
As	75	2	72	4.611	ppb	11.410	537	5	92.2	70	130	
Se	78	1	72	5.257	ppb	2.868	3150	5	105.1	70	130	
Sr	88	2	72	1.257	ppb	20.471	327	1	125.7	70	130	
Zr	90	2	72	12.834	ppb	14.860	160	0.5	2566.7	70	130	>+/-30%
Nb	93	2	72	1.431	ppb	10.173	5054	2	71.6	70	130	
Mo	95	2	115	1.972	ppb	3.723	1763	2	98.6	70	130	
Pd	105	2	115	0.041	ppb	20.947	93	1	4.1	70	130	>+/-30%
Ag	107	2	115	4.752	ppb	2.649	17219	5	95.0	70	130	
Cd	111	2	115	1.127	ppb	17.899	350	1	112.7	70	130	
Sn	120	2	115	9.336	ppb	5.462	6655	10	93.4	70	130	
Sb	121	2	115	1.918	ppb	2.832	1193	2	95.9	70	130	
Ba	137	2	115	1.407	ppb	8.607	240	1	140.7	70	130	>+/-30%
W	182	2	165	4.949	ppb	0.538	34551	1	494.9	70	130	>+/-30%
Pt	195	2	165	0.006	ppb	205.191	140	1	0.6	70	130	>+/-30%
Tl	205	2	165	1.027	ppb	0.593	9550	1	102.7	70	130	
Pb	208	2	165	1.032	ppb	1.775	13273	1	103.2	70	130	
Th	232	2	165	2.029	ppb	3.303	30134	2	101.5	70	130	
U	238	2	165	0.972	ppb	1.813	16663	1	97.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	840480	0.72	911621	92.20	60	120	
Sc (IS)	45	1	HMI H2	48576094	0.38	50068556	97.02	60	120	
Sc (IS)	45	2	HMI He	435945	0.12	451776	96.50	60	120	
Sc (IS)	45	3	No Gas	115102175	0.92	123511628	93.19	60	120	
Ge Internal Standard	72	1	HMI H2	24811805	0.69	25603826	96.91	60	120	
Ge Internal Standard	72	2	HMI He	707927	0.30	720714	98.23	60	120	
In Internal Standard	115	2	HMI He	1771658	0.69	1819211	97.39	60	120	
Ho-165	165	2	HMI He	14854755	0.75	15094203	98.41	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350210/1-a
Data File Name	201_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T03:59:54-07:00
Sample Type	Blank
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-14.735	ppb	-9.278761062	84133	0.5
Li	7	2	45	-4.936	ppb	-322.8660033	4154	0.5
Li	7	3	45	-10.702	ppb	-14.17093595	3968717	10
Be	9	1	6	-0.052	ppb	-38.72300296	3	0.5
B	11	1	6	0.286	ppb	829.5125268	15140	0.5
Na	23	1	45	119.554	ppb	1.988844043	774262	25
Na	23	2	45	105.029	ppb	1.329596697	24520	25
Mg	24	2	45	39.577	ppb	8.220351884	2167	25
Al	27	2	45	50.720	ppb	31.45257858	557	15
K	39	1	45	-974.777	ppb	-2.304366044	5231937	50
K	39	2	45	-7.305	ppb	-158.3982332	4591	50
Ca	40	1	45	135.914	ppb	1.839092721	1116912	50
Ca	44	2	45	114.374	ppb	35.7158895	163	25
Ti	47	2	45	-297.903	ppb	-1.81092E-06	0	0.5
V	51	2	72	1.186	ppb	46.36241035	1011	1
Cr	52	2	72	20.072	ppb	1.045323324	22335	1
Mn	55	2	72	5.773	ppb	18.27715589	1670	0.5
Fe	57	2	72	304.498	ppb	5.595476726	5835	25
Co	59	2	72	0.062	ppb	19.76578076	173	0.5
Ni	60	2	72	0.894	ppb	17.23059554	713	1
Cu	63	2	72	1.584	ppb	4.835383385	5598	1
Zn	66	2	72	1.337	ppb	34.39129372	400	5
As	75	2	72	0.026	ppb	195.5085132	11	1
Se	78	1	72	-0.008	ppb	-386.869513	31	1
Sr	88	2	72	0.632	ppb	23.03589466	170	0.5
Zr	90	2	72	7.012	ppb	62.18937558	107	1
Nb	93	2	72	0.181	ppb	6.418319119	740	2
Mo	95	2	115	0.167	ppb	28.2256768	150	0.5
Pd	105	2	115	0.000	ppb	1102.400102	23	1
Ag	107	2	115	-0.007	ppb	-69.20848069	40	1
Cd	111	2	115	-0.043	ppb	0	0	0.5
Sn	120	2	115	0.149	ppb	22.16138243	183	1
Sb	121	2	115	0.028	ppb	155.890349	40	0.6
Ba	137	2	115	0.846	ppb	60.33535182	147	0.5
W	182	2	165	0.039	ppb	24.6099846	673	1
Pt	195	2	165	0.010	ppb	41.59431037	170	1
Tl	205	2	165	0.037	ppb	36.10813932	473	0.1
Pb	208	2	165	0.136	ppb	1.457563548	2710	0.5
Th	232	2	165	0.071	ppb	12.58148535	1177	1
U	238	2	165	0.016	ppb	25.56526337	333	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	818391	0.44	911621	89.77	60	120	
Sc (IS)	45	1	HMI H2	47767963	1.02	50068556	95.41	60	120	
Sc (IS)	45	2	HMI He	435958	0.79	451776	96.50	60	120	
Sc (IS)	45	3	No Gas	112729578	0.62	123511628	91.27	60	120	
Ge Internal Standard	72	1	HMI H2	24406949	0.90	25603826	95.33	60	120	
Ge Internal Standard	72	2	HMI He	697618	0.56	720714	96.80	60	120	
In Internal Standard	115	2	HMI He	1776102	1.25	1819211	97.63	60	120	
Ho-165	165	2	HMI He	14920985	0.87	15094203	98.85	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350210/2-a
Data File Name	202LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:03:44-07:00
Sample Type	LCS-s
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350210 SOIL 6020A
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	188.474	188.474	ppb	0.623	54250	200	94.2	80	120	
Na	23	2	45	143.642	143.642	ppb	3.623	29227	200	71.8	80	120	NewName Main CR1 Failed
Mg	24	2	45	55.935	55.935	ppb	7.887	2977	200000	0.0	80	120	NewName Main CR1 Failed
Al	27	2	45	1897.752	1897.752	ppb	4.221	18296	200000	0.9	80	120	NewName Main CR1 Failed
K	39	2	45	-20.164	-20.164	ppb	-63.216	4361	200000	0.0	80	120	NewName Main CR1 Failed
Ca	44	2	45	1592.432	1592.432	ppb	7.072	2034	200000	0.8	80	120	NewName Main CR1 Failed
V	51	2	72	192.083	192.083	ppb	0.909	157206	200	96.0	80	120	
Cr	52	2	72	188.172	188.172	ppb	1.228	208283	200	94.1	80	120	
(Cr)	53	2	72	182.539	182.539	ppb	3.290	25269	200	91.3	80	120	
Mn	55	2	72	191.516	191.516	ppb	1.575	54608	200	95.8	80	120	
Fe	57	2	72	1957.177	1957.177	ppb	1.053	37023	200000	1.0	80	120	NewName Main CR1 Failed
Co	59	2	72	191.766	191.766	ppb	1.151	469368	200	95.9	80	120	
Ni	60	2	72	192.359	192.359	ppb	1.167	143335	200	96.2	80	120	
Cu	63	2	72	190.134	190.134	ppb	0.579	424387	200	95.1	80	120	
Zn	66	2	72	181.815	181.815	ppb	1.735	34558	200	90.9	80	120	
As	75	2	72	187.720	187.720	ppb	1.605	21377	200	93.9	80	120	
Se	78	1	72	182.810	182.810	ppb	0.643	107074	200	91.4	80	120	
(Se)	82	1	72	197.183	197.183	ppb	0.541	50915	200	98.6	80	120	
Nb	93	2	72	0.129	0.129	ppb	17.661	567	400	0.0	80	120	NewName Main CR1 Failed
Mo	95	2	115	196.360	196.360	ppb	0.574	176955	200	98.2	80	120	
Pd	105	2	115	0.004	0.004	ppb	140.908	30	200	0.0	80	120	NewName Main CR1 Failed
Ag	107	2	115	186.184	186.184	ppb	0.189	677378	200	93.1	80	120	
Cd	111	2	115	191.413	191.413	ppb	1.783	57648	200	95.7	80	120	
(Cd)	114	2	115	189.759	189.759	ppb	0.972	150835	200	94.9	80	120	
Sn	120	2	115	185.425	185.425	ppb	0.821	131703	200	92.7	80	120	
Sb	121	2	115	189.980	189.980	ppb	0.980	116850	200	95.0	80	110	
Ba	137	2	115	199.683	199.683	ppb	1.303	33411	200	99.8	80	120	
W	182	2	165	184.370	184.370	ppb	0.566	1274974	200	92.2	80	120	
Pt	195	2	165	0.013	0.013	ppb	57.913	193	200	0.0	80	120	NewName Main CR1 Failed
Tl	205	2	165	199.149	199.149	ppb	0.676	1828797	200	99.6	80	120	
(Pb)	206	2	165	191.558	191.558	ppb	0.943	543530	200	95.8	80	120	
(Pb)	207	2	165	192.744	192.744	ppb	0.782	504021	200	96.4	80	120	
Pb	208	2	165	192.725	192.725	ppb	1.150	2279486	200	96.4	80	120	
Th	232	2	165	192.067	192.067	ppb	1.245	2846477	200	96.0	80	120	
U	238	2	165	190.108	190.108	ppb	1.262	3252278	200	95.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	812996	0.15	911621	89.18	60	120	
Sc (IS)	45	1	HMI H2	48074173	0.38	50068556	96.02	60	120	
Sc (IS)	45	2	HMI He	437070	0.17	451776	96.74	60	120	
Sc (IS)	45	3	No Gas	113493008	0.25	123511628	91.89	60	120	
Ge Internal Standard	72	1	HMI H2	24525795	0.51	25603826	95.79	60	120	
Ge Internal Standard	72	2	HMI He	702381	0.61	720714	97.46	60	120	
In Internal Standard	115	2	HMI He	1785261	0.26	1819211	98.13	60	120	
Ho-165	165	2	HMI He	14881961	0.43	15094203	98.59	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-2-a
Data File Name	203SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:07:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	72.318	ppb	72.318	5.88	111928	500000	
Li	7	2	45	100.574	ppb	100.574	19.61	5905	500000	
Li	7	3	45	84.743	ppb	84.743	5.95	5305170	50000	
Be	9	1	6	13.492	ppb	13.492	9.19	3694	2000	
B	11	1	6	19.553	ppb	19.553	2.94	20195	2000	
Na	23	1	45	633.507	ppb	633.507	0.89	2741219	2000	
Na	23	2	45	567.719	ppb	567.719	2.34	81956	400000	
Mg	24	2	45	13021.575	ppb	13021.575	0.40	654628	400000	
Al	27	2	45	176710.543	ppb	176710.543	0.48	1733817	400000	
K	39	1	45	9840.779	ppb	9840.779	0.76	54183383	400000	
K	39	2	45	10705.952	ppb	10705.952	0.96	211197	400000	
Ca	40	1	45	35337.097	ppb	35337.097	1.08	261628036	400000	
Ca	44	2	45	34618.123	ppb	34618.123	2.06	44753	400000	
Ti	47	2	45	376434.551	ppb	376434.551	2.41	12565	4000	>LDR
V	51	2	72	282.507	ppb	282.507	2.05	226937	2000	
Cr	52	2	72	176.154	ppb	176.154	1.73	191415	5000	
Mn	55	2	72	19394.993	ppb	19394.993	1.46	5425000	10000	
Fe	57	2	72	243158.187	ppb	243158.187	1.76	4499013	400000	
Co	59	2	72	120.198	ppb	120.198	0.98	288814	2000	
Ni	60	2	72	136.563	ppb	136.563	1.01	99902	5000	
Cu	63	2	72	107.601	ppb	107.601	1.77	236657	5000	
Zn	66	2	72	383.240	ppb	383.240	0.44	71344	5000	
As	75	2	72	71.096	ppb	71.096	0.91	7953	2000	
Se	78	1	72	4.945	ppb	4.945	3.01	2843	2000	
Sr	88	2	72	370.565	ppb	370.565	2.96	89098	4000	
Zr	90	2	72	10620.239	ppb	10620.239	1.83	91876	1000	>LDR
Nb	93	2	72	2.654	ppb	2.654	16.59	9030	200	
Mo	95	2	115	4.839	ppb	4.839	7.58	4261	2000	
Pd	105	2	115	0.082	ppb	0.082	50.49	160	100	
Ag	107	2	115	0.422	ppb	0.422	7.93	1563	100	
Cd	111	2	115	1.633	ppb	1.633	19.68	493	2000	
Sn	120	2	115	1.505	ppb	1.505	12.47	1120	2000	
Sb	121	2	115	0.284	ppb	0.284	24.65	193	1000	
Ba	137	2	115	2140.189	ppb	2140.189	0.92	349871	5000	
W	182	2	165	0.389	ppb	0.389	10.57	3104	100	
Pt	195	2	165	0.018	ppb	0.018	50.96	227	100	
Tl	205	2	165	3.090	ppb	3.090	1.57	28610	2000	
Pb	208	2	165	362.552	ppb	362.552	0.26	4302195	5000	
Th	232	2	165	61.560	ppb	61.560	1.33	915558	2000	
U	238	2	165	11.863	ppb	11.863	1.01	203724	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	769780	0.42	911621	84.44	60	120	
Sc (IS)	45	1	HMI H2	47996094	0.50	50068556	95.86	60	120	
Sc (IS)	45	2	HMI He	446506	0.38	451776	98.83	60	120	
Sc (IS)	45	3	No Gas	111963142	0.45	123511628	90.65	60	120	
Ge Internal Standard	72	1	HMI H2	23787385	0.62	25603826	92.91	60	120	
Ge Internal Standard	72	2	HMI He	689488	0.53	720714	95.67	60	120	
In Internal Standard	115	2	HMI He	1744548	0.33	1819211	95.90	60	120	
Ho-165	165	2	HMI He	14933835	0.72	15094203	98.94	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-2-aSD@5
Data File Name	204SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:11:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.911	ppb	3.911	78.97	92301	500000	
Li	7	2	45	17.187	ppb	17.187	65.22	4517	500000	
Li	7	3	45	2.758	ppb	2.758	125.61	4364463	50000	
Be	9	1	6	2.684	ppb	2.684	3.62	797	2000	
B	11	1	6	-5.833	ppb	-5.833	-33.38	13148	2000	
Na	23	1	45	115.857	ppb	115.857	2.16	779828	2000	
Na	23	2	45	110.455	ppb	110.455	1.83	25315	400000	
Mg	24	2	45	2621.541	ppb	2621.541	1.76	129585	400000	
Al	27	2	45	34249.463	ppb	34249.463	1.19	329995	400000	
K	39	1	45	1828.719	ppb	1828.719	1.40	18314463	400000	
K	39	2	45	2160.116	ppb	2160.116	1.45	45642	400000	
Ca	40	1	45	6992.964	ppb	6992.964	0.95	52952109	400000	
Ca	44	2	45	7195.041	ppb	7195.041	4.63	9146	400000	
Ti	47	2	45	66302.356	ppb	66302.356	7.39	2180	4000	>LDR
V	51	2	72	54.750	ppb	54.750	4.45	44324	2000	
Cr	52	2	72	33.856	ppb	33.856	0.67	37286	5000	
Mn	55	2	72	3814.963	ppb	3814.963	0.26	1074521	10000	
Fe	57	2	72	47777.823	ppb	47777.823	0.09	890267	400000	
Co	59	2	72	24.975	ppb	24.975	3.08	60440	2000	
Ni	60	2	72	28.027	ppb	28.027	1.07	20686	5000	
Cu	63	2	72	21.708	ppb	21.708	2.42	49747	5000	
Zn	66	2	72	77.850	ppb	77.850	3.08	14710	5000	
As	75	2	72	14.445	ppb	14.445	2.20	1633	2000	
Se	78	1	72	1.057	ppb	1.057	5.45	661	2000	
Sr	88	2	72	73.344	ppb	73.344	2.93	17770	4000	
Zr	90	2	72	2063.788	ppb	2063.788	4.82	18013	1000	
Nb	93	2	72	0.473	ppb	0.473	10.42	1723	200	
Mo	95	2	115	0.874	ppb	0.874	16.46	767	2000	
Pd	105	2	115	0.033	ppb	0.033	11.60	77	100	
Ag	107	2	115	0.108	ppb	0.108	16.96	447	100	
Cd	111	2	115	0.253	ppb	0.253	51.81	87	2000	
Sn	120	2	115	0.353	ppb	0.353	17.06	320	2000	
Sb	121	2	115	0.041	ppb	0.041	119.36	47	1000	
Ba	137	2	115	424.998	ppb	424.998	2.62	69257	5000	
W	182	2	165	0.074	ppb	0.074	11.26	910	100	
Pt	195	2	165	0.005	ppb	0.005	97.99	137	100	
Tl	205	2	165	0.632	ppb	0.632	3.28	5888	2000	
Pb	208	2	165	72.612	ppb	72.612	0.11	852901	5000	
Th	232	2	165	12.505	ppb	12.505	0.92	184002	2000	
U	238	2	165	2.417	ppb	2.417	2.70	41089	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	819619	0.51	911621	89.91	60	120	
Sc (IS)	45	1	HMI H2	49000296	0.86	50068556	97.87	60	120	
Sc (IS)	45	2	HMI He	438427	0.98	451776	97.05	60	120	
Sc (IS)	45	3	No Gas	118207605	0.45	123511628	95.71	60	120	
Ge Internal Standard	72	1	HMI H2	24767228	1.19	25603826	96.73	60	120	
Ge Internal Standard	72	2	HMI He	694247	0.18	720714	96.33	60	120	
In Internal Standard	115	2	HMI He	1738985	0.75	1819211	95.59	60	120	
Ho-165	165	2	HMI He	14767086	0.18	15094203	97.83	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-2-b ms
Data File Name	205SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:15:07-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	417.207	ppb	417.207	1.27	213777	500000	
Li	7	2	45	449.598	ppb	449.598	7.06	11057	500000	
Li	7	3	45	431.081	ppb	431.081	0.76	10036318	50000	
Be	9	1	6	209.915	ppb	209.915	0.59	55153	2000	
B	11	1	6	104.702	ppb	104.702	2.96	44848	2000	
Na	23	1	45	654.263	ppb	654.263	0.85	2734940	2000	
Na	23	2	45	606.789	ppb	606.789	2.91	84455	400000	
Mg	24	2	45	12350.609	ppb	12350.609	1.42	604439	400000	
Al	27	2	45	171789.957	ppb	171789.957	0.77	1640914	400000	
K	39	1	45	9709.140	ppb	9709.140	0.95	51961938	400000	
K	39	2	45	10724.109	ppb	10724.109	1.69	205949	400000	
Ca	40	1	45	31440.924	ppb	31440.924	1.02	225733497	400000	
Ca	44	2	45	32256.067	ppb	32256.067	2.73	40590	400000	
Ti	47	2	45	365796.383	ppb	365796.383	4.93	11891	4000	>LDR
V	51	2	72	490.840	ppb	490.840	0.25	382712	2000	
Cr	52	2	72	352.972	ppb	352.972	1.68	372049	5000	
Mn	55	2	72	18441.086	ppb	18441.086	0.82	5006899	10000	
Fe	57	2	72	259168.035	ppb	259168.035	0.99	4654911	400000	
Co	59	2	72	312.818	ppb	312.818	0.81	729581	2000	
Ni	60	2	72	320.676	ppb	320.676	0.34	227637	5000	
Cu	63	2	72	278.168	ppb	278.168	0.97	590637	5000	
Zn	66	2	72	542.466	ppb	542.466	1.29	97956	5000	
As	75	2	72	263.972	ppb	263.972	0.37	28639	2000	
Se	78	1	72	178.765	ppb	178.765	0.38	99315	2000	
Sr	88	2	72	526.694	ppb	526.694	1.01	122908	4000	
Zr	90	2	72	19877.639	ppb	19877.639	0.36	166870	1000	>LDR
Nb	93	2	72	2.275	ppb	2.275	3.24	7525	200	
Mo	95	2	115	170.987	ppb	170.987	1.05	145922	2000	
Pd	105	2	115	0.077	ppb	0.077	9.53	147	100	
Ag	107	2	115	182.542	ppb	182.542	0.65	628944	100	
Cd	111	2	115	189.865	ppb	189.865	1.24	54150	2000	
Sn	120	2	115	42.353	ppb	42.353	0.95	28548	2000	
Sb	121	2	115	4.574	ppb	4.574	12.70	2687	1000	
Ba	137	2	115	2125.544	ppb	2125.544	0.39	336749	5000	
W	182	2	165	56.991	ppb	56.991	0.83	381733	100	
Pt	195	2	165	0.022	ppb	0.022	35.19	250	100	
Tl	205	2	165	189.411	ppb	189.411	1.25	1683507	2000	
Pb	208	2	165	592.797	ppb	592.797	0.29	6784462	5000	
Th	232	2	165	241.430	ppb	241.430	1.68	3463256	2000	
U	238	2	165	199.664	ppb	199.664	0.36	3306248	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	742118	0.34	911621	81.41	60	120	
Sc (IS)	45	1	HMI H2	46541238	0.82	50068556	92.96	60	120	
Sc (IS)	45	2	HMI He	434699	0.95	451776	96.22	60	120	
Sc (IS)	45	3	No Gas	109591058	0.61	123511628	88.73	60	120	
Ge Internal Standard	72	1	HMI H2	23263185	0.57	25603826	90.86	60	120	
Ge Internal Standard	72	2	HMI He	669249	0.83	720714	92.86	60	120	
In Internal Standard	115	2	HMI He	1690738	0.95	1819211	92.94	60	120	
Ho-165	165	2	HMI He	14404651	0.90	15094203	95.43	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-2-c msd
Data File Name	206SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:18:52-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	415.270	ppb	415.270	1.87	214444	500000	
Li	7	2	45	501.811	ppb	501.811	6.33	11514	500000	
Li	7	3	45	442.098	ppb	442.098	1.29	10133721	50000	
Be	9	1	6	219.533	ppb	219.533	1.09	57098	2000	
B	11	1	6	106.178	ppb	106.178	4.90	44828	2000	
Na	23	1	45	571.786	ppb	571.786	1.75	2443912	2000	
Na	23	2	45	551.061	ppb	551.061	1.88	75572	400000	
Mg	24	2	45	13056.147	ppb	13056.147	1.84	620741	400000	
Al	27	2	45	188124.744	ppb	188124.744	1.65	1746082	400000	
K	39	1	45	10260.838	ppb	10260.838	0.39	54705674	400000	
K	39	2	45	11270.072	ppb	11270.072	1.31	210043	400000	
Ca	40	1	45	29502.911	ppb	29502.911	0.59	213087383	400000	
Ca	44	2	45	31626.845	ppb	31626.845	3.26	38662	400000	
Ti	47	2	45	358272.104	ppb	358272.104	3.12	11314	4000	>LDR
V	51	2	72	520.920	ppb	520.920	0.70	396337	2000	
Cr	52	2	72	393.192	ppb	393.192	0.47	404375	5000	
Mn	55	2	72	23285.239	ppb	23285.239	0.94	6169244	10000	
Fe	57	2	72	320908.620	ppb	320908.620	0.69	5624322	400000	
Co	59	2	72	347.771	ppb	347.771	1.08	791417	2000	
Ni	60	2	72	346.490	ppb	346.490	1.92	239980	5000	
Cu	63	2	72	298.787	ppb	298.787	1.19	618929	5000	
Zn	66	2	72	578.016	ppb	578.016	1.61	101848	5000	
As	75	2	72	285.015	ppb	285.015	0.43	30177	2000	
Se	78	1	72	180.445	ppb	180.445	0.97	99964	2000	
Sr	88	2	72	590.393	ppb	590.393	1.55	134445	4000	
Zr	90	2	72	24312.845	ppb	24312.845	1.45	199139	1000	>LDR
Nb	93	2	72	2.162	ppb	2.162	3.85	6985	200	
Mo	95	2	115	177.221	ppb	177.221	3.45	146932	2000	
Pd	105	2	115	0.065	ppb	0.065	28.06	123	100	
Ag	107	2	115	190.728	ppb	190.728	1.51	638611	100	
Cd	111	2	115	199.822	ppb	199.822	2.07	55377	2000	
Sn	120	2	115	51.666	ppb	51.666	2.08	33821	2000	
Sb	121	2	115	5.025	ppb	5.025	11.13	2860	1000	
Ba	137	2	115	2416.899	ppb	2416.899	2.49	372031	5000	
W	182	2	165	60.828	ppb	60.828	1.49	403135	100	
Pt	195	2	165	0.018	ppb	0.018	22.71	220	100	
Tl	205	2	165	195.529	ppb	195.529	1.22	1719844	2000	
Pb	208	2	165	564.450	ppb	564.450	0.26	6392887	5000	
Th	232	2	165	249.339	ppb	249.339	1.08	3539299	2000	
U	238	2	165	205.190	ppb	205.190	0.24	3362436	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	734638	0.48	911621	80.59	60	120	
Sc (IS)	45	1	HMI H2	46816208	0.46	50068556	93.50	60	120	
Sc (IS)	45	2	HMI He	422361	1.69	451776	93.49	60	120	
Sc (IS)	45	3	No Gas	108979088	0.27	123511628	88.23	60	120	
Ge Internal Standard	72	1	HMI H2	23197944	0.43	25603826	90.60	60	120	
Ge Internal Standard	72	2	HMI He	653110	1.65	720714	90.62	60	120	
In Internal Standard	115	2	HMI He	1643392	2.56	1819211	90.34	60	120	
Ho-165	165	2	HMI He	14254969	1.19	15094203	94.44	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-2-aPDS
Data File Name	207SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:22:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	65.134	ppb	65.134	3.28	106114	500000	
Li	7	2	45	82.685	ppb	82.685	41.04	5318	500000	
Li	7	3	45	66.752	ppb	66.752	2.29	4916898	50000	
Be	9	1	6	214.706	ppb	214.706	2.09	55969	2000	
B	11	1	6	9.654	ppb	9.654	14.48	16391	2000	
Na	23	1	45	607.278	ppb	607.278	1.15	2555429	2000	
Na	23	2	45	573.374	ppb	573.374	0.58	78112	400000	
Mg	24	2	45	12581.572	ppb	12581.572	0.60	597783	400000	
Al	27	2	45	173157.013	ppb	173157.013	0.73	1605717	400000	
K	39	1	45	9256.892	ppb	9256.892	0.51	49871548	400000	
K	39	2	45	10290.349	ppb	10290.349	1.05	192030	400000	
Ca	40	1	45	33446.632	ppb	33446.632	0.33	239617090	400000	
Ca	44	2	45	33440.167	ppb	33440.167	0.79	40857	400000	
Ti	47	2	45	359635.688	ppb	359635.688	2.16	11347	4000	>LDR
V	51	2	72	484.885	ppb	484.885	0.42	368264	2000	
Cr	52	2	72	365.781	ppb	365.781	0.87	375503	5000	
Mn	55	2	72	19183.260	ppb	19183.260	0.73	5073233	10000	
Fe	57	2	72	241003.266	ppb	241003.266	1.24	4216079	400000	
Co	59	2	72	326.337	ppb	326.337	0.20	741368	2000	
Ni	60	2	72	337.888	ppb	337.888	1.05	233636	5000	
Cu	63	2	72	304.013	ppb	304.013	1.26	628571	5000	
Zn	66	2	72	562.515	ppb	562.515	0.21	98946	5000	
As	75	2	72	268.716	ppb	268.716	0.82	28400	2000	
Se	78	1	72	196.676	ppb	196.676	0.49	108563	2000	
Sr	88	2	72	354.796	ppb	354.796	2.02	80657	4000	
Zr	90	2	72	35471.211	ppb	35471.211	2.13	289968	1000	>LDR
Nb	93	2	72	2.741	ppb	2.741	5.85	8803	200	
Mo	95	2	115	214.804	ppb	214.804	1.03	177305	2000	
Pd	105	2	115	0.080	ppb	0.080	36.80	147	100	
Ag	107	2	115	41.404	ppb	41.404	2.13	138019	100	
Cd	111	2	115	200.984	ppb	200.984	2.07	55434	2000	
Sn	120	2	115	197.601	ppb	197.601	1.69	128536	2000	
Sb	121	2	115	197.609	ppb	197.609	3.02	111307	1000	
Ba	137	2	115	2245.996	ppb	2245.996	1.85	344144	5000	
W	182	2	165	194.288	ppb	194.288	0.53	1278598	100	
Pt	195	2	165	0.082	ppb	0.082	28.42	657	100	
Tl	205	2	165	209.869	ppb	209.869	0.19	1834137	2000	
Pb	208	2	165	550.580	ppb	550.580	0.44	6195884	5000	
Th	232	2	165	60.185	ppb	60.185	0.47	848949	2000	
U	238	2	165	205.893	ppb	205.893	1.17	3352313	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	736309	0.99	911621	80.77	60	120	
Sc (IS)	45	1	HMI H2	46439968	0.10	50068556	92.75	60	120	
Sc (IS)	45	2	HMI He	421992	0.98	451776	93.41	60	120	
Sc (IS)	45	3	No Gas	109047418	0.61	123511628	88.29	60	120	
Ge Internal Standard	72	1	HMI H2	23114502	0.82	25603826	90.28	60	120	
Ge Internal Standard	72	2	HMI He	651917	1.40	720714	90.45	60	120	
In Internal Standard	115	2	HMI He	1635205	0.98	1819211	89.89	60	120	
Ho-165	165	2	HMI He	14163194	0.76	15094203	93.83	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-3-a
Data File Name	208SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:26:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	91.508	ppb	91.508	4.91	112494	500000	
Li	7	2	45	114.284	ppb	114.284	22.22	5674	500000	
Li	7	3	45	101.864	ppb	101.864	3.66	5176095	50000	
Be	9	1	6	15.971	ppb	15.971	3.47	3997	2000	
B	11	1	6	10.290	ppb	10.290	27.11	15864	2000	
Na	23	1	45	488.300	ppb	488.300	1.63	2085092	2000	
Na	23	2	45	447.099	ppb	447.099	3.94	62286	400000	
Mg	24	2	45	15705.452	ppb	15705.452	1.32	732475	400000	
Al	27	2	45	270484.974	ppb	270484.974	1.97	2462053	400000	
K	39	1	45	17456.843	ppb	17456.843	0.60	84524769	400000	
K	39	2	45	18456.689	ppb	18456.689	1.87	334531	400000	
Ca	40	1	45	29314.006	ppb	29314.006	0.66	206986097	400000	
Ca	44	2	45	31457.254	ppb	31457.254	3.17	37737	400000	
Ti	47	2	45	221277.338	ppb	221277.338	4.06	6855	4000	>LDR
V	51	2	72	422.314	ppb	422.314	1.15	315045	2000	
Cr	52	2	72	231.425	ppb	231.425	0.55	233472	5000	
Mn	55	2	72	22102.811	ppb	22102.811	0.12	5742031	10000	
Fe	57	2	72	369700.861	ppb	369700.861	0.93	6352909	400000	
Co	59	2	72	202.519	ppb	202.519	0.90	451902	2000	
Ni	60	2	72	187.623	ppb	187.623	1.19	127463	5000	
Cu	63	2	72	134.997	ppb	134.997	1.02	275257	5000	
Zn	66	2	72	601.606	ppb	601.606	0.50	103937	5000	
As	75	2	72	115.058	ppb	115.058	1.67	11949	2000	
Se	78	1	72	2.911	ppb	2.911	4.35	1609	2000	
Sr	88	2	72	683.476	ppb	683.476	0.58	152603	4000	
Zr	90	2	72	27321.336	ppb	27321.336	2.43	219407	1000	>LDR
Nb	93	2	72	0.690	ppb	0.690	7.07	2264	200	
Mo	95	2	115	11.188	ppb	11.188	3.19	8919	2000	
Pd	105	2	115	0.020	ppb	0.020	37.44	50	100	
Ag	107	2	115	0.201	ppb	0.201	22.52	703	100	
Cd	111	2	115	1.119	ppb	1.119	44.27	310	2000	
Sn	120	2	115	1.042	ppb	1.042	13.60	723	2000	
Sb	121	2	115	0.214	ppb	0.214	23.77	137	1000	
Ba	137	2	115	2652.893	ppb	2652.893	1.33	392725	5000	
W	182	2	165	0.332	ppb	0.332	3.17	2497	100	
Pt	195	2	165	0.016	ppb	0.016	86.72	197	100	
Tl	205	2	165	4.010	ppb	4.010	2.99	34191	2000	
Pb	208	2	165	409.427	ppb	409.427	1.47	4478813	5000	
Th	232	2	165	83.507	ppb	83.507	0.44	1145009	2000	
U	238	2	165	22.036	ppb	22.036	1.21	348811	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	704470	0.71	911621	77.28	60	120	
Sc (IS)	45	1	HMI H2	45769041	0.49	50068556	91.41	60	120	
Sc (IS)	45	2	HMI He	414296	1.16	451776	91.70	60	120	
Sc (IS)	45	3	No Gas	104422462	0.37	123511628	84.54	60	120	
Ge Internal Standard	72	1	HMI H2	22685205	0.70	25603826	88.60	60	120	
Ge Internal Standard	72	2	HMI He	640348	0.90	720714	88.85	60	120	
In Internal Standard	115	2	HMI He	1580121	2.36	1819211	86.86	60	120	
Ho-165	165	2	HMI He	13767691	0.35	15094203	91.21	60	120	

Sample Report

Sample Table

Sample Name	280-90473-a-4-a
Data File Name	209SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:30:13-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350210 SOIL 6020A
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	70.044	ppb	70.044	7.29	103969	500000	
Li	7	2	45	107.582	ppb	107.582	24.62	5458	500000	
Li	7	3	45	78.267	ppb	78.267	4.13	4796186	50000	
Be	9	1	6	12.534	ppb	12.534	6.44	3114	2000	
B	11	1	6	5.468	ppb	5.468	37.16	14376	2000	
Na	23	1	45	449.597	ppb	449.597	0.79	1905896	2000	
Na	23	2	45	417.254	ppb	417.254	3.76	57601	400000	
Mg	24	2	45	14165.758	ppb	14165.758	0.11	646282	400000	
Al	27	2	45	222089.776	ppb	222089.776	0.59	1977623	400000	
K	39	1	45	14420.173	ppb	14420.173	0.46	70020662	400000	
K	39	2	45	15688.939	ppb	15688.939	0.76	278822	400000	
Ca	40	1	45	47318.146	ppb	47318.146	0.37	327484068	400000	
Ca	44	2	45	46702.122	ppb	46702.122	1.05	54781	400000	
Ti	47	2	45	322937.360	ppb	322937.360	3.21	9786	4000	>LDR
V	51	2	72	382.613	ppb	382.613	1.51	280864	2000	
Cr	52	2	72	244.836	ppb	244.836	1.73	243009	5000	
Mn	55	2	72	17425.097	ppb	17425.097	1.91	4454103	10000	
Fe	57	2	72	297564.494	ppb	297564.494	1.54	5031430	400000	
Co	59	2	72	153.590	ppb	153.590	1.14	337251	2000	
Ni	60	2	72	160.751	ppb	160.751	0.76	107452	5000	
Cu	63	2	72	120.490	ppb	120.490	0.54	241947	5000	
Zn	66	2	72	579.585	ppb	579.585	1.09	98526	5000	
As	75	2	72	91.791	ppb	91.791	1.75	9381	2000	
Se	78	1	72	2.249	ppb	2.249	6.09	1243	2000	
Sr	88	2	72	481.496	ppb	481.496	1.35	105779	4000	
Zr	90	2	72	25412.903	ppb	25412.903	1.49	200814	1000	>LDR
Nb	93	2	72	1.088	ppb	1.088	2.04	3447	200	
Mo	95	2	115	8.509	ppb	8.509	4.01	6838	2000	
Pd	105	2	115	0.004	ppb	0.004	512.16	27	100	
Ag	107	2	115	0.251	ppb	0.251	8.43	873	100	
Cd	111	2	115	1.422	ppb	1.422	17.77	393	2000	
Sn	120	2	115	0.627	ppb	0.627	8.59	467	2000	
Sb	121	2	115	0.139	ppb	0.139	15.75	97	1000	
Ba	137	2	115	1968.856	ppb	1968.856	2.09	293677	5000	
W	182	2	165	0.234	ppb	0.234	11.27	1877	100	
Pt	195	2	165	0.014	ppb	0.014	74.16	187	100	
Tl	205	2	165	3.165	ppb	3.165	1.70	27091	2000	
Pb	208	2	165	366.234	ppb	366.234	0.98	4017621	5000	
Th	232	2	165	73.517	ppb	73.517	1.19	1010812	2000	
U	238	2	165	16.168	ppb	16.168	0.54	256685	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	698576	0.72	911621	76.63	60	120	
Sc (IS)	45	1	HMI H2	44869576	0.48	50068556	89.62	60	120	
Sc (IS)	45	2	HMI He	405225	1.04	451776	89.70	60	120	
Sc (IS)	45	3	No Gas	103009732	0.77	123511628	83.40	60	120	
Ge Internal Standard	72	1	HMI H2	22530079	0.38	25603826	87.99	60	120	
Ge Internal Standard	72	2	HMI He	630053	0.77	720714	87.42	60	120	
In Internal Standard	115	2	HMI He	1592148	1.91	1819211	87.52	60	120	
Ho-165	165	2	HMI He	13807027	1.47	15094203	91.47	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	210_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:33:59-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	459.761	ppb	0.339	224558	500	92.0	90	110	
Li	7	2	45	508.175	ppb	0.817	11257	500	101.6	90	110	
Li	7	3	45	453.137	ppb	0.758	10217937	500	90.6	90	110	
Be	9	1	6	50.257	ppb	3.441	13575	50	100.5	90	110	
B	11	1	6	21.018	ppb	4.632	20449	50	42.0	90	110	>+\-10%
Na	23	1	45	4947.951	ppb	0.498	18457498	5000	99.0	90	110	
Na	23	2	45	4892.927	ppb	0.438	562503	5000	97.9	90	110	
Mg	24	2	45	5099.791	ppb	0.749	235288	5000	102.0	90	110	
Al	27	2	45	4983.648	ppb	1.065	44913	5000	99.7	90	110	
K	39	1	45	4893.111	ppb	1.560	30537457	5000	97.9	90	110	
K	39	2	45	5088.773	ppb	0.427	94408	5000	101.8	90	110	
Ca	40	1	45	5131.420	ppb	0.322	36578608	5000	102.6	90	110	
Ca	44	2	45	5217.487	ppb	4.783	6201	5000	104.3	90	110	
Ti	47	2	45	28.303	ppb	1996.306	10	50	56.6	90	110	>+\-10%
V	51	2	72	52.540	ppb	2.824	40655	50	105.1	90	110	
Cr	52	2	72	50.367	ppb	0.478	52879	50	100.7	90	110	
Mn	55	2	72	53.893	ppb	3.510	14540	50	107.8	90	110	
Fe	57	2	72	5108.488	ppb	1.112	91092	5000	102.2	90	110	
Co	59	2	72	52.155	ppb	1.016	120619	50	104.3	90	110	
Ni	60	2	72	53.002	ppb	0.337	37346	50	106.0	90	110	
Cu	63	2	72	51.652	ppb	0.338	110378	50	103.3	90	110	
Zn	66	2	72	51.442	ppb	3.281	9339	50	102.9	90	110	
As	75	2	72	53.007	ppb	1.902	5709	50	106.0	90	110	
Se	78	1	72	50.899	ppb	2.605	29154	50	101.8	90	110	
Sr	88	2	72	49.562	ppb	1.894	11481	50	99.1	90	110	
Zr	90	2	72	223.973	ppb	7.958	1907	50	447.9	90	110	>+\-10%
Nb	93	2	72	98.957	ppb	0.742	319448	100	99.0	90	110	
Mo	95	2	115	49.918	ppb	3.482	42396	50	99.8	90	110	
Pd	105	2	115	50.993	ppb	2.605	82525	50	102.0	90	110	
Ag	107	2	115	51.691	ppb	0.790	177312	50	103.4	90	110	
Cd	111	2	115	52.867	ppb	2.111	15017	50	105.7	90	110	
Sn	120	2	115	49.757	ppb	2.297	33374	50	99.5	90	110	
Sb	121	2	115	49.013	ppb	3.899	28425	50	98.0	90	110	
Ba	137	2	115	53.100	ppb	6.448	8376	50	106.2	90	110	
W	182	2	165	50.114	ppb	1.031	329956	50	100.2	90	110	
Pt	195	2	165	50.533	ppb	0.240	344774	50	101.1	90	110	
Tl	205	2	165	51.258	ppb	0.632	447876	50	102.5	90	110	
Pb	208	2	165	51.519	ppb	0.724	580461	50	103.0	90	110	
Th	232	2	165	49.614	ppb	0.495	699562	50	99.2	90	110	
U	238	2	165	48.625	ppb	0.981	791385	50	97.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	762304	0.60	911621	83.62	60	120	
Sc (IS)	45	1	HMI H2	46087919	0.51	50068556	92.05	60	120	
Sc (IS)	45	2	HMI He	409539	0.70	451776	90.65	60	120	
Sc (IS)	45	3	No Gas	108249218	0.86	123511628	87.64	60	120	
Ge Internal Standard	72	1	HMI H2	23963193	0.39	25603826	93.59	60	120	
Ge Internal Standard	72	2	HMI He	663571	0.74	720714	92.07	60	120	
In Internal Standard	115	2	HMI He	1682906	1.48	1819211	92.51	60	120	
Ho-165	165	2	HMI He	14157171	0.38	15094203	93.79	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	211_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:37:47-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-26.871	ppb	-9.8	3709352	10	
Be	9	1	6	0.021	ppb	545.1	23	0.5	
B	11	1	6	-15.200	ppb	-2.9	9583	0.5	
Na	23	1	45	-25.158	ppb	-2.3	222533	25	
Na	23	2	45	-29.480	ppb	-1.5	8189	25	
Mg	24	2	45	3.693	ppb	28.4	397	25	
Al	27	2	45	5.071	ppb	118.6	117	15	
K	39	1	45	-71.030	ppb	-26.9	9233333	50	
K	39	2	45	25.904	ppb	75.7	5094	50	
Ca	40	1	45	5.807	ppb	6.5	157571	50	
Ca	44	2	45	-9.907	ppb	-47.2	7	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	-0.089	ppb	-39.1	-24	1	
Cr	52	2	72	0.003	ppb	799.7	297	1	
Mn	55	2	72	1.245	ppb	4.1	380	0.5	>RL
Fe	57	2	72	21.283	ppb	8.3	520	25	
Co	59	2	72	0.050	ppb	59.3	140	0.5	
Ni	60	2	72	0.009	ppb	342.5	57	1	
Cu	63	2	72	0.051	ppb	120.0	2170	1	
Zn	66	2	72	0.282	ppb	113.0	197	5	
As	75	2	72	0.051	ppb	156.7	14	1	
Se	78	1	72	0.035	ppb	142.0	56	1	
Sr	88	2	72	0.200	ppb	13.1	63	0.5	
Zr	90	2	72	4.551	ppb	104.1	83	1	>RL
Nb	93	2	72	1.100	ppb	4.5	3777	2	
Mo	95	2	115	0.106	ppb	24.9	93	0.5	
Pd	105	2	115	0.038	ppb	8.9	87	1	
Ag	107	2	115	0.011	ppb	192.4	103	1	
Cd	111	2	115	0.002	ppb	2617.9	13	0.5	
Sn	120	2	115	0.077	ppb	17.8	130	1	
Sb	121	2	115	0.035	ppb	100.4	43	0.6	
Ba	137	2	115	0.144	ppb	146.8	30	0.5	
W	182	2	165	0.045	ppb	22.1	693	1	
Pt	195	2	165	0.017	ppb	62.9	213	1	
Tl	205	2	165	0.050	ppb	20.8	577	0.1	
Pb	208	2	165	0.065	ppb	41.4	1813	0.5	
Th	232	2	165	0.065	ppb	11.9	1050	1	
U	238	2	165	0.031	ppb	25.3	573	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	780533	0.06	911621	85.62	60	120	
Sc (IS)	45	1	HMI H2	47418541	0.35	50068556	94.71	60	120	
Sc (IS)	45	2	HMI He	425619	0.48	451776	94.21	60	120	
Sc (IS)	45	3	No Gas	111931602	1.23	123511628	90.62	60	120	
Ge Internal Standard	72	1	HMI H2	24507665	0.20	25603826	95.72	60	120	
Ge Internal Standard	72	2	HMI He	682742	0.88	720714	94.73	60	120	
In Internal Standard	115	2	HMI He	1748597	0.40	1819211	96.12	60	120	
Ho-165	165	2	HMI He	14482636	0.59	15094203	95.95	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4238450
Data File Name	212LCCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:41:35-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	24.542	ppb	9.851	4346300	50	49.1	70	130	>+/-30%
Be	9	1	6	0.933	ppb	40.930	277	1	93.3	70	130	
Na	23	2	45	17.913	ppb	32.589	13742	50	35.8	70	130	>+/-30%
Mg	24	2	45	60.641	ppb	4.976	3127	50	121.3	70	130	
Al	27	2	45	37.767	ppb	31.587	423	30	125.9	70	130	
K	39	2	45	140.365	ppb	6.566	7198	100	140.4	70	130	>+/-30%
Ca	44	2	45	60.557	ppb	29.115	93	50	121.1	70	130	
V	51	2	72	4.745	ppb	9.670	3847	5	94.9	70	130	
Cr	52	2	72	1.982	ppb	3.095	2440	2	99.1	70	130	
Mn	55	2	72	1.668	ppb	36.373	500	1	166.8	70	130	>+/-30%
Fe	57	2	72	71.290	ppb	18.219	1447	50	142.6	70	130	>+/-30%
Co	59	2	72	0.932	ppb	6.712	2254	1	93.2	70	130	
Ni	60	2	72	2.225	ppb	7.483	1673	2	111.2	70	130	
Cu	63	2	72	2.085	ppb	6.003	6608	2	104.3	70	130	
Zn	66	2	72	10.850	ppb	8.858	2157	10	108.5	70	130	
As	75	2	72	5.196	ppb	8.380	587	5	103.9	70	130	
Se	78	1	72	4.972	ppb	4.630	2934	5	99.4	70	130	
Sr	88	2	72	0.907	ppb	29.677	233	1	90.7	70	130	
Zr	90	2	72	51.603	ppb	25.416	490	0.5	10320.7	70	130	>+/-30%
Nb	93	2	72	1.384	ppb	4.117	4751	2	69.2	70	130	>+/-30%
Mo	95	2	115	2.012	ppb	5.793	1774	2	100.6	70	130	
Pd	105	2	115	-0.001	ppb	-439.161	20	1	-0.1	70	130	>+/-30%
Ag	107	2	115	5.022	ppb	2.323	17933	5	100.4	70	130	
Cd	111	2	115	0.941	ppb	11.626	290	1	94.1	70	130	
Sn	120	2	115	9.532	ppb	2.389	6692	10	95.3	70	130	
Sb	121	2	115	1.787	ppb	6.034	1097	2	89.3	70	130	
Ba	137	2	115	1.184	ppb	23.616	200	1	118.4	70	130	
W	182	2	165	4.853	ppb	1.185	33182	1	485.3	70	130	>+/-30%
Pt	195	2	165	0.001	ppb	147.002	107	1	0.1	70	130	>+/-30%
Tl	205	2	165	1.063	ppb	5.873	9673	1	106.3	70	130	
Pb	208	2	165	1.076	ppb	2.717	13509	1	107.6	70	130	
Th	232	2	165	2.037	ppb	1.288	29619	2	101.9	70	130	
U	238	2	165	0.969	ppb	2.596	16253	1	96.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	785288	0.43	911621	86.14	60	120	
Sc (IS)	45	1	HMI H2	47127109	0.37	50068556	94.13	60	120	
Sc (IS)	45	2	HMI He	425789	1.24	451776	94.25	60	120	
Sc (IS)	45	3	No Gas	109470928	0.39	123511628	88.63	60	120	
Ge Internal Standard	72	1	HMI H2	24413368	0.60	25603826	95.35	60	120	
Ge Internal Standard	72	2	HMI He	687539	0.51	720714	95.40	60	120	
In Internal Standard	115	2	HMI He	1745774	1.32	1819211	95.96	60	120	
Ho-165	165	2	HMI He	14542800	0.54	15094203	96.35	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350340/1-a
Data File Name	213_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:45:25-07:00
Sample Type	Blank
Dilution	1
Comment	350340 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-22.801	ppb	-5.730852932	79573	0.5
Li	7	2	45	-4.830	ppb	-298.9273207	4087	0.5
Li	7	3	45	-23.884	ppb	-14.60523257	3633562	10
Be	9	1	6	-0.039	ppb	-54.40818614	7	0.5
B	11	1	6	-13.275	ppb	-4.766312718	10080	0.5
Na	23	1	45	-25.925	ppb	-2.675491793	215724	25
Na	23	2	45	-31.767	ppb	-1.676119798	7979	25
Mg	24	2	45	0.732	ppb	33.74393853	257	25
Al	27	2	45	10.303	ppb	15.1894568	167	15
K	39	1	45	-989.472	ppb	-0.325104417	5037524	50
K	39	2	45	-10.920	ppb	-173.5230753	4447	50
Ca	40	1	45	3.697	ppb	6.864038245	139600	50
Ca	44	2	45	16.951	ppb	48.38873598	40	25
Ti	47	2	45	-297.903	ppb	-1.81092E-06	0	0.5
V	51	2	72	-0.107	ppb	-228.6027567	-40	1
Cr	52	2	72	0.065	ppb	84.57359438	370	1
Mn	55	2	72	0.808	ppb	9.251257075	263	0.5
Fe	57	2	72	16.851	ppb	17.36877602	447	25
Co	59	2	72	0.003	ppb	229.7257539	30	0.5
Ni	60	2	72	-0.011	ppb	-261.5032624	43	1
Cu	63	2	72	0.044	ppb	108.687735	2194	1
Zn	66	2	72	0.652	ppb	64.99268121	270	5
As	75	2	72	-0.020	ppb	-256.1584319	6	1
Se	78	1	72	0.008	ppb	299.5030772	40	1
Sr	88	2	72	0.085	ppb	55.41118269	37	0.5
Zr	90	2	72	2.838	ppb	38.95248829	70	1
Nb	93	2	72	0.087	ppb	4.385191724	420	2
Mo	95	2	115	0.026	ppb	23.72045987	23	0.5
Pd	105	2	115	0.000	ppb	8956.091691	23	1
Ag	107	2	115	0.002	ppb	167.9569682	73	1
Cd	111	2	115	-0.043	ppb	0	0	0.5
Sn	120	2	115	-0.006	ppb	-1010.206721	73	1
Sb	121	2	115	-0.004	ppb	-780.3407123	20	0.6
Ba	137	2	115	0.081	ppb	148.2271001	20	0.5
W	182	2	165	0.021	ppb	49.37545813	547	1
Pt	195	2	165	-0.003	ppb	-159.6339961	77	1
Tl	205	2	165	0.025	ppb	47.25263183	367	0.1
Pb	208	2	165	0.029	ppb	42.91891258	1440	0.5
Th	232	2	165	0.026	ppb	24.52909513	507	1
U	238	2	165	0.004	ppb	59.35666047	133	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	772359	0.22	911621	84.72	60	120	
Sc (IS)	45	1	HMI H2	46576064	0.73	50068556	93.02	60	120	
Sc (IS)	45	2	HMI He	428712	0.79	451776	94.89	60	120	
Sc (IS)	45	3	No Gas	108391415	0.31	123511628	87.76	60	120	
Ge Internal Standard	72	1	HMI H2	24242200	0.60	25603826	94.68	60	120	
Ge Internal Standard	72	2	HMI He	695182	0.72	720714	96.46	60	120	
In Internal Standard	115	2	HMI He	1762258	1.24	1819211	96.87	60	120	
Ho-165	165	2	HMI He	14818701	0.69	15094203	98.17	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350340/2-a
Data File Name	214_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:49:15-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350340 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	51.899	51.899	ppb	2.587	103831	400	13.0	80	120	>+/-20%
Li	7	2	45	72.664	72.664	ppb	23.956	5274	400	18.2	80	120	>+/-20%
Li	7	3	45	48.616	48.616	ppb	2.929	4640674	400	12.2	80	120	>+/-20%
Be	9	1	6	40.944	40.944	ppb	2.204	11297	40	102.4	80	120	
Na	23	2	45	-29.426	-29.426	ppb	-2.538	8292	40	-73.6	80	120	>+/-20%
Mg	24	2	45	0.024	0.024	ppb	6628.704	223	40	0.1	80	120	>+/-20%
Al	27	2	45	367.799	367.799	ppb	0.815	3550	40	919.5	80	120	>+/-20%
K	39	2	45	-2.235	-2.235	ppb	-353.581	4631	40	-5.6	80	120	>+/-20%
Ca	44	2	45	233.317	233.317	ppb	18.734	310	40	583.3	80	120	>+/-20%
V	51	2	72	41.223	41.223	ppb	5.406	33463	40	103.1	80	120	
Cr	52	2	72	38.716	38.716	ppb	3.513	42699	40	96.8	80	120	
Mn	55	2	72	39.626	39.626	ppb	2.591	11224	40	99.1	80	120	
Fe	57	2	72	396.856	396.856	ppb	0.978	7545	40	992.1	80	120	>+/-20%
Co	59	2	72	40.396	40.396	ppb	0.273	98002	40	101.0	80	120	
Ni	60	2	72	41.497	41.497	ppb	0.750	30680	40	103.7	80	120	
Cu	63	2	72	40.234	40.234	ppb	1.248	90645	40	100.6	80	120	
Zn	66	2	72	37.703	37.703	ppb	7.859	7218	40	94.3	80	120	
As	75	2	72	40.288	40.288	ppb	2.875	4552	40	100.7	80	120	
Se	78	1	72	39.354	39.354	ppb	0.797	22882	40	98.4	80	120	
Nb	93	2	72	0.059	0.059	ppb	11.558	327	40	0.1	80	120	>+/-20%
Mo	95	2	115	40.514	40.514	ppb	1.674	36309	40	101.3	80	120	
Pd	105	2	115	0.006	0.006	ppb	144.528	33	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.560	39.560	ppb	1.529	143184	40	98.9	80	120	
Cd	111	2	115	38.889	38.889	ppb	3.076	11658	40	97.2	80	120	
Sn	120	2	115	37.313	37.313	ppb	2.588	26425	40	93.3	80	120	
Sb	121	2	115	37.661	37.661	ppb	1.711	23060	40	94.2	80	120	
Ba	137	2	115	43.307	43.307	ppb	2.494	7212	40	108.3	80	120	
W	182	2	165	37.782	37.782	ppb	0.773	261896	40	94.5	80	120	
Pt	195	2	165	0.004	0.004	ppb	51.035	127	40	0.0	80	120	>+/-20%
Tl	205	2	165	38.648	38.648	ppb	1.735	355399	40	96.6	80	120	
Pb	208	2	165	39.963	39.963	ppb	1.759	474085	40	99.9	80	120	
Th	232	2	165	37.369	37.369	ppb	1.297	554543	40	93.4	80	120	
U	238	2	165	37.374	37.374	ppb	1.539	640146	40	93.4	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	778456	0.97	911621	85.39	60	120	
Sc (IS)	45	1	HMI H2	47234624	0.42	50068556	94.34	60	120	
Sc (IS)	45	2	HMI He	430669	0.44	451776	95.33	60	120	
Sc (IS)	45	3	No Gas	108488628	0.69	123511628	87.84	60	120	
Ge Internal Standard	72	1	HMI H2	24317034	0.43	25603826	94.97	60	120	
Ge Internal Standard	72	2	HMI He	696038	0.78	720714	96.58	60	120	
In Internal Standard	115	2	HMI He	1775609	1.07	1819211	97.60	60	120	
Ho-165	165	2	HMI He	14899718	0.96	15094203	98.71	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-1-b
Data File Name	215SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:53:06-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.766	ppb	-4.766	-82.30	84170	500000	
Li	7	2	45	14.079	ppb	14.079	171.03	4254	500000	
Li	7	3	45	-2.475	ppb	-2.475	-43.76	3779326	50000	
Be	9	1	6	0.012	ppb	0.012	611.11	20	2000	
B	11	1	6	-1.192	ppb	-1.192	-229.36	13322	2000	
Na	23	1	45	50808.342	ppb	50808.342	0.18	186639064	2000	>LDR
Na	23	2	45	48899.941	ppb	48899.941	1.33	5621853	400000	
Mg	24	2	45	12233.466	ppb	12233.466	1.14	574431	400000	
Al	27	2	45	46.428	ppb	46.428	41.97	493	400000	
K	39	1	45	369.779	ppb	369.779	11.80	10886475	400000	
K	39	2	45	1369.419	ppb	1369.419	4.09	29181	400000	
Ca	40	1	45	32600.137	ppb	32600.137	0.40	231747263	400000	
Ca	44	2	45	31217.753	ppb	31217.753	2.27	37694	400000	
Ti	47	2	45	344.112	ppb	344.112	1.33	20	4000	
V	51	2	72	0.471	ppb	0.471	97.85	419	2000	
Cr	52	2	72	6.880	ppb	6.880	4.71	7675	5000	
Mn	55	2	72	75.461	ppb	75.461	1.61	20906	10000	
Fe	57	2	72	1100.796	ppb	1100.796	2.90	20269	400000	
Co	59	2	72	1.319	ppb	1.319	7.68	3157	2000	
Ni	60	2	72	0.899	ppb	0.899	5.05	700	5000	
Cu	63	2	72	0.769	ppb	0.769	10.57	3714	5000	
Zn	66	2	72	3.893	ppb	3.893	20.69	860	5000	
As	75	2	72	1.684	ppb	1.684	2.66	194	2000	
Se	78	1	72	0.029	ppb	0.029	102.80	51	2000	
Sr	88	2	72	169.837	ppb	169.837	1.98	40391	4000	
Zr	90	2	72	61.541	ppb	61.541	30.96	570	1000	
Nb	93	2	72	0.060	ppb	0.060	1.97	323	200	
Mo	95	2	115	0.270	ppb	0.270	16.90	237	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-128.13	13	100	
Ag	107	2	115	-0.007	ppb	-0.007	-82.07	40	100	
Cd	111	2	115	0.014	ppb	0.014	385.27	17	2000	
Sn	120	2	115	0.146	ppb	0.146	55.18	177	2000	
Sb	121	2	115	0.264	ppb	0.264	42.85	180	1000	
Ba	137	2	115	148.762	ppb	148.762	5.07	24228	5000	
W	182	2	165	0.101	ppb	0.101	14.69	1087	100	
Pt	195	2	165	0.000	ppb	0.000	2499.24	100	100	
Tl	205	2	165	0.059	ppb	0.059	17.69	663	2000	
Pb	208	2	165	0.120	ppb	0.120	5.18	2480	5000	
Th	232	2	165	0.257	ppb	0.257	12.59	3874	2000	
U	238	2	165	0.120	ppb	0.120	1.24	2094	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	744242	0.95	911621	81.64	60	120	
Sc (IS)	45	1	HMI H2	46079963	0.70	50068556	92.03	60	120	
Sc (IS)	45	2	HMI He	417048	0.71	451776	92.31	60	120	
Sc (IS)	45	3	No Gas	104242905	0.81	123511628	84.40	60	120	
Ge Internal Standard	72	1	HMI H2	23638586	0.98	25603826	92.32	60	120	
Ge Internal Standard	72	2	HMI He	681805	0.64	720714	94.60	60	120	
In Internal Standard	115	2	HMI He	1738187	1.34	1819211	95.55	60	120	
Ho-165	165	2	HMI He	14687805	0.56	15094203	97.31	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-1-bSD@5
Data File Name	216SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T04:56:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-9.030	ppb	-9.030	-35.19	82720	500000	
Li	7	2	45	14.192	ppb	14.192	99.66	4181	500000	
Li	7	3	45	-11.317	ppb	-11.317	-12.42	3650939	50000	
Be	9	1	6	-0.039	ppb	-0.039	-110.06	7	2000	
B	11	1	6	-13.671	ppb	-13.671	-10.20	9886	2000	
Na	23	1	45	10124.122	ppb	10124.122	0.75	37362909	2000	>LDR
Na	23	2	45	9977.583	ppb	9977.583	2.55	1136145	400000	
Mg	24	2	45	2458.625	ppb	2458.625	1.68	113619	400000	
Al	27	2	45	10.745	ppb	10.745	50.62	163	400000	
K	39	1	45	-35.397	ppb	-35.397	-30.13	9109493	400000	
K	39	2	45	251.876	ppb	251.876	10.22	8903	400000	
Ca	40	1	45	6409.973	ppb	6409.973	0.47	45566149	400000	
Ca	44	2	45	5983.845	ppb	5983.845	1.51	7115	400000	
Ti	47	2	45	-80.367	ppb	-80.367	-468.83	7	4000	
V	51	2	72	-0.051	ppb	-0.051	-270.94	6	2000	
Cr	52	2	72	0.064	ppb	0.064	170.77	357	5000	
Mn	55	2	72	15.139	ppb	15.139	0.76	4154	10000	
Fe	57	2	72	202.403	ppb	202.403	10.39	3771	400000	
Co	59	2	72	0.246	ppb	0.246	5.29	597	2000	
Ni	60	2	72	0.174	ppb	0.174	77.16	173	5000	
Cu	63	2	72	0.082	ppb	0.082	37.07	2197	5000	
Zn	66	2	72	1.184	ppb	1.184	26.23	357	5000	
As	75	2	72	0.288	ppb	0.288	32.91	39	2000	
Se	78	1	72	0.009	ppb	0.009	263.98	40	2000	
Sr	88	2	72	32.100	ppb	32.100	3.98	7522	4000	
Zr	90	2	72	7.496	ppb	7.496	9.55	107	1000	
Nb	93	2	72	0.022	ppb	0.022	7.34	193	200	
Mo	95	2	115	0.065	ppb	0.065	25.89	57	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-400.60	17	100	
Ag	107	2	115	-0.007	ppb	-0.007	-72.98	40	100	
Cd	111	2	115	-0.009	ppb	-0.009	-383.37	10	2000	
Sn	120	2	115	0.069	ppb	0.069	120.55	123	2000	
Sb	121	2	115	0.097	ppb	0.097	74.62	80	1000	
Ba	137	2	115	29.663	ppb	29.663	4.89	4798	5000	
W	182	2	165	0.014	ppb	0.014	26.11	487	100	
Pt	195	2	165	-0.005	ppb	-0.005	-75.59	63	100	
Tl	205	2	165	0.012	ppb	0.012	11.03	233	2000	
Pb	208	2	165	0.030	ppb	0.030	40.52	1403	5000	
Th	232	2	165	0.034	ppb	0.034	15.45	600	2000	
U	238	2	165	0.028	ppb	0.028	19.01	523	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	767053	0.74	911621	84.14	60	120	
Sc (IS)	45	1	HMI H2	45989211	0.35	50068556	91.85	60	120	
Sc (IS)	45	2	HMI He	409820	0.27	451776	90.71	60	120	
Sc (IS)	45	3	No Gas	103935095	0.41	123511628	84.15	60	120	
Ge Internal Standard	72	1	HMI H2	23850542	0.55	25603826	93.15	60	120	
Ge Internal Standard	72	2	HMI He	670757	0.30	720714	93.07	60	120	
In Internal Standard	115	2	HMI He	1723894	1.37	1819211	94.76	60	120	
Ho-165	165	2	HMI He	14422779	0.90	15094203	95.55	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-1-c ms
Data File Name	217SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:00:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	67.855	ppb	67.855	4.34	103208	500000	
Li	7	2	45	99.729	ppb	99.729	2.79	5321	500000	
Li	7	3	45	67.892	ppb	67.892	5.89	4591311	50000	
Be	9	1	6	38.796	ppb	38.796	9.58	10020	2000	
B	11	1	6	24.467	ppb	24.467	6.55	20562	2000	
Na	23	1	45	49973.235	ppb	49973.235	0.83	178559784	2000	>LDR
Na	23	2	45	48563.293	ppb	48563.293	0.38	5399444	400000	
Mg	24	2	45	12127.912	ppb	12127.912	0.89	550710	400000	
Al	27	2	45	452.190	ppb	452.190	10.93	4074	400000	
K	39	1	45	333.747	ppb	333.747	8.54	10436710	400000	
K	39	2	45	1278.321	ppb	1278.321	4.14	26627	400000	
Ca	40	1	45	31995.307	ppb	31995.307	0.87	221219283	400000	
Ca	44	2	45	31505.403	ppb	31505.403	3.37	36789	400000	
Ti	47	2	45	1471.079	ppb	1471.079	25.48	53	4000	
V	51	2	72	40.385	ppb	40.385	2.24	30962	2000	
Cr	52	2	72	38.537	ppb	38.537	2.69	40143	5000	
Mn	55	2	72	115.200	ppb	115.200	1.33	30750	10000	
Fe	57	2	72	1383.999	ppb	1383.999	3.86	24531	400000	
Co	59	2	72	40.729	ppb	40.729	1.10	93314	2000	
Ni	60	2	72	39.500	ppb	39.500	2.38	27585	5000	
Cu	63	2	72	39.034	ppb	39.034	0.90	83115	5000	
Zn	66	2	72	40.707	ppb	40.707	3.06	7348	5000	
As	75	2	72	40.985	ppb	40.985	1.73	4373	2000	
Se	78	1	72	38.343	ppb	38.343	0.56	21136	2000	
Sr	88	2	72	206.639	ppb	206.639	1.35	47369	4000	
Zr	90	2	72	4853.127	ppb	4853.127	2.68	40037	1000	
Nb	93	2	72	0.052	ppb	0.052	30.16	283	200	
Mo	95	2	115	40.835	ppb	40.835	4.24	34926	2000	
Pd	105	2	115	-0.011	ppb	-0.011	-31.93	3	100	
Ag	107	2	115	38.715	ppb	38.715	1.00	133724	100	
Cd	111	2	115	38.786	ppb	38.786	2.86	11097	2000	
Sn	120	2	115	37.751	ppb	37.751	1.68	25503	2000	
Sb	121	2	115	40.583	ppb	40.583	2.64	23704	1000	
Ba	137	2	115	186.587	ppb	186.587	2.47	29624	5000	
W	182	2	165	38.940	ppb	38.940	0.37	260967	100	
Pt	195	2	165	-0.005	ppb	-0.005	-120.81	60	100	
Tl	205	2	165	38.403	ppb	38.403	0.53	341463	2000	
Pb	208	2	165	39.297	ppb	39.297	0.65	450759	5000	
Th	232	2	165	37.596	ppb	37.596	1.63	539415	2000	
U	238	2	165	37.815	ppb	37.815	0.41	626260	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	728890	0.82	911621	79.96	60	120	
Sc (IS)	45	1	HMI H2	44819666	0.78	50068556	89.52	60	120	
Sc (IS)	45	2	HMI He	403300	0.55	451776	89.27	60	120	
Sc (IS)	45	3	No Gas	101503218	0.46	123511628	82.18	60	120	
Ge Internal Standard	72	1	HMI H2	23052218	0.69	25603826	90.03	60	120	
Ge Internal Standard	72	2	HMI He	657288	1.17	720714	91.20	60	120	
In Internal Standard	115	2	HMI He	1694340	1.41	1819211	93.14	60	120	
Ho-165	165	2	HMI He	14405647	0.91	15094203	95.44	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-1-d msd
Data File Name	218SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:04:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	71.904	ppb	71.904	4.72	105128	500000	
Li	7	2	45	96.452	ppb	96.452	4.19	5341	500000	
Li	7	3	45	74.269	ppb	74.269	5.41	4683382	50000	
Be	9	1	6	39.748	ppb	39.748	3.54	10277	2000	
B	11	1	6	28.594	ppb	28.594	13.27	21783	2000	
Na	23	1	45	51046.635	ppb	51046.635	0.85	183658637	2000	>LDR
Na	23	2	45	48757.262	ppb	48757.262	0.28	5488967	400000	
Mg	24	2	45	12265.423	ppb	12265.423	0.71	563910	400000	
Al	27	2	45	449.045	ppb	449.045	7.16	4094	400000	
K	39	1	45	346.418	ppb	346.418	3.33	10563907	400000	
K	39	2	45	1291.261	ppb	1291.261	2.83	27188	400000	
Ca	40	1	45	32294.235	ppb	32294.235	0.26	224850623	400000	
Ca	44	2	45	32035.329	ppb	32035.329	0.43	37874	400000	
Ti	47	2	45	904.699	ppb	904.699	21.42	37	4000	
V	51	2	72	40.394	ppb	40.394	1.22	31137	2000	
Cr	52	2	72	39.806	ppb	39.806	0.55	41676	5000	
Mn	55	2	72	119.297	ppb	119.297	1.34	32013	10000	
Fe	57	2	72	1422.648	ppb	1422.648	3.12	25352	400000	
Co	59	2	72	40.802	ppb	40.802	1.18	93977	2000	
Ni	60	2	72	40.743	ppb	40.743	2.42	28601	5000	
Cu	63	2	72	39.118	ppb	39.118	0.64	83725	5000	
Zn	66	2	72	39.815	ppb	39.815	7.85	7228	5000	
As	75	2	72	41.417	ppb	41.417	1.55	4443	2000	
Se	78	1	72	38.221	ppb	38.221	1.70	21205	2000	
Sr	88	2	72	208.798	ppb	208.798	1.76	48118	4000	
Zr	90	2	72	4941.182	ppb	4941.182	1.44	40989	1000	
Nb	93	2	72	0.027	ppb	0.027	24.19	207	200	
Mo	95	2	115	41.573	ppb	41.573	1.17	35765	2000	
Pd	105	2	115	-0.013	ppb	-0.013	0.00	0	100	
Ag	107	2	115	38.832	ppb	38.832	0.21	134920	100	
Cd	111	2	115	39.759	ppb	39.759	0.78	11441	2000	
Sn	120	2	115	37.087	ppb	37.087	3.52	25206	2000	
Sb	121	2	115	40.220	ppb	40.220	1.88	23634	1000	
Ba	137	2	115	188.430	ppb	188.430	3.44	30098	5000	
W	182	2	165	39.093	ppb	39.093	1.39	264815	100	
Pt	195	2	165	0.002	ppb	0.002	338.58	113	100	
Tl	205	2	165	38.760	ppb	38.760	1.00	348362	2000	
Pb	208	2	165	39.422	ppb	39.422	1.09	457078	5000	
Th	232	2	165	38.106	ppb	38.106	0.87	552662	2000	
U	238	2	165	37.978	ppb	37.978	0.62	635771	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	729292	0.30	911621	80.00	60	120	
Sc (IS)	45	1	HMI H2	45132183	0.24	50068556	90.14	60	120	
Sc (IS)	45	2	HMI He	408351	0.87	451776	90.39	60	120	
Sc (IS)	45	3	No Gas	101710702	0.79	123511628	82.35	60	120	
Ge Internal Standard	72	1	HMI H2	23204392	1.00	25603826	90.63	60	120	
Ge Internal Standard	72	2	HMI He	660782	0.49	720714	91.68	60	120	
In Internal Standard	115	2	HMI He	1704304	0.17	1819211	93.68	60	120	
Ho-165	165	2	HMI He	14561617	0.60	15094203	96.47	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-1-bPDS
Data File Name	219SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:08:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.577	ppb	-4.577	-43.09	82456	500000	
Li	7	2	45	8.767	ppb	8.767	187.91	4057	500000	
Li	7	3	45	-1.258	ppb	-1.258	-195.66	3698332	50000	
Be	9	1	6	200.205	ppb	200.205	1.16	51833	2000	
B	11	1	6	-3.285	ppb	-3.285	-25.67	12478	2000	
Na	23	1	45	48875.721	ppb	48875.721	0.62	175766304	2000	>LDR
Na	23	2	45	48237.015	ppb	48237.015	2.21	5390814	400000	
Mg	24	2	45	11981.276	ppb	11981.276	3.17	546778	400000	
Al	27	2	45	2079.033	ppb	2079.033	6.44	18573	400000	
K	39	1	45	319.672	ppb	319.672	8.04	10444174	400000	
K	39	2	45	1343.094	ppb	1343.094	2.24	27906	400000	
Ca	40	1	45	31198.446	ppb	31198.446	0.53	217110850	400000	
Ca	44	2	45	29825.025	ppb	29825.025	0.39	35015	400000	
Ti	47	2	45	4883.383	ppb	4883.383	18.61	157	4000	
V	51	2	72	203.517	ppb	203.517	1.91	157144	2000	
Cr	52	2	72	198.003	ppb	198.003	3.77	206711	5000	
Mn	55	2	72	280.755	ppb	280.755	3.54	75494	10000	
Fe	57	2	72	2992.263	ppb	2992.263	1.75	53351	400000	
Co	59	2	72	201.002	ppb	201.002	3.58	464064	2000	
Ni	60	2	72	200.592	ppb	200.592	2.80	140993	5000	
Cu	63	2	72	199.840	ppb	199.840	3.51	420652	5000	
Zn	66	2	72	200.001	ppb	200.001	4.84	35837	5000	
As	75	2	72	201.717	ppb	201.717	4.06	21665	2000	
Se	78	1	72	192.470	ppb	192.470	1.30	106448	2000	
Sr	88	2	72	167.157	ppb	167.157	2.45	38634	4000	
Zr	90	2	72	25767.776	ppb	25767.776	3.30	214128	1000	>LDR
Nb	93	2	72	0.639	ppb	0.639	7.77	2177	200	
Mo	95	2	115	202.158	ppb	202.158	4.19	173374	2000	
Pd	105	2	115	0.011	ppb	0.011	54.58	40	100	
Ag	107	2	115	39.610	ppb	39.610	3.41	137218	100	
Cd	111	2	115	201.961	ppb	201.961	6.78	57856	2000	
Sn	120	2	115	196.310	ppb	196.310	3.16	132718	2000	
Sb	121	2	115	199.912	ppb	199.912	3.38	117034	1000	
Ba	137	2	115	353.086	ppb	353.086	2.18	56239	5000	
W	182	2	165	202.819	ppb	202.819	7.02	1360111	100	
Pt	195	2	165	0.061	ppb	0.061	20.63	520	100	
Tl	205	2	165	210.441	ppb	210.441	3.63	1874796	2000	
Pb	208	2	165	200.228	ppb	200.228	3.55	2297597	5000	
Th	232	2	165	0.688	ppb	0.688	10.37	9997	2000	
U	238	2	165	200.321	ppb	200.321	2.56	3325212	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	731237	0.76	911621	80.21	60	120	
Sc (IS)	45	1	HMI H2	45107869	0.52	50068556	90.09	60	120	
Sc (IS)	45	2	HMI He	405496	2.10	451776	89.76	60	120	
Sc (IS)	45	3	No Gas	101574018	0.23	123511628	82.24	60	120	
Ge Internal Standard	72	1	HMI H2	23158581	0.32	25603826	90.45	60	120	
Ge Internal Standard	72	2	HMI He	662807	1.89	720714	91.97	60	120	
In Internal Standard	115	2	HMI He	1700355	2.94	1819211	93.47	60	120	
Ho-165	165	2	HMI He	14443762	1.80	15094203	95.69	60	120	

Sample Table

Sample Name	280-90592-a-2-d
Data File Name	220SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:12:13-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	19.554	ppb	19.554	17.59	88674	500000	
Li	7	2	45	29.683	ppb	29.683	40.93	4414	500000	
Li	7	3	45	16.207	ppb	16.207	16.25	3944610	50000	
Be	9	1	6	0.095	ppb	0.095	43.07	40	2000	
B	11	1	6	6.227	ppb	6.227	32.91	14936	2000	
Na	23	1	45	82987.049	ppb	82987.049	1.12	295167349	2000	>LDR
Na	23	2	45	78871.862	ppb	78871.862	0.73	8926440	400000	
Mg	24	2	45	13752.532	ppb	13752.532	1.13	636149	400000	
Al	27	2	45	85.694	ppb	85.694	14.34	840	400000	
K	39	1	45	239.062	ppb	239.062	8.77	9998328	400000	
K	39	2	45	1200.707	ppb	1200.707	6.96	25749	400000	
Ca	40	1	45	33822.416	ppb	33822.416	0.57	232953143	400000	
Ca	44	2	45	31893.726	ppb	31893.726	2.49	37937	400000	
Ti	47	2	45	462.220	ppb	462.220	146.93	23	4000	
V	51	2	72	0.031	ppb	0.031	531.64	69	2000	
Cr	52	2	72	0.205	ppb	0.205	29.22	500	5000	
Mn	55	2	72	127.954	ppb	127.954	0.08	34497	10000	
Fe	57	2	72	2117.868	ppb	2117.868	1.03	37861	400000	
Co	59	2	72	0.085	ppb	0.085	29.06	217	2000	
Ni	60	2	72	0.067	ppb	0.067	63.28	97	5000	
Cu	63	2	72	0.172	ppb	0.172	51.81	2364	5000	
Zn	66	2	72	1.690	ppb	1.690	10.72	443	5000	
As	75	2	72	1.659	ppb	1.659	12.03	186	2000	
Se	78	1	72	0.022	ppb	0.022	21.91	45	2000	
Sr	88	2	72	170.542	ppb	170.542	2.33	39493	4000	
Zr	90	2	72	15.666	ppb	15.666	81.40	173	1000	
Nb	93	2	72	-0.017	ppb	-0.017	-56.82	63	200	
Mo	95	2	115	0.403	ppb	0.403	18.61	340	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-85.88	10	100	
Ag	107	2	115	-0.001	ppb	-0.001	-257.42	57	100	
Cd	111	2	115	-0.020	ppb	-0.020	-207.96	7	2000	
Sn	120	2	115	0.125	ppb	0.125	16.54	157	2000	
Sb	121	2	115	0.078	ppb	0.078	70.81	67	1000	
Ba	137	2	115	127.386	ppb	127.386	3.90	19979	5000	
W	182	2	165	0.142	ppb	0.142	17.86	1340	100	
Pt	195	2	165	-0.004	ppb	-0.004	-69.64	70	100	
Tl	205	2	165	0.070	ppb	0.070	23.43	753	2000	
Pb	208	2	165	0.096	ppb	0.096	13.93	2160	5000	
Th	232	2	165	0.029	ppb	0.029	10.64	537	2000	
U	238	2	165	0.044	ppb	0.044	19.06	797	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	715079	0.92	911621	78.44	60	120	
Sc (IS)	45	1	HMI H2	44647444	0.72	50068556	89.17	60	120	
Sc (IS)	45	2	HMI He	410857	0.40	451776	90.94	60	120	
Sc (IS)	45	3	No Gas	102094635	1.10	123511628	82.66	60	120	
Ge Internal Standard	72	1	HMI H2	22986108	0.83	25603826	89.78	60	120	
Ge Internal Standard	72	2	HMI He	663910	0.81	720714	92.12	60	120	
In Internal Standard	115	2	HMI He	1673400	0.99	1819211	91.98	60	120	
Ho-165	165	2	HMI He	14423404	1.01	15094203	95.56	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	221_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:16:02-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	461.613	ppb	2.021	222986	500	92.3	90	110	
Li	7	2	45	498.367	ppb	3.952	11220	500	99.7	90	110	
Li	7	3	45	460.366	ppb	1.822	10006844	500	92.1	90	110	
Be	9	1	6	50.214	ppb	2.711	13482	50	100.4	90	110	
B	11	1	6	20.548	ppb	0.534	20178	50	41.1	90	110	>+\-10%
Na	23	1	45	5053.824	ppb	1.138	18667604	5000	101.1	90	110	
Na	23	2	45	4832.727	ppb	0.618	560897	5000	96.7	90	110	
Mg	24	2	45	5038.243	ppb	0.660	234610	5000	100.8	90	110	
Al	27	2	45	5095.500	ppb	1.305	46350	5000	101.9	90	110	
K	39	1	45	4908.111	ppb	1.348	30313296	5000	98.2	90	110	
K	39	2	45	5000.381	ppb	3.737	93716	5000	100.0	90	110	
Ca	40	1	45	5165.971	ppb	0.973	36475494	5000	103.3	90	110	
Ca	44	2	45	5046.107	ppb	0.983	6055	5000	100.9	90	110	
Ti	47	2	45	-297.903	ppb	0.000	0	50	-595.8	90	110	>+\-10%
V	51	2	72	51.002	ppb	2.449	39655	50	102.0	90	110	
Cr	52	2	72	50.143	ppb	1.409	52896	50	100.3	90	110	
Mn	55	2	72	51.508	ppb	1.873	13966	50	103.0	90	110	
Fe	57	2	72	5058.330	ppb	1.494	90629	5000	101.2	90	110	
Co	59	2	72	51.117	ppb	1.747	118786	50	102.2	90	110	
Ni	60	2	72	51.187	ppb	2.702	36244	50	102.4	90	110	
Cu	63	2	72	51.522	ppb	1.878	110636	50	103.0	90	110	
Zn	66	2	72	49.762	ppb	4.668	9083	50	99.5	90	110	
As	75	2	72	51.013	ppb	3.774	5521	50	102.0	90	110	
Se	78	1	72	51.343	ppb	1.214	29004	50	102.7	90	110	
Sr	88	2	72	51.483	ppb	4.808	11985	50	103.0	90	110	
Zr	90	2	72	46.644	ppb	3.908	433	50	93.3	90	110	
Nb	93	2	72	100.107	ppb	1.699	324702	100	100.1	90	110	
Mo	95	2	115	49.678	ppb	2.448	43416	50	99.4	90	110	
Pd	105	2	115	50.162	ppb	0.677	83523	50	100.3	90	110	
Ag	107	2	115	50.040	ppb	1.438	176602	50	100.1	90	110	
Cd	111	2	115	49.377	ppb	2.549	14430	50	98.8	90	110	
Sn	120	2	115	48.610	ppb	1.356	33541	50	97.2	90	110	
Sb	121	2	115	49.952	ppb	1.509	29817	50	99.9	90	110	
Ba	137	2	115	52.391	ppb	3.420	8506	50	104.8	90	110	
W	182	2	165	48.903	ppb	1.589	333216	50	97.8	90	110	
Pt	195	2	165	49.109	ppb	1.508	346750	50	98.2	90	110	
Tl	205	2	165	50.151	ppb	0.945	453510	50	100.3	90	110	
Pb	208	2	165	50.883	ppb	1.373	593305	50	101.8	90	110	
Th	232	2	165	48.268	ppb	1.849	704313	50	96.5	90	110	
U	238	2	165	47.712	ppb	1.089	803667	50	95.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	757586	0.60	911621	83.10	60	120	
Sc (IS)	45	1	HMI H2	45653321	0.60	50068556	91.18	60	120	
Sc (IS)	45	2	HMI He	413357	0.30	451776	91.50	60	120	
Sc (IS)	45	3	No Gas	104986052	0.55	123511628	85.00	60	120	
Ge Internal Standard	72	1	HMI H2	23635516	0.62	25603826	92.31	60	120	
Ge Internal Standard	72	2	HMI He	666739	0.48	720714	92.51	60	120	
In Internal Standard	115	2	HMI He	1731457	0.77	1819211	95.18	60	120	
Ho-165	165	2	HMI He	14652817	1.34	15094203	97.08	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	222_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:19:51-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-15.117	ppb	-22.9	3605036	10	
Be	9	1	6	-0.014	ppb	-393.9	13	0.5	
B	11	1	6	-17.541	ppb	-6.2	8732	0.5	
Na	23	1	45	-15.086	ppb	-3.1	250006	25	
Na	23	2	45	-22.254	ppb	-20.8	8669	25	
Mg	24	2	45	4.985	ppb	14.7	440	25	
Al	27	2	45	-4.041	ppb	-27.8	30	15	
K	39	1	45	-71.205	ppb	-10.1	8859486	50	
K	39	2	45	-3.903	ppb	-147.8	4364	50	
Ca	40	1	45	5.731	ppb	3.4	150656	50	
Ca	44	2	45	7.182	ppb	132.1	27	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	0.011	ppb	621.3	54	1	
Cr	52	2	72	-0.005	ppb	-1143.1	280	1	
Mn	55	2	72	0.221	ppb	96.1	93	0.5	
Fe	57	2	72	3.587	ppb	88.8	190	25	
Co	59	2	72	0.007	ppb	165.9	37	0.5	
Ni	60	2	72	0.058	ppb	65.2	90	1	
Cu	63	2	72	0.093	ppb	118.0	2197	1	
Zn	66	2	72	0.013	ppb	2031.2	143	5	
As	75	2	72	0.037	ppb	50.8	12	1	
Se	78	1	72	0.064	ppb	77.4	71	1	
Sr	88	2	72	0.092	ppb	136.5	37	0.5	
Zr	90	2	72	-0.794	ppb	-570.2	37	1	
Nb	93	2	72	1.033	ppb	8.3	3454	2	
Mo	95	2	115	0.096	ppb	30.4	83	0.5	
Pd	105	2	115	0.023	ppb	73.6	60	1	
Ag	107	2	115	0.031	ppb	17.9	173	1	
Cd	111	2	115	0.015	ppb	361.7	17	0.5	
Sn	120	2	115	0.017	ppb	198.6	87	1	
Sb	121	2	115	0.075	ppb	36.5	67	0.6	
Ba	137	2	115	0.022	ppb	276.8	10	0.5	
W	182	2	165	0.072	ppb	31.3	873	1	
Pt	195	2	165	0.016	ppb	56.4	210	1	
Tl	205	2	165	0.056	ppb	13.4	623	0.1	
Pb	208	2	165	0.027	ppb	65.9	1373	0.5	
Th	232	2	165	0.063	ppb	15.2	1020	1	
U	238	2	165	0.033	ppb	24.1	600	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	770271	0.19	911621	84.49	60	120	
Sc (IS)	45	1	HMI H2	45501691	0.59	50068556	90.88	60	120	
Sc (IS)	45	2	HMI He	408557	1.24	451776	90.43	60	120	
Sc (IS)	45	3	No Gas	104068465	0.64	123511628	84.26	60	120	
Ge Internal Standard	72	1	HMI H2	23607830	0.52	25603826	92.20	60	120	
Ge Internal Standard	72	2	HMI He	663674	0.51	720714	92.09	60	120	
In Internal Standard	115	2	HMI He	1724853	2.56	1819211	94.81	60	120	
Ho-165	165	2	HMI He	14394668	1.12	15094203	95.37	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-3-b
Data File Name	223SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:23:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.862	ppb	0.862	349.55	83169	500000	
Li	7	2	45	20.366	ppb	20.366	74.84	4287	500000	
Li	7	3	45	-2.985	ppb	-2.985	-97.02	3742646	50000	
Be	9	1	6	-0.024	ppb	-0.024	-161.09	10	2000	
B	11	1	6	-3.976	ppb	-3.976	-30.18	12144	2000	
Na	23	1	45	51678.490	ppb	51678.490	0.54	183855431	2000	>LDR
Na	23	2	45	49214.422	ppb	49214.422	0.99	5584467	400000	
Mg	24	2	45	12405.963	ppb	12405.963	0.54	574945	400000	
Al	27	2	45	114.609	ppb	114.609	11.98	1103	400000	
K	39	1	45	431.879	ppb	431.879	1.41	10805782	400000	
K	39	2	45	1339.123	ppb	1339.123	2.25	28260	400000	
Ca	40	1	45	33103.160	ppb	33103.160	0.10	227913817	400000	
Ca	44	2	45	32345.085	ppb	32345.085	1.23	38545	400000	
Ti	47	2	45	1327.428	ppb	1327.428	64.61	50	4000	
V	51	2	72	0.074	ppb	0.074	365.73	103	2000	
Cr	52	2	72	0.211	ppb	0.211	65.65	507	5000	
Mn	55	2	72	78.752	ppb	78.752	1.17	21293	10000	
Fe	57	2	72	1016.641	ppb	1016.641	1.89	18280	400000	
Co	59	2	72	1.306	ppb	1.306	3.19	3050	2000	
Ni	60	2	72	1.003	ppb	1.003	14.43	757	5000	
Cu	63	2	72	0.068	ppb	0.068	176.87	2150	5000	
Zn	66	2	72	3.527	ppb	3.527	21.66	773	5000	
As	75	2	72	1.600	ppb	1.600	5.22	180	2000	
Se	78	1	72	-0.001	ppb	-0.001	-1818.72	33	2000	
Sr	88	2	72	173.202	ppb	173.202	2.70	40201	4000	
Zr	90	2	72	7.981	ppb	7.981	83.14	110	1000	
Nb	93	2	72	0.578	ppb	0.578	6.80	1990	200	
Mo	95	2	115	0.203	ppb	0.203	51.41	177	2000	
Pd	105	2	115	0.009	ppb	0.009	212.13	37	100	
Ag	107	2	115	-0.005	ppb	-0.005	-128.68	47	100	
Cd	111	2	115	0.002	ppb	0.002	805.51	13	2000	
Sn	120	2	115	0.060	ppb	0.060	97.61	117	2000	
Sb	121	2	115	0.019	ppb	0.019	139.20	33	1000	
Ba	137	2	115	147.619	ppb	147.619	1.68	23918	5000	
W	182	2	165	0.063	ppb	0.063	15.49	820	100	
Pt	195	2	165	0.004	ppb	0.004	278.10	123	100	
Tl	205	2	165	0.031	ppb	0.031	13.53	407	2000	
Pb	208	2	165	0.115	ppb	0.115	7.02	2414	5000	
Th	232	2	165	0.138	ppb	0.138	13.42	2117	2000	
U	238	2	165	0.110	ppb	0.110	12.96	1897	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	723556	0.44	911621	79.37	60	120	
Sc (IS)	45	1	HMI H2	44629726	0.41	50068556	89.14	60	120	
Sc (IS)	45	2	HMI He	411609	0.16	451776	91.11	60	120	
Sc (IS)	45	3	No Gas	103412255	0.62	123511628	83.73	60	120	
Ge Internal Standard	72	1	HMI H2	23161212	0.22	25603826	90.46	60	120	
Ge Internal Standard	72	2	HMI He	665423	0.49	720714	92.33	60	120	
In Internal Standard	115	2	HMI He	1728553	0.88	1819211	95.02	60	120	
Ho-165	165	2	HMI He	14580654	0.73	15094203	96.60	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-4-b
Data File Name	224SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:27:30-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.437	ppb	2.437	248.61	85017	500000	
Li	7	2	45	17.780	ppb	17.780	96.16	4264	500000	
Li	7	3	45	1.344	ppb	1.344	89.83	3768029	50000	
Be	9	1	6	0.078	ppb	0.078	102.59	37	2000	
B	11	1	6	0.009	ppb	0.009	21935.84	13465	2000	
Na	23	1	45	41160.285	ppb	41160.285	0.76	148930681	2000	>LDR
Na	23	2	45	39541.965	ppb	39541.965	0.20	4503275	400000	
Mg	24	2	45	6877.408	ppb	6877.408	0.57	319827	400000	
Al	27	2	45	178.168	ppb	178.168	4.55	1683	400000	
K	39	1	45	685.884	ppb	685.884	4.79	12071310	400000	
K	39	2	45	1718.573	ppb	1718.573	3.57	35111	400000	
Ca	40	1	45	34561.964	ppb	34561.964	0.71	241904930	400000	
Ca	44	2	45	36928.733	ppb	36928.733	2.14	44145	400000	
Ti	47	2	45	-81.161	ppb	-81.161	-462.55	7	4000	
V	51	2	72	1.625	ppb	1.625	14.77	1307	2000	
Cr	52	2	72	0.096	ppb	0.096	22.25	387	5000	
Mn	55	2	72	146.348	ppb	146.348	1.42	39585	10000	
Fe	57	2	72	533.763	ppb	533.763	4.23	9670	400000	
Co	59	2	72	0.107	ppb	0.107	11.08	270	2000	
Ni	60	2	72	0.232	ppb	0.232	45.13	213	5000	
Cu	63	2	72	0.298	ppb	0.298	54.43	2637	5000	
Zn	66	2	72	1.439	ppb	1.439	3.19	400	5000	
As	75	2	72	3.391	ppb	3.391	6.67	374	2000	
Se	78	1	72	0.011	ppb	0.011	180.19	40	2000	
Sr	88	2	72	567.317	ppb	567.317	0.95	131771	4000	
Zr	90	2	72	3.982	ppb	3.982	61.19	77	1000	
Nb	93	2	72	0.322	ppb	0.322	8.25	1163	200	
Mo	95	2	115	1.311	ppb	1.311	0.83	1150	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-82.53	10	100	
Ag	107	2	115	-0.003	ppb	-0.003	-147.89	53	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.107	ppb	0.107	14.54	150	2000	
Sb	121	2	115	0.102	ppb	0.102	52.79	83	1000	
Ba	137	2	115	322.046	ppb	322.046	0.92	52446	5000	
W	182	2	165	0.102	ppb	0.102	11.20	1087	100	
Pt	195	2	165	0.002	ppb	0.002	172.89	113	100	
Tl	205	2	165	0.042	ppb	0.042	11.80	507	2000	
Pb	208	2	165	0.039	ppb	0.039	57.75	1520	5000	
Th	232	2	165	0.049	ppb	0.049	14.12	833	2000	
U	238	2	165	0.042	ppb	0.042	2.16	763	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	732386	0.04	911621	80.34	60	120	
Sc (IS)	45	1	HMI H2	45373041	1.01	50068556	90.62	60	120	
Sc (IS)	45	2	HMI He	412908	0.24	451776	91.40	60	120	
Sc (IS)	45	3	No Gas	102553528	0.47	123511628	83.03	60	120	
Ge Internal Standard	72	1	HMI H2	23381462	0.15	25603826	91.32	60	120	
Ge Internal Standard	72	2	HMI He	666126	0.55	720714	92.43	60	120	
In Internal Standard	115	2	HMI He	1737848	1.07	1819211	95.53	60	120	
Ho-165	165	2	HMI He	14560877	0.18	15094203	96.47	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-5-b
Data File Name	225SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:31:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-12.013	ppb	-12.013	-28.22	79747	500000	
Li	7	2	45	13.242	ppb	13.242	207.97	4161	500000	
Li	7	3	45	-9.706	ppb	-9.706	-38.37	3602991	50000	
Be	9	1	6	0.231	ppb	0.231	41.15	77	2000	
B	11	1	6	-7.393	ppb	-7.393	-18.75	11327	2000	
Na	23	1	45	31696.050	ppb	31696.050	0.55	113367595	2000	>LDR
Na	23	2	45	31059.203	ppb	31059.203	1.56	3509433	400000	
Mg	24	2	45	2360.446	ppb	2360.446	0.80	108981	400000	
Al	27	2	45	471.049	ppb	471.049	3.40	4304	400000	
K	39	1	45	-468.620	ppb	-468.620	-3.66	7047812	400000	
K	39	2	45	538.779	ppb	538.779	9.29	13959	400000	
Ca	40	1	45	4768.672	ppb	4768.672	0.52	33065797	400000	
Ca	44	2	45	4653.706	ppb	4653.706	5.83	5531	400000	
Ti	47	2	45	5162.959	ppb	5162.959	29.55	167	4000	
V	51	2	72	0.935	ppb	0.935	26.31	772	2000	
Cr	52	2	72	2.782	ppb	2.782	3.68	3207	5000	
Mn	55	2	72	4.716	ppb	4.716	18.91	1310	10000	
Fe	57	2	72	265.029	ppb	265.029	8.27	4871	400000	
Co	59	2	72	0.110	ppb	0.110	18.82	277	2000	
Ni	60	2	72	0.995	ppb	0.995	8.52	753	5000	
Cu	63	2	72	0.260	ppb	0.260	28.74	2560	5000	
Zn	66	2	72	2.140	ppb	2.140	27.21	527	5000	
As	75	2	72	0.187	ppb	0.187	48.41	28	2000	
Se	78	1	72	0.102	ppb	0.102	7.69	91	2000	
Sr	88	2	72	28.621	ppb	28.621	3.52	6672	4000	
Zr	90	2	72	58.588	ppb	58.588	7.89	533	1000	
Nb	93	2	72	0.265	ppb	0.265	29.04	980	200	
Mo	95	2	115	0.057	ppb	0.057	20.49	50	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-72.71	7	100	
Ag	107	2	115	-0.006	ppb	-0.006	-201.14	43	100	
Cd	111	2	115	0.002	ppb	0.002	944.00	13	2000	
Sn	120	2	115	0.150	ppb	0.150	36.07	180	2000	
Sb	121	2	115	0.007	ppb	0.007	599.24	27	1000	
Ba	137	2	115	86.106	ppb	86.106	4.12	14056	5000	
W	182	2	165	0.027	ppb	0.027	56.13	577	100	
Pt	195	2	165	0.001	ppb	0.001	1096.01	100	100	
Tl	205	2	165	0.029	ppb	0.029	11.88	390	2000	
Pb	208	2	165	0.161	ppb	0.161	14.23	2930	5000	
Th	232	2	165	0.108	ppb	0.108	8.81	1684	2000	
U	238	2	165	0.038	ppb	0.038	23.03	703	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	734885	0.58	911621	80.61	60	120	
Sc (IS)	45	1	HMI H2	44821074	0.63	50068556	89.52	60	120	
Sc (IS)	45	2	HMI He	409420	1.22	451776	90.62	60	120	
Sc (IS)	45	3	No Gas	101973875	0.17	123511628	82.56	60	120	
Ge Internal Standard	72	1	HMI H2	23290521	0.78	25603826	90.97	60	120	
Ge Internal Standard	72	2	HMI He	667017	0.27	720714	92.55	60	120	
In Internal Standard	115	2	HMI He	1741699	0.79	1819211	95.74	60	120	
Ho-165	165	2	HMI He	14522502	0.68	15094203	96.21	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-6-b
Data File Name	226SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:35:06-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	15.617	ppb	15.617	17.51	88292	500000	
Li	7	2	45	24.516	ppb	24.516	93.80	4344	500000	
Li	7	3	45	17.881	ppb	17.881	10.92	3932149	50000	
Be	9	1	6	-0.050	ppb	-0.050	-44.47	3	2000	
B	11	1	6	2.313	ppb	2.313	85.90	14096	2000	
Na	23	1	45	47404.035	ppb	47404.035	0.77	170220571	2000	>LDR
Na	23	2	45	45639.156	ppb	45639.156	0.57	5173831	400000	
Mg	24	2	45	12977.699	ppb	12977.699	0.53	600765	400000	
Al	27	2	45	2.966	ppb	2.966	152.73	93	400000	
K	39	1	45	-170.622	ppb	-170.622	-17.81	8346951	400000	
K	39	2	45	832.773	ppb	832.773	4.10	19244	400000	
Ca	40	1	45	37180.865	ppb	37180.865	1.06	258323929	400000	
Ca	44	2	45	35199.380	ppb	35199.380	2.01	41896	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	1.094	ppb	1.094	17.24	898	2000	
Cr	52	2	72	0.081	ppb	0.081	74.12	373	5000	
Mn	55	2	72	34.025	ppb	34.025	2.05	9259	10000	
Fe	57	2	72	67.931	ppb	67.931	14.73	1347	400000	
Co	59	2	72	0.163	ppb	0.163	22.03	400	2000	
Ni	60	2	72	0.556	ppb	0.556	11.48	443	5000	
Cu	63	2	72	0.009	ppb	0.009	1464.38	2034	5000	
Zn	66	2	72	0.930	ppb	0.930	51.70	310	5000	
As	75	2	72	1.044	ppb	1.044	4.66	121	2000	
Se	78	1	72	0.910	ppb	0.910	1.96	540	2000	
Sr	88	2	72	175.270	ppb	175.270	2.94	40859	4000	
Zr	90	2	72	2.378	ppb	2.378	145.78	63	1000	
Nb	93	2	72	0.073	ppb	0.073	30.81	357	200	
Mo	95	2	115	0.454	ppb	0.454	15.82	393	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-37.56	7	100	
Ag	107	2	115	-0.013	ppb	-0.013	-25.00	17	100	
Cd	111	2	115	-0.032	ppb	-0.032	-62.62	3	2000	
Sn	120	2	115	0.061	ppb	0.061	27.47	117	2000	
Sb	121	2	115	-0.009	ppb	-0.009	-106.19	17	1000	
Ba	137	2	115	214.863	ppb	214.863	1.95	34566	5000	
W	182	2	165	0.253	ppb	0.253	13.72	2117	100	
Pt	195	2	165	0.000	ppb	0.000	-2573.44	97	100	
Tl	205	2	165	0.016	ppb	0.016	34.76	280	2000	
Pb	208	2	165	0.029	ppb	0.029	42.43	1417	5000	
Th	232	2	165	0.019	ppb	0.019	10.11	400	2000	
U	238	2	165	0.802	ppb	0.802	6.79	13560	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	729975	0.62	911621	80.07	60	120	
Sc (IS)	45	1	HMI H2	45041078	1.04	50068556	89.96	60	120	
Sc (IS)	45	2	HMI He	411165	0.87	451776	91.01	60	120	
Sc (IS)	45	3	No Gas	101209772	0.85	123511628	81.94	60	120	
Ge Internal Standard	72	1	HMI H2	23294483	0.55	25603826	90.98	60	120	
Ge Internal Standard	72	2	HMI He	668386	0.96	720714	92.74	60	120	
In Internal Standard	115	2	HMI He	1716604	0.38	1819211	94.36	60	120	
Ho-165	165	2	HMI He	14647700	0.58	15094203	97.04	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-7-b
Data File Name	227SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:38:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-7.954	ppb	-7.954	-47.51	81666	500000	
Li	7	2	45	-1.572	ppb	-1.572	-1256.73	4004	500000	
Li	7	3	45	-4.862	ppb	-4.862	-58.49	3688961	50000	
Be	9	1	6	-0.012	ppb	-0.012	-508.58	13	2000	
B	11	1	6	-3.450	ppb	-3.450	-34.24	12341	2000	
Na	23	1	45	43258.014	ppb	43258.014	0.59	156001348	2000	>LDR
Na	23	2	45	41380.975	ppb	41380.975	0.49	4734558	400000	
Mg	24	2	45	10676.798	ppb	10676.798	0.73	498751	400000	
Al	27	2	45	2.476	ppb	2.476	85.79	90	400000	
K	39	1	45	243.993	ppb	243.993	1.36	10149057	400000	
K	39	2	45	1243.735	ppb	1243.735	4.97	26771	400000	
Ca	40	1	45	27748.243	ppb	27748.243	1.45	193610470	400000	
Ca	44	2	45	26795.871	ppb	26795.871	1.02	32190	400000	
Ti	47	2	45	-189.718	ppb	-189.718	-98.77	3	4000	
V	51	2	72	0.015	ppb	0.015	1093.43	58	2000	
Cr	52	2	72	0.017	ppb	0.017	118.76	307	5000	
Mn	55	2	72	212.161	ppb	212.161	1.46	57858	10000	
Fe	57	2	72	2643.271	ppb	2643.271	1.78	47782	400000	
Co	59	2	72	0.146	ppb	0.146	23.72	363	2000	
Ni	60	2	72	0.052	ppb	0.052	31.25	87	5000	
Cu	63	2	72	0.526	ppb	0.526	36.46	3144	5000	
Zn	66	2	72	2.396	ppb	2.396	38.22	577	5000	
As	75	2	72	0.972	ppb	0.972	27.51	114	2000	
Se	78	1	72	0.008	ppb	0.008	359.61	39	2000	
Sr	88	2	72	143.584	ppb	143.584	2.55	33647	4000	
Zr	90	2	72	0.352	ppb	0.352	514.78	47	1000	
Nb	93	2	72	0.058	ppb	0.058	28.01	310	200	
Mo	95	2	115	0.188	ppb	0.188	34.17	167	2000	
Pd	105	2	115	-0.013	ppb	-0.013	0.00	0	100	
Ag	107	2	115	-0.005	ppb	-0.005	-67.11	47	100	
Cd	111	2	115	-0.021	ppb	-0.021	-94.30	7	2000	
Sn	120	2	115	0.014	ppb	0.014	494.48	87	2000	
Sb	121	2	115	-0.015	ppb	-0.015	-61.75	13	1000	
Ba	137	2	115	140.531	ppb	140.531	4.35	23100	5000	
W	182	2	165	0.028	ppb	0.028	43.69	590	100	
Pt	195	2	165	0.000	ppb	0.000	1252.17	100	100	
Tl	205	2	165	0.016	ppb	0.016	22.27	277	2000	
Pb	208	2	165	0.013	ppb	0.013	74.11	1243	5000	
Th	232	2	165	0.013	ppb	0.013	47.71	313	2000	
U	238	2	165	0.015	ppb	0.015	38.31	313	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	726198	0.81	911621	79.66	60	120	
Sc (IS)	45	1	HMI H2	45224881	0.04	50068556	90.33	60	120	
Sc (IS)	45	2	HMI He	414875	0.72	451776	91.83	60	120	
Sc (IS)	45	3	No Gas	102613365	0.71	123511628	83.08	60	120	
Ge Internal Standard	72	1	HMI H2	23425989	0.65	25603826	91.49	60	120	
Ge Internal Standard	72	2	HMI He	671803	0.09	720714	93.21	60	120	
In Internal Standard	115	2	HMI He	1753693	0.31	1819211	96.40	60	120	
Ho-165	165	2	HMI He	14759213	0.19	15094203	97.78	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-8-b
Data File Name	228SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:42:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.852	ppb	8.852	47.82	85888	500000	
Li	7	2	45	12.994	ppb	12.994	129.35	4241	500000	
Li	7	3	45	6.485	ppb	6.485	70.86	3881881	50000	
Be	9	1	6	-0.010	ppb	-0.010	-238.60	13	2000	
B	11	1	6	-3.841	ppb	-3.841	-51.02	12078	2000	
Na	23	1	45	54007.744	ppb	54007.744	3.55	192899770	2000	>LDR
Na	23	2	45	50536.509	ppb	50536.509	6.65	5813807	400000	
Mg	24	2	45	8175.519	ppb	8175.519	5.67	384298	400000	
Al	27	2	45	95.450	ppb	95.450	21.98	940	400000	
K	39	1	45	366.201	ppb	366.201	26.84	10570809	400000	
K	39	2	45	1291.444	ppb	1291.444	7.68	27792	400000	
Ca	40	1	45	15789.311	ppb	15789.311	3.79	109196822	400000	
Ca	44	2	45	14865.785	ppb	14865.785	8.81	17966	400000	
Ti	47	2	45	856.296	ppb	856.296	167.81	37	4000	
V	51	2	72	0.987	ppb	0.987	29.55	817	2000	
Cr	52	2	72	10.873	ppb	10.873	8.52	11778	5000	
Mn	55	2	72	86.154	ppb	86.154	8.48	23496	10000	
Fe	57	2	72	2235.989	ppb	2235.989	8.85	40404	400000	
Co	59	2	72	0.403	ppb	0.403	13.67	967	2000	
Ni	60	2	72	1.109	ppb	1.109	10.45	840	5000	
Cu	63	2	72	0.843	ppb	0.843	17.70	3814	5000	
Zn	66	2	72	19.703	ppb	19.703	3.17	3714	5000	
As	75	2	72	1.417	ppb	1.417	10.89	162	2000	
Se	78	1	72	0.002	ppb	0.002	965.01	35	2000	
Sr	88	2	72	93.127	ppb	93.127	5.50	21828	4000	
Zr	90	2	72	12.306	ppb	12.306	38.42	147	1000	
Nb	93	2	72	0.058	ppb	0.058	22.99	310	200	
Mo	95	2	115	0.136	ppb	0.136	51.84	120	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-349.81	17	100	
Ag	107	2	115	-0.010	ppb	-0.010	-90.60	27	100	
Cd	111	2	115	-0.032	ppb	-0.032	-59.73	3	2000	
Sn	120	2	115	0.070	ppb	0.070	108.14	123	2000	
Sb	121	2	115	0.002	ppb	0.002	1181.92	23	1000	
Ba	137	2	115	139.905	ppb	139.905	7.34	22836	5000	
W	182	2	165	0.021	ppb	0.021	25.94	540	100	
Pt	195	2	165	-0.001	ppb	-0.001	-855.61	90	100	
Tl	205	2	165	0.017	ppb	0.017	57.24	287	2000	
Pb	208	2	165	0.139	ppb	0.139	17.10	2704	5000	
Th	232	2	165	0.045	ppb	0.045	16.02	780	2000	
U	238	2	165	0.015	ppb	0.015	10.26	310	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	717737	2.75	911621	78.73	60	120	
Sc (IS)	45	1	HMI H2	44833966	2.51	50068556	89.55	60	120	
Sc (IS)	45	2	HMI He	417936	3.46	451776	92.51	60	120	
Sc (IS)	45	3	No Gas	103807382	0.99	123511628	84.05	60	120	
Ge Internal Standard	72	1	HMI H2	23196014	2.71	25603826	90.60	60	120	
Ge Internal Standard	72	2	HMI He	672501	3.27	720714	93.31	60	120	
In Internal Standard	115	2	HMI He	1745663	5.27	1819211	95.96	60	120	
Ho-165	165	2	HMI He	14711915	3.40	15094203	97.47	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-9-b
Data File Name	229SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:46:28-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-21.753	ppb	-21.753	-11.46	77954	500000	
Li	7	2	45	-13.737	ppb	-13.737	-80.41	3791	500000	
Li	7	3	45	-23.422	ppb	-23.422	-5.11	3431043	50000	
Be	9	1	6	0.027	ppb	0.027	299.51	23	2000	
B	11	1	6	-10.943	ppb	-10.943	-14.27	10277	2000	
Na	23	1	45	82108.289	ppb	82108.289	1.00	297282389	2000	>LDR
Na	23	2	45	79997.647	ppb	79997.647	0.81	9057088	400000	
Mg	24	2	45	1596.291	ppb	1596.291	2.36	74053	400000	
Al	27	2	45	145.407	ppb	145.407	9.06	1380	400000	
K	39	1	45	-788.628	ppb	-788.628	-0.51	5775723	400000	
K	39	2	45	207.805	ppb	207.805	2.26	8146	400000	
Ca	40	1	45	3223.156	ppb	3223.156	0.67	22696814	400000	
Ca	44	2	45	3082.091	ppb	3082.091	5.09	3684	400000	
Ti	47	2	45	1110.375	ppb	1110.375	194.73	43	4000	
V	51	2	72	0.631	ppb	0.631	15.79	538	2000	
Cr	52	2	72	1.619	ppb	1.619	4.75	1994	5000	
Mn	55	2	72	9.325	ppb	9.325	10.74	2567	10000	
Fe	57	2	72	146.018	ppb	146.018	7.09	2750	400000	
Co	59	2	72	0.237	ppb	0.237	8.48	573	2000	
Ni	60	2	72	1.870	ppb	1.870	1.71	1377	5000	
Cu	63	2	72	0.169	ppb	0.169	118.87	2377	5000	
Zn	66	2	72	2.704	ppb	2.704	12.51	630	5000	
As	75	2	72	0.403	ppb	0.403	14.20	52	2000	
Se	78	1	72	0.177	ppb	0.177	50.06	132	2000	
Sr	88	2	72	21.604	ppb	21.604	5.09	5058	4000	
Zr	90	2	72	22.999	ppb	22.999	34.26	237	1000	
Nb	93	2	72	0.047	ppb	0.047	10.17	273	200	
Mo	95	2	115	0.159	ppb	0.159	59.27	140	2000	
Pd	105	2	115	-0.011	ppb	-0.011	-29.69	3	100	
Ag	107	2	115	-0.009	ppb	-0.009	-1.77	30	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.175	ppb	0.175	69.41	197	2000	
Sb	121	2	115	-0.026	ppb	-0.026	-36.70	7	1000	
Ba	137	2	115	74.607	ppb	74.607	5.15	12131	5000	
W	182	2	165	0.012	ppb	0.012	75.25	480	100	
Pt	195	2	165	0.001	ppb	0.001	478.31	103	100	
Tl	205	2	165	0.017	ppb	0.017	13.27	283	2000	
Pb	208	2	165	0.178	ppb	0.178	6.49	3147	5000	
Th	232	2	165	0.062	ppb	0.062	5.98	1023	2000	
U	238	2	165	0.081	ppb	0.081	5.97	1417	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	734676	0.38	911621	80.59	60	120	
Sc (IS)	45	1	HMI H2	45447229	0.52	50068556	90.77	60	120	
Sc (IS)	45	2	HMI He	411004	0.34	451776	90.98	60	120	
Sc (IS)	45	3	No Gas	102170862	0.76	123511628	82.72	60	120	
Ge Internal Standard	72	1	HMI H2	23298114	0.86	25603826	90.99	60	120	
Ge Internal Standard	72	2	HMI He	669393	0.17	720714	92.88	60	120	
In Internal Standard	115	2	HMI He	1735178	1.99	1819211	95.38	60	120	
Ho-165	165	2	HMI He	14620684	0.92	15094203	96.86	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-10-b
Data File Name	230SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:50:15-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.896	ppb	32.896	6.42	93457	500000	
Li	7	2	45	47.963	ppb	47.963	59.40	4734	500000	
Li	7	3	45	26.641	ppb	26.641	11.76	4098919	50000	
Be	9	1	6	-0.025	ppb	-0.025	-155.90	10	2000	
B	11	1	6	-2.113	ppb	-2.113	-65.91	12772	2000	
Na	23	1	45	50863.375	ppb	50863.375	0.73	182748997	2000	>LDR
Na	23	2	45	48948.349	ppb	48948.349	1.97	5614304	400000	
Mg	24	2	45	9610.009	ppb	9610.009	1.04	450252	400000	
Al	27	2	45	98.679	ppb	98.679	10.46	970	400000	
K	39	1	45	6315.722	ppb	6315.722	0.73	35905655	400000	
K	39	2	45	7264.084	ppb	7264.084	0.84	134988	400000	
Ca	40	1	45	43529.363	ppb	43529.363	0.93	302609662	400000	
Ca	44	2	45	45767.826	ppb	45767.826	2.42	55135	400000	
Ti	47	2	45	23.255	ppb	23.255	1387.78	10	4000	
V	51	2	72	5.799	ppb	5.799	10.09	4574	2000	
Cr	52	2	72	4.665	ppb	4.665	8.94	5211	5000	
Mn	55	2	72	3.466	ppb	3.466	10.76	977	10000	
Fe	57	2	72	91.119	ppb	91.119	10.09	1767	400000	
Co	59	2	72	0.132	ppb	0.132	14.50	330	2000	
Ni	60	2	72	0.882	ppb	0.882	8.83	677	5000	
Cu	63	2	72	0.534	ppb	0.534	31.61	3154	5000	
Zn	66	2	72	9.284	ppb	9.284	14.22	1820	5000	
As	75	2	72	2.365	ppb	2.365	12.99	265	2000	
Se	78	1	72	0.198	ppb	0.198	4.49	144	2000	
Sr	88	2	72	759.758	ppb	759.758	0.33	177584	4000	
Zr	90	2	72	5.916	ppb	5.916	30.91	93	1000	
Nb	93	2	72	0.035	ppb	0.035	4.65	237	200	
Mo	95	2	115	0.160	ppb	0.160	43.74	140	2000	
Pd	105	2	115	0.003	ppb	0.003	470.12	27	100	
Ag	107	2	115	-0.003	ppb	-0.003	-235.75	53	100	
Cd	111	2	115	0.126	ppb	0.126	115.43	50	2000	
Sn	120	2	115	0.185	ppb	0.185	25.34	203	2000	
Sb	121	2	115	0.063	ppb	0.063	105.99	60	1000	
Ba	137	2	115	285.972	ppb	285.972	1.79	46522	5000	
W	182	2	165	0.038	ppb	0.038	27.99	660	100	
Pt	195	2	165	-0.005	ppb	-0.005	-69.14	60	100	
Tl	205	2	165	0.010	ppb	0.010	64.39	227	2000	
Pb	208	2	165	0.418	ppb	0.418	10.16	5964	5000	
Th	232	2	165	0.028	ppb	0.028	6.83	533	2000	
U	238	2	165	0.015	ppb	0.015	16.86	320	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	728305	1.12	911621	79.89	60	120	
Sc (IS)	45	1	HMI H2	45069531	0.46	50068556	90.02	60	120	
Sc (IS)	45	2	HMI He	416109	1.04	451776	92.11	60	120	
Sc (IS)	45	3	No Gas	102553805	0.82	123511628	83.03	60	120	
Ge Internal Standard	72	1	HMI H2	23275950	0.70	25603826	90.91	60	120	
Ge Internal Standard	72	2	HMI He	670347	0.48	720714	93.01	60	120	
In Internal Standard	115	2	HMI He	1735875	1.44	1819211	95.42	60	120	
Ho-165	165	2	HMI He	14706488	0.75	15094203	97.43	60	120	

Sample Table

Sample Name	280-90592-a-11-b
Data File Name	231SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:54:03-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-11.067	ppb	-11.067	-28.39	79861	500000	
Li	7	2	45	0.703	ppb	0.703	1705.83	4024	500000	
Li	7	3	45	-9.151	ppb	-9.151	-14.81	3589483	50000	
Be	9	1	6	-0.011	ppb	-0.011	-548.06	13	2000	
B	11	1	6	-10.484	ppb	-10.484	-9.54	10223	2000	
Na	23	1	45	97394.512	ppb	97394.512	0.64	347017635	2000	>LDR
Na	23	2	45	92927.892	ppb	92927.892	1.42	10585114	400000	
Mg	24	2	45	3062.883	ppb	3062.883	1.22	142794	400000	
Al	27	2	45	8.381	ppb	8.381	54.24	143	400000	
K	39	1	45	-728.828	ppb	-728.828	-3.50	5936661	400000	
K	39	2	45	230.382	ppb	230.382	8.60	8599	400000	
Ca	40	1	45	18011.310	ppb	18011.310	0.32	124335421	400000	
Ca	44	2	45	17007.303	ppb	17007.303	2.82	20375	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	1.825	ppb	1.825	38.44	1460	2000	
Cr	52	2	72	1.117	ppb	1.117	11.78	1457	5000	
Mn	55	2	72	3.418	ppb	3.418	24.52	957	10000	
Fe	57	2	72	16.583	ppb	16.583	2.80	423	400000	
Co	59	2	72	0.012	ppb	0.012	71.35	50	2000	
Ni	60	2	72	1.039	ppb	1.039	6.38	783	5000	
Cu	63	2	72	0.224	ppb	0.224	50.41	2484	5000	
Zn	66	2	72	11.412	ppb	11.412	4.80	2190	5000	
As	75	2	72	0.811	ppb	0.811	13.31	95	2000	
Se	78	1	72	0.079	ppb	0.079	60.21	77	2000	
Sr	88	2	72	61.061	ppb	61.061	0.80	14200	4000	
Zr	90	2	72	2.410	ppb	2.410	118.13	63	1000	
Nb	93	2	72	0.014	ppb	0.014	41.55	167	200	
Mo	95	2	115	0.150	ppb	0.150	86.75	130	2000	
Pd	105	2	115	-0.013	ppb	-0.013	0.00	0	100	
Ag	107	2	115	-0.009	ppb	-0.009	-53.24	30	100	
Cd	111	2	115	0.014	ppb	0.014	277.69	17	2000	
Sn	120	2	115	0.071	ppb	0.071	117.40	123	2000	
Sb	121	2	115	0.013	ppb	0.013	332.87	30	1000	
Ba	137	2	115	109.722	ppb	109.722	6.65	17613	5000	
W	182	2	165	0.004	ppb	0.004	253.94	423	100	
Pt	195	2	165	-0.004	ppb	-0.004	-84.73	67	100	
Tl	205	2	165	0.021	ppb	0.021	20.78	323	2000	
Pb	208	2	165	0.076	ppb	0.076	29.72	1943	5000	
Th	232	2	165	0.007	ppb	0.007	48.56	217	2000	
U	238	2	165	0.103	ppb	0.103	7.61	1777	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	721360	0.18	911621	79.13	60	120	
Sc (IS)	45	1	HMI H2	44730269	0.16	50068556	89.34	60	120	
Sc (IS)	45	2	HMI He	413586	0.50	451776	91.55	60	120	
Sc (IS)	45	3	No Gas	101388892	1.18	123511628	82.09	60	120	
Ge Internal Standard	72	1	HMI H2	23183239	0.97	25603826	90.55	60	120	
Ge Internal Standard	72	2	HMI He	666282	1.11	720714	92.45	60	120	
In Internal Standard	115	2	HMI He	1712593	0.14	1819211	94.14	60	120	
Ho-165	165	2	HMI He	14491905	0.56	15094203	96.01	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	232_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T05:57:51-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	460.797	ppb	1.259	221980	500	92.2	90	110	
Li	7	2	45	495.344	ppb	4.971	11084	500	99.1	90	110	
Li	7	3	45	464.567	ppb	1.248	9948659	500	92.9	90	110	
Be	9	1	6	50.925	ppb	3.143	13575	50	101.8	90	110	
B	11	1	6	15.154	ppb	7.169	18413	50	30.3	90	110	>+\-10%
Na	23	1	45	5091.079	ppb	1.380	18739164	5000	101.8	90	110	
Na	23	2	45	4864.855	ppb	0.608	559845	5000	97.3	90	110	
Mg	24	2	45	5047.634	ppb	0.631	233087	5000	101.0	90	110	
Al	27	2	45	4981.266	ppb	3.480	44933	5000	99.6	90	110	
K	39	1	45	4926.097	ppb	1.633	30285931	5000	98.5	90	110	
K	39	2	45	5065.110	ppb	1.391	94074	5000	101.3	90	110	
Ca	40	1	45	5150.587	ppb	1.328	36243368	5000	103.0	90	110	
Ca	44	2	45	5167.445	ppb	7.671	6148	5000	103.3	90	110	
Ti	47	2	45	-189.152	ppb	-99.583	3	50	-378.3	90	110	>+\-10%
V	51	2	72	49.834	ppb	1.952	38414	50	99.7	90	110	
Cr	52	2	72	49.994	ppb	1.924	52291	50	100.0	90	110	
Mn	55	2	72	52.426	ppb	1.162	14093	50	104.9	90	110	
Fe	57	2	72	5051.611	ppb	1.580	89735	5000	101.0	90	110	
Co	59	2	72	50.671	ppb	1.536	116727	50	101.3	90	110	
Ni	60	2	72	50.770	ppb	2.256	35633	50	101.5	90	110	
Cu	63	2	72	50.674	ppb	0.563	107906	50	101.3	90	110	
Zn	66	2	72	50.443	ppb	5.570	9123	50	100.9	90	110	
As	75	2	72	50.684	ppb	2.142	5437	50	101.4	90	110	
Se	78	1	72	50.427	ppb	0.999	28287	50	100.9	90	110	
Sr	88	2	72	53.284	ppb	2.493	12295	50	106.6	90	110	
Zr	90	2	72	29.787	ppb	19.873	290	50	59.6	90	110	>+\-10%
Nb	93	2	72	100.065	ppb	0.084	321765	100	100.1	90	110	
Mo	95	2	115	49.678	ppb	4.421	43008	50	99.4	90	110	
Pd	105	2	115	50.426	ppb	1.326	83191	50	100.9	90	110	
Ag	107	2	115	50.175	ppb	0.835	175481	50	100.4	90	110	
Cd	111	2	115	51.480	ppb	3.377	14907	50	103.0	90	110	
Sn	120	2	115	48.891	ppb	1.638	33427	50	97.8	90	110	
Sb	121	2	115	49.809	ppb	0.333	29460	50	99.6	90	110	
Ba	137	2	115	53.463	ppb	5.573	8599	50	106.9	90	110	
W	182	2	165	48.473	ppb	0.479	326777	50	96.9	90	110	
Pt	195	2	165	49.047	ppb	0.831	342629	50	98.1	90	110	
Tl	205	2	165	50.223	ppb	0.346	449305	50	100.4	90	110	
Pb	208	2	165	50.384	ppb	0.669	581259	50	100.8	90	110	
Th	232	2	165	48.443	ppb	0.247	699378	50	96.9	90	110	
U	238	2	165	47.684	ppb	0.473	794620	50	95.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	752432	1.03	911621	82.54	60	120	
Sc (IS)	45	1	HMI H2	45496039	0.56	50068556	90.87	60	120	
Sc (IS)	45	2	HMI He	409909	0.11	451776	90.73	60	120	
Sc (IS)	45	3	No Gas	103795625	1.23	123511628	84.04	60	120	
Ge Internal Standard	72	1	HMI H2	23466778	1.15	25603826	91.65	60	120	
Ge Internal Standard	72	2	HMI He	660985	0.59	720714	91.71	60	120	
In Internal Standard	115	2	HMI He	1715704	1.31	1819211	94.31	60	120	
Ho-165	165	2	HMI He	14495211	0.44	15094203	96.03	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	233_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:01:37-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-15.707	ppb	-20.1	3570067	10	
Be	9	1	6	0.023	ppb	401.0	23	0.5	
B	11	1	6	-20.326	ppb	-7.9	7812	0.5	
Na	23	1	45	-13.116	ppb	-6.2	253062	25	
Na	23	2	45	-17.619	ppb	-18.6	9169	25	
Mg	24	2	45	4.783	ppb	40.2	430	25	
Al	27	2	45	-2.551	ppb	-110.0	43	15	
K	39	1	45	-67.634	ppb	-15.0	8733775	50	
K	39	2	45	-5.423	ppb	-379.0	4324	50	
Ca	40	1	45	2.064	ppb	10.6	122948	50	
Ca	44	2	45	-1.202	ppb	-1076.4	17	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	-0.127	ppb	-37.1	-52	1	
Cr	52	2	72	-0.049	ppb	-170.2	233	1	
Mn	55	2	72	0.172	ppb	43.4	80	0.5	
Fe	57	2	72	1.939	ppb	177.5	160	25	
Co	59	2	72	0.014	ppb	65.1	53	0.5	
Ni	60	2	72	-0.008	ppb	-208.4	43	1	
Cu	63	2	72	0.055	ppb	42.5	2107	1	
Zn	66	2	72	-0.002	ppb	-2462.4	140	5	
As	75	2	72	0.062	ppb	123.6	14	1	
Se	78	1	72	0.013	ppb	225.7	41	1	
Sr	88	2	72	0.006	ppb	868.1	17	0.5	
Zr	90	2	72	0.047	ppb	5366.7	43	1	
Nb	93	2	72	1.104	ppb	1.3	3664	2	
Mo	95	2	115	0.068	ppb	42.1	60	0.5	
Pd	105	2	115	0.045	ppb	22.3	97	1	
Ag	107	2	115	0.016	ppb	106.5	120	1	
Cd	111	2	115	-0.043	ppb	0.0	0	0.5	
Sn	120	2	115	0.074	ppb	94.9	127	1	
Sb	121	2	115	0.024	ppb	103.9	37	0.6	
Ba	137	2	115	0.065	ppb	200.0	17	0.5	
W	182	2	165	0.043	ppb	48.4	670	1	
Pt	195	2	165	0.008	ppb	83.9	150	1	
Tl	205	2	165	0.044	ppb	22.2	513	0.1	
Pb	208	2	165	0.019	ppb	31.3	1263	0.5	
Th	232	2	165	0.055	ppb	6.3	900	1	
U	238	2	165	0.029	ppb	3.8	533	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	764515	0.26	911621	83.86	60	120	
Sc (IS)	45	1	HMI H2	44778904	0.16	50068556	89.44	60	120	
Sc (IS)	45	2	HMI He	407477	0.43	451776	90.19	60	120	
Sc (IS)	45	3	No Gas	103284308	0.85	123511628	83.62	60	120	
Ge Internal Standard	72	1	HMI H2	23268194	0.20	25603826	90.88	60	120	
Ge Internal Standard	72	2	HMI He	660302	0.08	720714	91.62	60	120	
In Internal Standard	115	2	HMI He	1728830	1.93	1819211	95.03	60	120	
Ho-165	165	2	HMI He	14251172	0.53	15094203	94.41	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-12-b
Data File Name	234SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:05:25-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.628	ppb	-0.628	-555.71	81880	500000	
Li	7	2	45	9.484	ppb	9.484	61.07	4071	500000	
Li	7	3	45	0.297	ppb	0.297	745.43	3708982	50000	
Be	9	1	6	0.002	ppb	0.002	2586.57	17	2000	
B	11	1	6	-4.701	ppb	-4.701	-9.06	11941	2000	
Na	23	1	45	61095.206	ppb	61095.206	0.28	215047157	2000	>LDR
Na	23	2	45	58659.149	ppb	58659.149	1.25	6556474	400000	
Mg	24	2	45	7774.355	ppb	7774.355	0.08	355117	400000	
Al	27	2	45	23.709	ppb	23.709	51.23	277	400000	
K	39	1	45	333.819	ppb	333.819	5.34	10285280	400000	
K	39	2	45	1296.633	ppb	1296.633	4.34	27098	400000	
Ca	40	1	45	23687.887	ppb	23687.887	0.84	161427848	400000	
Ca	44	2	45	23177.877	ppb	23177.877	3.15	27222	400000	
Ti	47	2	45	-186.863	ppb	-186.863	-102.92	3	4000	
V	51	2	72	0.362	ppb	0.362	48.88	323	2000	
Cr	52	2	72	1.962	ppb	1.962	10.65	2317	5000	
Mn	55	2	72	5.014	ppb	5.014	17.71	1373	10000	
Fe	57	2	72	27.783	ppb	27.783	14.11	617	400000	
Co	59	2	72	0.015	ppb	0.015	106.66	57	2000	
Ni	60	2	72	1.300	ppb	1.300	28.27	957	5000	
Cu	63	2	72	0.266	ppb	0.266	41.99	2540	5000	
Zn	66	2	72	5.558	ppb	5.558	22.99	1127	5000	
As	75	2	72	0.172	ppb	0.172	40.05	26	2000	
Se	78	1	72	0.106	ppb	0.106	46.93	91	2000	
Sr	88	2	72	158.461	ppb	158.461	2.01	36412	4000	
Zr	90	2	72	1.267	ppb	1.267	198.27	53	1000	
Nb	93	2	72	0.545	ppb	0.545	6.59	1864	200	
Mo	95	2	115	0.066	ppb	0.066	54.86	57	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-212.08	17	100	
Ag	107	2	115	-0.006	ppb	-0.006	-81.22	40	100	
Cd	111	2	115	0.027	ppb	0.027	132.98	20	2000	
Sn	120	2	115	0.123	ppb	0.123	79.80	157	2000	
Sb	121	2	115	0.019	ppb	0.019	129.18	33	1000	
Ba	137	2	115	128.464	ppb	128.464	1.67	20423	5000	
W	182	2	165	0.035	ppb	0.035	34.16	627	100	
Pt	195	2	165	-0.003	ppb	-0.003	-138.95	73	100	
Tl	205	2	165	0.031	ppb	0.031	27.85	407	2000	
Pb	208	2	165	0.112	ppb	0.112	11.65	2340	5000	
Th	232	2	165	0.099	ppb	0.099	22.36	1527	2000	
U	238	2	165	0.060	ppb	0.060	9.47	1043	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	723959	0.62	911621	79.41	60	120	
Sc (IS)	45	1	HMI H2	44166381	0.61	50068556	88.21	60	120	
Sc (IS)	45	2	HMI He	405603	0.85	451776	89.78	60	120	
Sc (IS)	45	3	No Gas	101312728	0.69	123511628	82.03	60	120	
Ge Internal Standard	72	1	HMI H2	22748583	0.45	25603826	88.85	60	120	
Ge Internal Standard	72	2	HMI He	658801	0.29	720714	91.41	60	120	
In Internal Standard	115	2	HMI He	1696365	1.76	1819211	93.25	60	120	
Ho-165	165	2	HMI He	14367742	0.77	15094203	95.19	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-13-b
Data File Name	235SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:09:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-16.205	ppb	-16.205	-43.76	77826	500000	
Li	7	2	45	8.633	ppb	8.633	82.40	4061	500000	
Li	7	3	45	-19.374	ppb	-19.374	-11.66	3455676	50000	
Be	9	1	6	0.039	ppb	0.039	204.52	27	2000	
B	11	1	6	-11.045	ppb	-11.045	-14.10	10297	2000	
Na	23	1	45	49253.318	ppb	49253.318	0.40	174447151	2000	>LDR
Na	23	2	45	47671.665	ppb	47671.665	0.83	5333413	400000	
Mg	24	2	45	573.862	ppb	573.862	0.60	26420	400000	
Al	27	2	45	117.156	ppb	117.156	12.55	1110	400000	
K	39	1	45	-505.622	ppb	-505.622	-1.92	6831086	400000	
K	39	2	45	506.038	ppb	506.038	5.82	13265	400000	
Ca	40	1	45	1319.986	ppb	1319.986	0.34	9150291	400000	
Ca	44	2	45	1421.135	ppb	1421.135	2.70	1687	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	0.093	ppb	0.093	81.12	117	2000	
Cr	52	2	72	5.118	ppb	5.118	3.69	5608	5000	
Mn	55	2	72	5.822	ppb	5.822	12.45	1593	10000	
Fe	57	2	72	39.926	ppb	39.926	20.22	833	400000	
Co	59	2	72	0.039	ppb	0.039	57.31	110	2000	
Ni	60	2	72	1.028	ppb	1.028	15.21	770	5000	
Cu	63	2	72	0.214	ppb	0.214	69.35	2440	5000	
Zn	66	2	72	8.890	ppb	8.890	3.75	1723	5000	
As	75	2	72	0.117	ppb	0.117	90.89	20	2000	
Se	78	1	72	0.953	ppb	0.953	9.30	561	2000	
Sr	88	2	72	10.308	ppb	10.308	3.22	2390	4000	
Zr	90	2	72	10.130	ppb	10.130	69.39	127	1000	
Nb	93	2	72	0.268	ppb	0.268	9.03	980	200	
Mo	95	2	115	0.107	ppb	0.107	17.30	93	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-207.42	17	100	
Ag	107	2	115	-0.002	ppb	-0.002	-205.40	57	100	
Cd	111	2	115	-0.021	ppb	-0.021	-94.37	7	2000	
Sn	120	2	115	0.102	ppb	0.102	32.18	147	2000	
Sb	121	2	115	0.007	ppb	0.007	602.94	27	1000	
Ba	137	2	115	35.040	ppb	35.040	5.74	5715	5000	
W	182	2	165	0.018	ppb	0.018	121.26	510	100	
Pt	195	2	165	-0.001	ppb	-0.001	-9.28	90	100	
Tl	205	2	165	0.025	ppb	0.025	48.85	353	2000	
Pb	208	2	165	0.105	ppb	0.105	4.35	2247	5000	
Th	232	2	165	0.068	ppb	0.068	8.91	1080	2000	
U	238	2	165	0.033	ppb	0.033	22.38	600	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	738416	0.46	911621	81.00	60	120	
Sc (IS)	45	1	HMI H2	44427331	0.40	50068556	88.73	60	120	
Sc (IS)	45	2	HMI He	405812	0.53	451776	89.83	60	120	
Sc (IS)	45	3	No Gas	101338105	0.92	123511628	82.05	60	120	
Ge Internal Standard	72	1	HMI H2	23204056	0.64	25603826	90.63	60	120	
Ge Internal Standard	72	2	HMI He	661023	1.29	720714	91.72	60	120	
In Internal Standard	115	2	HMI He	1737285	1.84	1819211	95.50	60	120	
Ho-165	165	2	HMI He	14323715	0.52	15094203	94.90	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-14-b
Data File Name	236SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:12:58-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.571	ppb	-10.571	-11.36	78673	500000	
Li	7	2	45	27.528	ppb	27.528	55.86	4344	500000	
Li	7	3	45	-13.114	ppb	-13.114	-20.07	3571908	50000	
Be	9	1	6	-0.011	ppb	-0.011	-853.55	13	2000	
B	11	1	6	-14.629	ppb	-14.629	-3.11	9076	2000	
Na	23	1	45	86577.144	ppb	86577.144	0.28	303359829	2000	>LDR
Na	23	2	45	82214.258	ppb	82214.258	1.68	9222165	400000	
Mg	24	2	45	2776.134	ppb	2776.134	2.01	127450	400000	
Al	27	2	45	842.303	ppb	842.303	5.92	7602	400000	
K	39	1	45	-752.354	ppb	-752.354	-1.61	5739976	400000	
K	39	2	45	216.770	ppb	216.770	2.02	8229	400000	
Ca	40	1	45	4832.021	ppb	4832.021	0.25	32878085	400000	
Ca	44	2	45	4459.857	ppb	4459.857	2.26	5274	400000	
Ti	47	2	45	5172.831	ppb	5172.831	41.86	167	4000	
V	51	2	72	2.831	ppb	2.831	10.51	2228	2000	
Cr	52	2	72	2.678	ppb	2.678	6.17	3074	5000	
Mn	55	2	72	4.654	ppb	4.654	4.10	1283	10000	
Fe	57	2	72	564.249	ppb	564.249	6.80	10147	400000	
Co	59	2	72	0.135	ppb	0.135	21.55	333	2000	
Ni	60	2	72	1.182	ppb	1.182	21.86	880	5000	
Cu	63	2	72	1.368	ppb	1.368	1.87	4861	5000	
Zn	66	2	72	21.785	ppb	21.785	12.48	4027	5000	
As	75	2	72	0.689	ppb	0.689	10.14	82	2000	
Se	78	1	72	0.063	ppb	0.063	40.67	68	2000	
Sr	88	2	72	36.373	ppb	36.373	4.04	8412	4000	
Zr	90	2	72	94.007	ppb	94.007	13.69	824	1000	
Nb	93	2	72	0.247	ppb	0.247	9.58	913	200	
Mo	95	2	115	0.228	ppb	0.228	10.12	200	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-61.11	13	100	
Ag	107	2	115	-0.008	ppb	-0.008	-91.03	37	100	
Cd	111	2	115	0.206	ppb	0.206	50.96	73	2000	
Sn	120	2	115	0.132	ppb	0.132	47.85	167	2000	
Sb	121	2	115	0.219	ppb	0.219	16.07	153	1000	
Ba	137	2	115	124.600	ppb	124.600	2.86	20276	5000	
W	182	2	165	0.023	ppb	0.023	109.54	550	100	
Pt	195	2	165	0.001	ppb	0.001	199.02	107	100	
Tl	205	2	165	0.038	ppb	0.038	25.90	477	2000	
Pb	208	2	165	0.507	ppb	0.507	2.49	6934	5000	
Th	232	2	165	0.244	ppb	0.244	2.98	3654	2000	
U	238	2	165	0.098	ppb	0.098	4.76	1693	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	725691	0.96	911621	79.60	60	120	
Sc (IS)	45	1	HMI H2	43984358	0.75	50068556	87.85	60	120	
Sc (IS)	45	2	HMI He	407250	0.60	451776	90.14	60	120	
Sc (IS)	45	3	No Gas	102354175	0.43	123511628	82.87	60	120	
Ge Internal Standard	72	1	HMI H2	22861121	0.67	25603826	89.29	60	120	
Ge Internal Standard	72	2	HMI He	661982	0.96	720714	91.85	60	120	
In Internal Standard	115	2	HMI He	1736504	1.60	1819211	95.45	60	120	
Ho-165	165	2	HMI He	14554955	0.74	15094203	96.43	60	120	

Sample Table

Sample Name	280-90592-a-15-b
Data File Name	237SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:16:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.310	ppb	-14.310	-33.85	79031	500000	
Li	7	2	45	-5.966	ppb	-5.966	-25.07	3861	500000	
Li	7	3	45	-16.834	ppb	-16.834	-22.56	3485997	50000	
Be	9	1	6	0.206	ppb	0.206	37.25	70	2000	
B	11	1	6	7.819	ppb	7.819	13.35	15821	2000	
Na	23	1	45	41507.143	ppb	41507.143	0.20	148296608	2000	>LDR
Na	23	2	45	39852.541	ppb	39852.541	1.20	4468846	400000	
Mg	24	2	45	4468.504	ppb	4468.504	0.80	204694	400000	
Al	27	2	45	278.958	ppb	278.958	7.54	2557	400000	
K	39	1	45	-63.035	ppb	-63.035	-21.66	8757367	400000	
K	39	2	45	955.921	ppb	955.921	2.27	21186	400000	
Ca	40	1	45	8733.898	ppb	8733.898	0.51	60443612	400000	
Ca	44	2	45	9032.893	ppb	9032.893	0.61	10647	400000	
Ti	47	2	45	4971.478	ppb	4971.478	19.81	160	4000	
V	51	2	72	0.589	ppb	0.589	13.92	499	2000	
Cr	52	2	72	5.804	ppb	5.804	5.43	6335	5000	
Mn	55	2	72	9.300	ppb	9.300	17.07	2534	10000	
Fe	57	2	72	225.474	ppb	225.474	8.97	4134	400000	
Co	59	2	72	0.093	ppb	0.093	46.53	237	2000	
Ni	60	2	72	5.004	ppb	5.004	2.43	3564	5000	
Cu	63	2	72	0.686	ppb	0.686	18.66	3434	5000	
Zn	66	2	72	11.409	ppb	11.409	2.23	2177	5000	
As	75	2	72	0.080	ppb	0.080	95.35	16	2000	
Se	78	1	72	0.107	ppb	0.107	7.07	93	2000	
Sr	88	2	72	77.054	ppb	77.054	4.22	17810	4000	
Zr	90	2	72	30.134	ppb	30.134	12.38	293	1000	
Nb	93	2	72	0.145	ppb	0.145	8.49	587	200	
Mo	95	2	115	0.034	ppb	0.034	66.89	30	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-81.82	10	100	
Ag	107	2	115	-0.010	ppb	-0.010	-15.57	27	100	
Cd	111	2	115	0.059	ppb	0.059	114.71	30	2000	
Sn	120	2	115	0.006	ppb	0.006	832.89	80	2000	
Sb	121	2	115	-0.026	ppb	-0.026	-74.05	7	1000	
Ba	137	2	115	169.724	ppb	169.724	1.42	27567	5000	
W	182	2	165	0.021	ppb	0.021	50.52	527	100	
Pt	195	2	165	0.001	ppb	0.001	185.63	103	100	
Tl	205	2	165	0.041	ppb	0.041	12.19	490	2000	
Pb	208	2	165	0.158	ppb	0.158	21.32	2850	5000	
Th	232	2	165	0.088	ppb	0.088	6.77	1367	2000	
U	238	2	165	0.185	ppb	0.185	12.55	3100	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	735061	0.33	911621	80.63	60	120	
Sc (IS)	45	1	HMI H2	44800924	0.27	50068556	89.48	60	120	
Sc (IS)	45	2	HMI He	406599	1.07	451776	90.00	60	120	
Sc (IS)	45	3	No Gas	101276078	0.91	123511628	82.00	60	120	
Ge Internal Standard	72	1	HMI H2	23272045	0.85	25603826	90.89	60	120	
Ge Internal Standard	72	2	HMI He	662357	0.28	720714	91.90	60	120	
In Internal Standard	115	2	HMI He	1732888	0.59	1819211	95.25	60	120	
Ho-165	165	2	HMI He	14320709	0.30	15094203	94.88	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-16-b
Data File Name	238SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:20:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.493	ppb	32.493	8.08	91001	500000	
Li	7	2	45	40.752	ppb	40.752	10.07	4491	500000	
Li	7	3	45	36.460	ppb	36.460	9.14	4118949	50000	
Be	9	1	6	-0.010	ppb	-0.010	-444.75	13	2000	
B	11	1	6	10.665	ppb	10.665	15.48	16088	2000	
Na	23	1	45	101332.568	ppb	101332.568	0.46	354671968	2000	>LDR
Na	23	2	45	96800.829	ppb	96800.829	1.26	10756761	400000	
Mg	24	2	45	26339.272	ppb	26339.272	1.87	1196547	400000	
Al	27	2	45	83.998	ppb	83.998	6.50	810	400000	
K	39	1	45	778.644	ppb	778.644	4.27	12074936	400000	
K	39	2	45	1718.720	ppb	1718.720	1.99	34320	400000	
Ca	40	1	45	59826.501	ppb	59826.501	0.94	405472407	400000	
Ca	44	2	45	58285.298	ppb	58285.298	1.10	68076	400000	
Ti	47	2	45	480.321	ppb	480.321	108.07	23	4000	
V	51	2	72	0.327	ppb	0.327	63.65	291	2000	
Cr	52	2	72	1.345	ppb	1.345	11.97	1657	5000	
Mn	55	2	72	732.500	ppb	732.500	0.32	193227	10000	
Fe	57	2	72	891.372	ppb	891.372	3.86	15677	400000	
Co	59	2	72	1.356	ppb	1.356	3.99	3094	2000	
Ni	60	2	72	0.477	ppb	0.477	10.37	377	5000	
Cu	63	2	72	0.144	ppb	0.144	53.55	2257	5000	
Zn	66	2	72	8.765	ppb	8.765	2.93	1673	5000	
As	75	2	72	2.786	ppb	2.786	10.87	301	2000	
Se	78	1	72	0.028	ppb	0.028	106.91	48	2000	
Sr	88	2	72	336.777	ppb	336.777	1.26	76348	4000	
Zr	90	2	72	16.890	ppb	16.890	19.00	180	1000	
Nb	93	2	72	0.090	ppb	0.090	48.95	403	200	
Mo	95	2	115	1.417	ppb	1.417	17.76	1213	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-37.88	7	100	
Ag	107	2	115	-0.015	ppb	-0.015	-33.86	10	100	
Cd	111	2	115	-0.020	ppb	-0.020	-202.75	7	2000	
Sn	120	2	115	0.112	ppb	0.112	79.86	150	2000	
Sb	121	2	115	-0.003	ppb	-0.003	-1655.29	20	1000	
Ba	137	2	115	321.720	ppb	321.720	2.02	51109	5000	
W	182	2	165	0.010	ppb	0.010	63.73	460	100	
Pt	195	2	165	-0.002	ppb	-0.002	-120.30	80	100	
Tl	205	2	165	0.009	ppb	0.009	36.48	213	2000	
Pb	208	2	165	0.077	ppb	0.077	2.32	1940	5000	
Th	232	2	165	0.047	ppb	0.047	12.45	780	2000	
U	238	2	165	0.456	ppb	0.456	5.71	7582	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	709744	0.93	911621	77.86	60	120	
Sc (IS)	45	1	HMI H2	43942401	0.73	50068556	87.76	60	120	
Sc (IS)	45	2	HMI He	403528	1.26	451776	89.32	60	120	
Sc (IS)	45	3	No Gas	99920632	0.54	123511628	80.90	60	120	
Ge Internal Standard	72	1	HMI H2	22618109	0.36	25603826	88.34	60	120	
Ge Internal Standard	72	2	HMI He	650119	0.65	720714	90.20	60	120	
In Internal Standard	115	2	HMI He	1694862	1.36	1819211	93.16	60	120	
Ho-165	165	2	HMI He	14355998	1.05	15094203	95.11	60	120	

Sample Table

Sample Name	280-90592-a-17-b
Data File Name	239SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:24:19-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.571	ppb	10.571	67.55	85087	500000	
Li	7	2	45	41.956	ppb	41.956	46.63	4597	500000	
Li	7	3	45	4.209	ppb	4.209	32.65	3776290	50000	
Be	9	1	6	-0.024	ppb	-0.024	-162.22	10	2000	
B	11	1	6	1.290	ppb	1.290	101.88	13665	2000	
Na	23	1	45	48674.361	ppb	48674.361	0.49	171321091	2000	>LDR
Na	23	2	45	45976.203	ppb	45976.203	1.46	5217245	400000	
Mg	24	2	45	13186.889	ppb	13186.889	1.10	611086	400000	
Al	27	2	45	0.369	ppb	0.369	541.47	70	400000	
K	39	1	45	228.815	ppb	228.815	6.71	9844436	400000	
K	39	2	45	1221.611	ppb	1221.611	0.88	26173	400000	
Ca	40	1	45	35237.649	ppb	35237.649	0.46	239991423	400000	
Ca	44	2	45	33344.780	ppb	33344.780	2.88	39728	400000	
Ti	47	2	45	-191.066	ppb	-191.066	-96.85	3	4000	
V	51	2	72	0.035	ppb	0.035	373.86	72	2000	
Cr	52	2	72	0.085	ppb	0.085	27.62	370	5000	
Mn	55	2	72	204.220	ppb	204.220	2.73	54384	10000	
Fe	57	2	72	1636.145	ppb	1636.145	0.59	28931	400000	
Co	59	2	72	0.284	ppb	0.284	22.25	670	2000	
Ni	60	2	72	0.160	ppb	0.160	18.61	160	5000	
Cu	63	2	72	-0.034	ppb	-0.034	-176.99	1910	5000	
Zn	66	2	72	1.739	ppb	1.739	11.00	447	5000	
As	75	2	72	0.579	ppb	0.579	5.38	69	2000	
Se	78	1	72	0.000	ppb	0.000	-9448.06	33	2000	
Sr	88	2	72	185.408	ppb	185.408	1.42	42423	4000	
Zr	90	2	72	-0.726	ppb	-0.726	-102.16	37	1000	
Nb	93	2	72	0.060	ppb	0.060	39.93	310	200	
Mo	95	2	115	0.331	ppb	0.331	31.70	287	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-37.55	7	100	
Ag	107	2	115	-0.007	ppb	-0.007	-87.16	40	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.046	ppb	0.046	97.22	107	2000	
Sb	121	2	115	0.019	ppb	0.019	185.91	33	1000	
Ba	137	2	115	174.229	ppb	174.229	3.89	28058	5000	
W	182	2	165	0.010	ppb	0.010	61.93	457	100	
Pt	195	2	165	-0.002	ppb	-0.002	-681.70	83	100	
Tl	205	2	165	0.013	ppb	0.013	61.20	247	2000	
Pb	208	2	165	0.019	ppb	0.019	17.28	1277	5000	
Th	232	2	165	0.015	ppb	0.015	41.10	330	2000	
U	238	2	165	0.017	ppb	0.017	40.41	350	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	723009	0.73	911621	79.31	60	120	
Sc (IS)	45	1	HMI H2	44149513	0.44	50068556	88.18	60	120	
Sc (IS)	45	2	HMI He	411615	1.28	451776	91.11	60	120	
Sc (IS)	45	3	No Gas	101766062	0.55	123511628	82.39	60	120	
Ge Internal Standard	72	1	HMI H2	22883140	0.94	25603826	89.37	60	120	
Ge Internal Standard	72	2	HMI He	656094	1.16	720714	91.03	60	120	
In Internal Standard	115	2	HMI He	1718273	0.23	1819211	94.45	60	120	
Ho-165	165	2	HMI He	14414626	0.41	15094203	95.50	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-18-b
Data File Name	240SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:28:05-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.625	ppb	-19.625	-20.80	77846	500000	
Li	7	2	45	6.012	ppb	6.012	385.88	4054	500000	
Li	7	3	45	-17.682	ppb	-17.682	-5.87	3507458	50000	
Be	9	1	6	0.001	ppb	0.001	6776.59	17	2000	
B	11	1	6	-8.446	ppb	-8.446	-26.62	11054	2000	
Na	23	1	45	27063.114	ppb	27063.114	1.28	97261429	2000	>LDR
Na	23	2	45	26417.951	ppb	26417.951	0.72	2982499	400000	
Mg	24	2	45	1540.789	ppb	1540.789	0.65	71108	400000	
Al	27	2	45	80.169	ppb	80.169	28.42	787	400000	
K	39	1	45	276.201	ppb	276.201	16.85	10238418	400000	
K	39	2	45	1330.396	ppb	1330.396	2.12	27912	400000	
Ca	40	1	45	2982.828	ppb	2982.828	1.05	20814718	400000	
Ca	44	2	45	2776.935	ppb	2776.935	5.02	3304	400000	
Ti	47	2	45	357.021	ppb	357.021	0.79	20	4000	
V	51	2	72	0.599	ppb	0.599	11.87	506	2000	
Cr	52	2	72	4.569	ppb	4.569	3.87	5034	5000	
Mn	55	2	72	2.286	ppb	2.286	8.86	647	10000	
Fe	57	2	72	78.459	ppb	78.459	5.56	1517	400000	
Co	59	2	72	0.040	ppb	0.040	16.10	113	2000	
Ni	60	2	72	0.577	ppb	0.577	22.67	453	5000	
Cu	63	2	72	0.272	ppb	0.272	23.38	2560	5000	
Zn	66	2	72	2.020	ppb	2.020	36.25	500	5000	
As	75	2	72	0.092	ppb	0.092	53.47	18	2000	
Se	78	1	72	0.083	ppb	0.083	59.74	80	2000	
Sr	88	2	72	18.046	ppb	18.046	7.89	4171	4000	
Zr	90	2	72	12.910	ppb	12.910	73.76	150	1000	
Nb	93	2	72	0.033	ppb	0.033	85.78	227	200	
Mo	95	2	115	0.054	ppb	0.054	88.91	47	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-76.10	7	100	
Ag	107	2	115	-0.014	ppb	-0.014	-23.61	13	100	
Cd	111	2	115	-0.032	ppb	-0.032	-63.27	3	2000	
Sn	120	2	115	0.091	ppb	0.091	53.52	137	2000	
Sb	121	2	115	0.002	ppb	0.002	2220.49	23	1000	
Ba	137	2	115	50.663	ppb	50.663	3.89	8132	5000	
W	182	2	165	0.008	ppb	0.008	156.45	443	100	
Pt	195	2	165	-0.004	ppb	-0.004	-66.74	70	100	
Tl	205	2	165	0.021	ppb	0.021	91.69	320	2000	
Pb	208	2	165	0.074	ppb	0.074	26.32	1914	5000	
Th	232	2	165	0.020	ppb	0.020	10.13	400	2000	
U	238	2	165	0.028	ppb	0.028	6.17	527	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	737614	0.78	911621	80.91	60	120	
Sc (IS)	45	1	HMI H2	45023686	1.81	50068556	89.92	60	120	
Sc (IS)	45	2	HMI He	408819	0.43	451776	90.49	60	120	
Sc (IS)	45	3	No Gas	102214595	0.16	123511628	82.76	60	120	
Ge Internal Standard	72	1	HMI H2	23187350	1.20	25603826	90.56	60	120	
Ge Internal Standard	72	2	HMI He	660555	0.54	720714	91.65	60	120	
In Internal Standard	115	2	HMI He	1712060	0.93	1819211	94.11	60	120	
Ho-165	165	2	HMI He	14455867	0.70	15094203	95.77	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-19-b
Data File Name	241SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:31:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-1.813	ppb	-1.813	-371.46	82807	500000	
Li	7	2	45	12.637	ppb	12.637	236.74	4191	500000	
Li	7	3	45	1.413	ppb	1.413	278.55	3714348	50000	
Be	9	1	6	-0.050	ppb	-0.050	-45.19	3	2000	
B	11	1	6	-6.092	ppb	-6.092	-17.20	11514	2000	
Na	23	1	45	49954.775	ppb	49954.775	0.41	178650617	2000	>LDR
Na	23	2	45	47927.695	ppb	47927.695	1.48	5454676	400000	
Mg	24	2	45	9924.955	ppb	9924.955	0.65	461369	400000	
Al	27	2	45	51.752	ppb	51.752	13.59	537	400000	
K	39	1	45	547.041	ppb	547.041	5.39	11348023	400000	
K	39	2	45	1537.411	ppb	1537.411	1.64	31875	400000	
Ca	40	1	45	39266.643	ppb	39266.643	0.37	271716996	400000	
Ca	44	2	45	37742.913	ppb	37742.913	0.95	45107	400000	
Ti	47	2	45	134.289	ppb	134.289	278.74	13	4000	
V	51	2	72	0.095	ppb	0.095	217.91	120	2000	
Cr	52	2	72	0.353	ppb	0.353	10.34	657	5000	
Mn	55	2	72	159.760	ppb	159.760	3.61	43206	10000	
Fe	57	2	72	559.728	ppb	559.728	3.46	10137	400000	
Co	59	2	72	0.840	ppb	0.840	20.11	1970	2000	
Ni	60	2	72	1.054	ppb	1.054	12.93	793	5000	
Cu	63	2	72	-0.017	ppb	-0.017	-123.32	1974	5000	
Zn	66	2	72	5.218	ppb	5.218	25.57	1080	5000	
As	75	2	72	1.911	ppb	1.911	15.85	214	2000	
Se	78	1	72	0.028	ppb	0.028	146.23	49	2000	
Sr	88	2	72	158.389	ppb	158.389	1.90	36810	4000	
Zr	90	2	72	4.011	ppb	4.011	71.16	77	1000	
Nb	93	2	72	0.019	ppb	0.019	68.90	180	200	
Mo	95	2	115	0.557	ppb	0.557	3.24	490	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-80.18	10	100	
Ag	107	2	115	-0.011	ppb	-0.011	-38.84	23	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.054	ppb	0.054	84.92	113	2000	
Sb	121	2	115	0.024	ppb	0.024	107.45	37	1000	
Ba	137	2	115	234.268	ppb	234.268	2.33	38278	5000	
W	182	2	165	0.022	ppb	0.022	38.16	543	100	
Pt	195	2	165	0.000	ppb	0.000	-1083.46	93	100	
Tl	205	2	165	0.050	ppb	0.050	12.12	577	2000	
Pb	208	2	165	0.058	ppb	0.058	23.28	1747	5000	
Th	232	2	165	0.015	ppb	0.015	18.90	337	2000	
U	238	2	165	0.057	ppb	0.057	14.43	1017	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	722542	0.28	911621	79.26	60	120	
Sc (IS)	45	1	HMI H2	44859436	0.43	50068556	89.60	60	120	
Sc (IS)	45	2	HMI He	412828	0.76	451776	91.38	60	120	
Sc (IS)	45	3	No Gas	101066798	0.13	123511628	81.83	60	120	
Ge Internal Standard	72	1	HMI H2	23181884	0.26	25603826	90.54	60	120	
Ge Internal Standard	72	2	HMI He	666287	1.24	720714	92.45	60	120	
In Internal Standard	115	2	HMI He	1743692	1.26	1819211	95.85	60	120	
Ho-165	165	2	HMI He	14534292	0.30	15094203	96.29	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-20-b
Data File Name	242SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:35:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350340 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.646	ppb	-18.646	-47.20	77819	500000	
Li	7	2	45	12.000	ppb	12.000	214.16	4127	500000	
Li	7	3	45	-17.979	ppb	-17.979	-7.88	3483122	50000	
Be	9	1	6	0.182	ppb	0.182	81.02	63	2000	
B	11	1	6	-12.085	ppb	-12.085	-11.84	9906	2000	
Na	23	1	45	45291.087	ppb	45291.087	0.60	161914308	2000	>LDR
Na	23	2	45	43597.031	ppb	43597.031	0.29	4902254	400000	
Mg	24	2	45	4330.877	ppb	4330.877	0.93	198976	400000	
Al	27	2	45	8.247	ppb	8.247	47.62	140	400000	
K	39	1	45	-480.077	ppb	-480.077	-2.03	7001928	400000	
K	39	2	45	527.906	ppb	527.906	1.64	13716	400000	
Ca	40	1	45	8344.665	ppb	8344.665	0.87	57799039	400000	
Ca	44	2	45	7892.799	ppb	7892.799	3.39	9333	400000	
Ti	47	2	45	-188.137	ppb	-188.137	-101.06	3	4000	
V	51	2	72	0.314	ppb	0.314	84.15	287	2000	
Cr	52	2	72	1.067	ppb	1.067	6.80	1400	5000	
Mn	55	2	72	22.734	ppb	22.734	4.28	6155	10000	
Fe	57	2	72	10.105	ppb	10.105	58.51	307	400000	
Co	59	2	72	0.261	ppb	0.261	28.49	627	2000	
Ni	60	2	72	2.253	ppb	2.253	14.03	1633	5000	
Cu	63	2	72	0.034	ppb	0.034	43.81	2074	5000	
Zn	66	2	72	3.182	ppb	3.182	13.79	710	5000	
As	75	2	72	0.116	ppb	0.116	22.61	20	2000	
Se	78	1	72	0.052	ppb	0.052	43.54	63	2000	
Sr	88	2	72	45.957	ppb	45.957	5.88	10650	4000	
Zr	90	2	72	4.077	ppb	4.077	209.24	77	1000	
Nb	93	2	72	0.008	ppb	0.008	112.30	147	200	
Mo	95	2	115	0.027	ppb	0.027	89.29	23	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-103.76	17	100	
Ag	107	2	115	-0.005	ppb	-0.005	-140.41	47	100	
Cd	111	2	115	0.002	ppb	0.002	2238.07	13	2000	
Sn	120	2	115	0.094	ppb	0.094	26.37	140	2000	
Sb	121	2	115	-0.009	ppb	-0.009	-371.87	17	1000	
Ba	137	2	115	194.540	ppb	194.540	1.88	31527	5000	
W	182	2	165	0.006	ppb	0.006	157.78	440	100	
Pt	195	2	165	-0.006	ppb	-0.006	-52.77	57	100	
Tl	205	2	165	0.033	ppb	0.033	15.56	430	2000	
Pb	208	2	165	0.204	ppb	0.204	1.55	3460	5000	
Th	232	2	165	0.005	ppb	0.005	89.43	187	2000	
U	238	2	165	0.048	ppb	0.048	10.94	880	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	732491	1.14	911621	80.35	60	120	
Sc (IS)	45	1	HMI H2	44837043	0.80	50068556	89.55	60	120	
Sc (IS)	45	2	HMI He	407780	0.61	451776	90.26	60	120	
Sc (IS)	45	3	No Gas	101620792	0.95	123511628	82.28	60	120	
Ge Internal Standard	72	1	HMI H2	23252750	0.78	25603826	90.82	60	120	
Ge Internal Standard	72	2	HMI He	663502	0.88	720714	92.06	60	120	
In Internal Standard	115	2	HMI He	1729162	0.23	1819211	95.05	60	120	
Ho-165	165	2	HMI He	14691767	0.95	15094203	97.33	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	243_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:39:27-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	455.383	ppb	1.193	221986	500	91.1	90	110	
Li	7	2	45	458.002	ppb	7.372	10520	500	91.6	90	110	
Li	7	3	45	469.542	ppb	1.866	9922945	500	93.9	90	110	
Be	9	1	6	52.799	ppb	2.720	14026	50	105.6	90	110	
B	11	1	6	15.123	ppb	3.337	18333	50	30.2	90	110	>+\-10%
Na	23	1	45	5027.345	ppb	0.615	18644578	5000	100.5	90	110	
Na	23	2	45	4838.349	ppb	2.131	555533	5000	96.8	90	110	
Mg	24	2	45	5070.983	ppb	1.200	233638	5000	101.4	90	110	
Al	27	2	45	5020.756	ppb	1.913	45193	5000	100.4	90	110	
K	39	1	45	4900.659	ppb	1.674	30398920	5000	98.0	90	110	
K	39	2	45	5117.932	ppb	2.536	94778	5000	102.4	90	110	
Ca	40	1	45	5138.607	ppb	0.928	36424270	5000	102.8	90	110	
Ca	44	2	45	5275.815	ppb	3.215	6261	5000	105.5	90	110	
Ti	47	2	45	-188.888	ppb	-99.965	3	50	-377.8	90	110	>+\-10%
V	51	2	72	49.488	ppb	1.902	38474	50	99.0	90	110	
Cr	52	2	72	49.209	ppb	1.523	51910	50	98.4	90	110	
Mn	55	2	72	51.426	ppb	1.757	13943	50	102.9	90	110	
Fe	57	2	72	5102.459	ppb	1.449	91410	5000	102.0	90	110	
Co	59	2	72	50.768	ppb	0.423	117954	50	101.5	90	110	
Ni	60	2	72	50.284	ppb	1.641	35596	50	100.6	90	110	
Cu	63	2	72	50.617	ppb	1.391	108703	50	101.2	90	110	
Zn	66	2	72	50.764	ppb	3.106	9259	50	101.5	90	110	
As	75	2	72	51.179	ppb	2.634	5538	50	102.4	90	110	
Se	78	1	72	50.324	ppb	1.688	28519	50	100.6	90	110	
Sr	88	2	72	52.898	ppb	6.886	12311	50	105.8	90	110	
Zr	90	2	72	23.513	ppb	26.163	240	50	47.0	90	110	>+\-10%
Nb	93	2	72	99.262	ppb	1.047	321909	100	99.3	90	110	
Mo	95	2	115	50.894	ppb	2.617	43880	50	101.8	90	110	
Pd	105	2	115	51.326	ppb	0.971	84293	50	102.7	90	110	
Ag	107	2	115	50.118	ppb	0.497	174488	50	100.2	90	110	
Cd	111	2	115	52.103	ppb	5.581	15017	50	104.2	90	110	
Sn	120	2	115	49.395	ppb	0.893	33618	50	98.8	90	110	
Sb	121	2	115	49.849	ppb	4.335	29343	50	99.7	90	110	
Ba	137	2	115	56.018	ppb	4.523	8969	50	112.0	90	110	>+\-10%
W	182	2	165	48.943	ppb	0.684	330495	50	97.9	90	110	
Pt	195	2	165	48.708	ppb	0.733	340838	50	97.4	90	110	
Tl	205	2	165	50.662	ppb	0.665	453986	50	101.3	90	110	
Pb	208	2	165	50.605	ppb	0.411	584761	50	101.2	90	110	
Th	232	2	165	48.666	ppb	0.495	703768	50	97.3	90	110	
U	238	2	165	47.939	ppb	0.673	800214	50	95.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	749642	0.70	911621	82.23	60	120	
Sc (IS)	45	1	HMI H2	45831343	0.70	50068556	91.54	60	120	
Sc (IS)	45	2	HMI He	409012	1.46	451776	90.53	60	120	
Sc (IS)	45	3	No Gas	102838412	0.57	123511628	83.26	60	120	
Ge Internal Standard	72	1	HMI H2	23710702	0.89	25603826	92.61	60	120	
Ge Internal Standard	72	2	HMI He	666626	0.34	720714	92.50	60	120	
In Internal Standard	115	2	HMI He	1707894	0.67	1819211	93.88	60	120	
Ho-165	165	2	HMI He	14519541	0.17	15094203	96.19	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	244_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:43:13-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-16.343	ppb	-11.0	3543967	10	
Be	9	1	6	0.023	ppb	329.9	23	0.5	
B	11	1	6	-21.047	ppb	-3.5	7592	0.5	
Na	23	1	45	-12.931	ppb	-12.8	256131	25	
Na	23	2	45	-18.498	ppb	-6.5	9026	25	
Mg	24	2	45	3.813	ppb	12.5	383	25	
Al	27	2	45	-1.771	ppb	-65.3	50	15	
K	39	1	45	-86.558	ppb	-20.0	8737144	50	
K	39	2	45	-13.163	ppb	-95.9	4167	50	
Ca	40	1	45	4.785	ppb	7.4	143087	50	
Ca	44	2	45	4.498	ppb	474.8	23	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	0.046	ppb	152.8	81	1	
Cr	52	2	72	-0.070	ppb	-19.9	213	1	
Mn	55	2	72	0.132	ppb	73.5	70	0.5	
Fe	57	2	72	4.441	ppb	82.9	207	25	
Co	59	2	72	0.019	ppb	89.3	67	0.5	
Ni	60	2	72	-0.013	ppb	-280.2	40	1	
Cu	63	2	72	-0.098	ppb	-62.1	1807	1	
Zn	66	2	72	0.063	ppb	512.7	153	5	
As	75	2	72	0.090	ppb	86.7	18	1	
Se	78	1	72	0.020	ppb	19.1	45	1	
Sr	88	2	72	0.019	ppb	446.2	20	0.5	
Zr	90	2	72	-2.399	ppb	-76.2	23	1	
Nb	93	2	72	1.049	ppb	8.6	3524	2	
Mo	95	2	115	0.042	ppb	31.0	37	0.5	
Pd	105	2	115	0.033	ppb	64.5	77	1	
Ag	107	2	115	0.013	ppb	92.7	110	1	
Cd	111	2	115	0.025	ppb	233.1	20	0.5	
Sn	120	2	115	0.031	ppb	48.6	97	1	
Sb	121	2	115	0.087	ppb	51.3	73	0.6	
Ba	137	2	115	0.044	ppb	214.9	13	0.5	
W	182	2	165	0.036	ppb	31.5	637	1	
Pt	195	2	165	0.027	ppb	45.0	283	1	
Tl	205	2	165	0.049	ppb	6.8	563	0.1	
Pb	208	2	165	0.028	ppb	49.0	1383	0.5	
Th	232	2	165	0.052	ppb	9.8	857	1	
U	238	2	165	0.025	ppb	11.0	483	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	764541	0.65	911621	83.87	60	120	
Sc (IS)	45	1	HMI H2	45212433	1.15	50068556	90.30	60	120	
Sc (IS)	45	2	HMI He	405475	0.64	451776	89.75	60	120	
Sc (IS)	45	3	No Gas	102766885	0.14	123511628	83.20	60	120	
Ge Internal Standard	72	1	HMI H2	23463502	0.69	25603826	91.64	60	120	
Ge Internal Standard	72	2	HMI He	667338	0.30	720714	92.59	60	120	
In Internal Standard	115	2	HMI He	1721756	1.71	1819211	94.64	60	120	
Ho-165	165	2	HMI He	14445847	0.23	15094203	95.70	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350342/1-a
Data File Name	245_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:47:04-07:00
Sample Type	Blank
Dilution	1
Comment	350342 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-22.823	ppb	-18.63301824	76327	0.5
Li	7	2	45	2.431	ppb	610.0779209	4017	0.5
Li	7	3	45	-20.277	ppb	-11.45799988	3402286	10
Be	9	1	6	-0.026	ppb	-146.4868525	10	0.5
B	11	1	6	-19.469	ppb	-11.8171857	7939	0.5
Na	23	1	45	-3.568	ppb	-25.4096652	286473	25
Na	23	2	45	-12.191	ppb	-45.85593179	9846	25
Mg	24	2	45	2.700	ppb	43.78644216	337	25
Al	27	2	45	5.917	ppb	49.0855068	120	15
K	39	1	45	-1006.004	ppb	-1.270018411	4763030	50
K	39	2	45	-10.601	ppb	-155.5880119	4264	50
Ca	40	1	45	16.167	ppb	1.90715256	219846	50
Ca	44	2	45	29.618	ppb	59.30545988	53	25
Ti	47	2	45	-297.903	ppb	-1.81092E-06	0	0.5
V	51	2	72	0.125	ppb	175.4256712	142	1
Cr	52	2	72	1.168	ppb	8.234551902	1500	1
Mn	55	2	72	0.421	ppb	42.57669586	147	0.5
Fe	57	2	72	23.312	ppb	30.40869661	540	25
Co	59	2	72	0.002	ppb	396.2980843	27	0.5
Ni	60	2	72	0.025	ppb	143.1992076	67	1
Cu	63	2	72	0.005	ppb	605.1559921	2007	1
Zn	66	2	72	5.872	ppb	24.7919233	1187	5
As	75	2	72	0.056	ppb	1.167958342	14	1
Se	78	1	72	0.001	ppb	1187.172407	35	1
Sr	88	2	72	0.077	ppb	178.7856616	33	0.5
Zr	90	2	72	3.648	ppb	105.8945086	73	1
Nb	93	2	72	0.541	ppb	2.915426123	1860	2
Mo	95	2	115	0.037	ppb	123.2259995	33	0.5
Pd	105	2	115	0.006	ppb	188.1054952	33	1
Ag	107	2	115	-0.009	ppb	-51.1101712	30	1
Cd	111	2	115	-0.043	ppb	0	0	0.5
Sn	120	2	115	0.084	ppb	41.07356241	133	1
Sb	121	2	115	0.007	ppb	145.0681951	27	0.6
Ba	137	2	115	0.103	ppb	86.8589008	23	0.5
W	182	2	165	0.004	ppb	477.4696381	423	1
Pt	195	2	165	0.002	ppb	230.1397413	113	1
Tl	205	2	165	0.026	ppb	11.06085785	370	0.1
Pb	208	2	165	0.026	ppb	19.18214051	1380	0.5
Th	232	2	165	0.090	ppb	17.03323399	1427	1
U	238	2	165	0.004	ppb	103.4756247	120	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	751687	0.31	911621	82.46	60	120	
Sc (IS)	45	1	HMI H2	44684676	0.90	50068556	89.25	60	120	
Sc (IS)	45	2	HMI He	410389	0.41	451776	90.84	60	120	
Sc (IS)	45	3	No Gas	100118302	0.46	123511628	81.06	60	120	
Ge Internal Standard	72	1	HMI H2	23297193	0.59	25603826	90.99	60	120	
Ge Internal Standard	72	2	HMI He	661587	0.51	720714	91.80	60	120	
In Internal Standard	115	2	HMI He	1737189	2.60	1819211	95.49	60	120	
Ho-165	165	2	HMI He	14611896	0.26	15094203	96.80	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350342/2-a
Data File Name	246_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:50:50-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350342 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	51.385	51.385	ppb	5.892	98646	400	12.8	80	120	>+/-20%
Li	7	2	45	91.891	91.891	ppb	22.828	5298	400	23.0	80	120	>+/-20%
Li	7	3	45	53.027	53.027	ppb	4.352	4348778	400	13.3	80	120	>+/-20%
Be	9	1	6	39.348	39.348	ppb	5.344	10467	40	98.4	80	120	
Na	23	2	45	-23.405	-23.405	ppb	-14.481	8576	40	-58.5	80	120	>+/-20%
Mg	24	2	45	0.180	0.180	ppb	870.810	220	40	0.4	80	120	>+/-20%
Al	27	2	45	373.464	373.464	ppb	5.302	3434	40	933.7	80	120	>+/-20%
K	39	2	45	-21.235	-21.235	ppb	-47.289	4074	40	-53.1	80	120	>+/-20%
Ca	44	2	45	291.082	291.082	ppb	31.276	363	40	727.7	80	120	>+/-20%
V	51	2	72	40.280	40.280	ppb	1.715	31451	40	100.7	80	120	
Cr	52	2	72	39.157	39.157	ppb	0.736	41529	40	97.9	80	120	
Mn	55	2	72	40.796	40.796	ppb	3.759	11111	40	102.0	80	120	
Fe	57	2	72	409.343	409.343	ppb	4.936	7479	40	1023.4	80	120	>+/-20%
Co	59	2	72	40.358	40.358	ppb	1.433	94151	40	100.9	80	120	
Ni	60	2	72	40.501	40.501	ppb	3.280	28798	40	101.3	80	120	
Cu	63	2	72	39.385	39.385	ppb	1.021	85365	40	98.5	80	120	
Zn	66	2	72	42.607	42.607	ppb	2.993	7825	40	106.5	80	120	
As	75	2	72	39.574	39.574	ppb	1.469	4301	40	98.9	80	120	
Se	78	1	72	39.776	39.776	ppb	2.040	22281	40	99.4	80	120	
Nb	93	2	72	0.312	0.312	ppb	9.779	1137	40	0.8	80	120	>+/-20%
Mo	95	2	115	42.229	42.229	ppb	3.205	37107	40	105.6	80	120	
Pd	105	2	115	-0.001	-0.001	ppb	-414.323	20	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.405	39.405	ppb	0.348	139859	40	98.5	80	120	
Cd	111	2	115	40.163	40.163	ppb	3.358	11804	40	100.4	80	120	
Sn	120	2	115	38.993	38.993	ppb	1.916	27069	40	97.5	80	120	
Sb	121	2	115	38.304	38.304	ppb	5.916	22990	40	95.8	80	120	
Ba	137	2	115	41.599	41.599	ppb	6.143	6792	40	104.0	80	120	
W	182	2	165	38.367	38.367	ppb	0.812	260436	40	95.9	80	120	
Pt	195	2	165	0.000	0.000	ppb	-37728.856	97	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.356	39.356	ppb	0.592	354433	40	98.4	80	120	
Pb	208	2	165	40.330	40.330	ppb	0.787	468539	40	100.8	80	120	
Th	232	2	165	37.951	37.951	ppb	1.785	551512	40	94.9	80	120	
U	238	2	165	38.067	38.067	ppb	0.794	638546	40	95.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	750583	0.78	911621	82.33	60	120	
Sc (IS)	45	1	HMI H2	44944338	0.22	50068556	89.77	60	120	
Sc (IS)	45	2	HMI He	410184	0.97	451776	90.79	60	120	
Sc (IS)	45	3	No Gas	100348809	0.62	123511628	81.25	60	120	
Ge Internal Standard	72	1	HMI H2	23430560	0.85	25603826	91.51	60	120	
Ge Internal Standard	72	2	HMI He	669283	0.41	720714	92.86	60	120	
In Internal Standard	115	2	HMI He	1740973	0.49	1819211	95.70	60	120	
Ho-165	165	2	HMI He	14590778	0.43	15094203	96.66	60	120	

Sample Table

Sample Name	280-90592-a-21-b
Data File Name	247SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:54:40-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.596	ppb	-22.596	-13.00	76668	500000	
Li	7	2	45	5.258	ppb	5.258	94.25	4054	500000	
Li	7	3	45	-26.379	ppb	-26.379	-5.52	3318939	50000	
Be	9	1	6	0.062	ppb	0.062	194.09	33	2000	
B	11	1	6	-19.550	ppb	-19.550	-1.37	7902	2000	
Na	23	1	45	-27.150	ppb	-27.150	-1.44	203322	2000	
Na	23	2	45	-32.121	ppb	-32.121	-1.84	7589	400000	
Mg	24	2	45	-0.100	ppb	-0.100	-1956.69	207	400000	
Al	27	2	45	-2.938	ppb	-2.938	-39.78	40	400000	
K	39	1	45	-1044.678	ppb	-1044.678	-0.68	4616574	400000	
K	39	2	45	-29.770	ppb	-29.770	-31.36	3921	400000	
Ca	40	1	45	1.908	ppb	1.908	30.73	122031	400000	
Ca	44	2	45	-1.250	ppb	-1.250	-392.35	17	400000	
Ti	47	2	45	-190.753	ppb	-190.753	-97.29	3	4000	
V	51	2	72	0.532	ppb	0.532	114.28	464	2000	
Cr	52	2	72	6.930	ppb	6.930	2.99	7582	5000	
Mn	55	2	72	0.917	ppb	0.917	17.27	283	10000	
Fe	57	2	72	69.669	ppb	69.669	7.03	1377	400000	
Co	59	2	72	0.027	ppb	0.027	77.41	83	2000	
Ni	60	2	72	0.094	ppb	0.094	46.12	117	5000	
Cu	63	2	72	0.365	ppb	0.365	26.35	2787	5000	
Zn	66	2	72	1.228	ppb	1.228	41.23	363	5000	
As	75	2	72	0.012	ppb	0.012	93.49	9	2000	
Se	78	1	72	0.003	ppb	0.003	909.12	36	2000	
Sr	88	2	72	0.104	ppb	0.104	107.64	40	4000	
Zr	90	2	72	33.054	ppb	33.054	28.81	320	1000	
Nb	93	2	72	0.129	ppb	0.129	20.43	540	200	
Mo	95	2	115	0.090	ppb	0.090	25.78	80	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-124.50	13	100	
Ag	107	2	115	-0.006	ppb	-0.006	-98.70	43	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.084	ppb	0.084	125.51	137	2000	
Sb	121	2	115	0.335	ppb	0.335	32.66	227	1000	
Ba	137	2	115	0.062	ppb	0.062	203.14	17	5000	
W	182	2	165	0.056	ppb	0.056	33.52	783	100	
Pt	195	2	165	0.000	ppb	0.000	663.36	100	100	
Tl	205	2	165	0.042	ppb	0.042	40.31	510	2000	
Pb	208	2	165	0.067	ppb	0.067	36.02	1860	5000	
Th	232	2	165	0.202	ppb	0.202	3.99	3070	2000	
U	238	2	165	0.010	ppb	0.010	9.03	233	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	750395	0.43	911621	82.31	60	120	
Sc (IS)	45	1	HMI H2	44840683	0.35	50068556	89.56	60	120	
Sc (IS)	45	2	HMI He	409931	1.73	451776	90.74	60	120	
Sc (IS)	45	3	No Gas	99954659	0.69	123511628	80.93	60	120	
Ge Internal Standard	72	1	HMI H2	23370650	0.03	25603826	91.28	60	120	
Ge Internal Standard	72	2	HMI He	668709	1.28	720714	92.78	60	120	
In Internal Standard	115	2	HMI He	1765017	0.83	1819211	97.02	60	120	
Ho-165	165	2	HMI He	14684594	0.22	15094203	97.29	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-22-b
Data File Name	248SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T06:58:29-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.511	ppb	-25.511	-11.67	74787	500000	
Li	7	2	45	3.754	ppb	3.754	153.36	4031	500000	
Li	7	3	45	-18.926	ppb	-18.926	-17.72	3397264	50000	
Be	9	1	6	-0.050	ppb	-0.050	-46.14	3	2000	
B	11	1	6	-12.957	ppb	-12.957	-1.82	9339	2000	
Na	23	1	45	121279.476	ppb	121279.476	0.42	427259514	2000	>LDR
Na	23	2	45	115234.435	ppb	115234.435	1.23	13004839	400000	
Mg	24	2	45	6841.023	ppb	6841.023	1.38	315773	400000	
Al	27	2	45	1001.192	ppb	1001.192	2.14	9083	400000	
K	39	1	45	-399.999	ppb	-399.999	-5.01	7241642	400000	
K	39	2	45	629.131	ppb	629.131	3.77	15577	400000	
Ca	40	1	45	13872.424	ppb	13872.424	0.65	94728462	400000	
Ca	44	2	45	13847.081	ppb	13847.081	1.73	16445	400000	
Ti	47	2	45	12491.356	ppb	12491.356	60.47	390	4000	
V	51	2	72	8.586	ppb	8.586	2.32	6709	2000	
Cr	52	2	72	1.343	ppb	1.343	13.76	1693	5000	
Mn	55	2	72	4.007	ppb	4.007	3.58	1117	10000	
Fe	57	2	72	600.092	ppb	600.092	6.94	10850	400000	
Co	59	2	72	0.153	ppb	0.153	22.56	377	2000	
Ni	60	2	72	0.785	ppb	0.785	13.02	603	5000	
Cu	63	2	72	0.511	ppb	0.511	26.31	3084	5000	
Zn	66	2	72	15.889	ppb	15.889	1.39	2994	5000	
As	75	2	72	2.197	ppb	2.197	6.98	245	2000	
Se	78	1	72	1.361	ppb	1.361	6.77	779	2000	
Sr	88	2	72	86.286	ppb	86.286	1.78	20056	4000	
Zr	90	2	72	149.415	ppb	149.415	17.03	1290	1000	
Nb	93	2	72	0.192	ppb	0.192	21.46	740	200	
Mo	95	2	115	1.658	ppb	1.658	8.69	1443	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-1.26	10	100	
Ag	107	2	115	-0.005	ppb	-0.005	-34.60	47	100	
Cd	111	2	115	0.105	ppb	0.105	47.71	43	2000	
Sn	120	2	115	0.128	ppb	0.128	61.54	163	2000	
Sb	121	2	115	0.075	ppb	0.075	57.40	67	1000	
Ba	137	2	115	191.409	ppb	191.409	2.17	30913	5000	
W	182	2	165	0.090	ppb	0.090	18.02	1010	100	
Pt	195	2	165	0.002	ppb	0.002	284.42	113	100	
Tl	205	2	165	0.038	ppb	0.038	18.06	480	2000	
Pb	208	2	165	0.432	ppb	0.432	15.62	6108	5000	
Th	232	2	165	0.324	ppb	0.324	6.72	4841	2000	
U	238	2	165	2.208	ppb	2.208	1.29	37216	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	708701	0.09	911621	77.74	60	120	
Sc (IS)	45	1	HMI H2	44235294	0.78	50068556	88.35	60	120	
Sc (IS)	45	2	HMI He	409886	1.25	451776	90.73	60	120	
Sc (IS)	45	3	No Gas	99471715	1.09	123511628	80.54	60	120	
Ge Internal Standard	72	1	HMI H2	22947166	1.28	25603826	89.62	60	120	
Ge Internal Standard	72	2	HMI He	666137	0.99	720714	92.43	60	120	
In Internal Standard	115	2	HMI He	1723558	1.54	1819211	94.74	60	120	
Ho-165	165	2	HMI He	14639732	0.64	15094203	96.99	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-23-b
Data File Name	249SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:02:16-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-8.991	ppb	-8.991	-23.50	81070	500000	
Li	7	2	45	9.740	ppb	9.740	119.18	4151	500000	
Li	7	3	45	-7.787	ppb	-7.787	-25.10	3598272	50000	
Be	9	1	6	-0.037	ppb	-0.037	-119.91	7	2000	
B	11	1	6	-1.713	ppb	-1.713	-47.68	12932	2000	
Na	23	1	45	69220.278	ppb	69220.278	0.46	248564496	2000	>LDR
Na	23	2	45	66038.846	ppb	66038.846	1.06	7517963	400000	
Mg	24	2	45	4064.713	ppb	4064.713	2.00	189238	400000	
Al	27	2	45	64.235	ppb	64.235	6.09	650	400000	
K	39	1	45	-690.826	ppb	-690.826	-2.23	6142410	400000	
K	39	2	45	328.983	ppb	328.983	1.77	10350	400000	
Ca	40	1	45	8214.404	ppb	8214.404	0.45	57189836	400000	
Ca	44	2	45	8152.794	ppb	8152.794	0.74	9766	400000	
Ti	47	2	45	343.558	ppb	343.558	246.05	20	4000	
V	51	2	72	1.824	ppb	1.824	42.80	1484	2000	
Cr	52	2	72	11.538	ppb	11.538	3.88	12562	5000	
Mn	55	2	72	4.457	ppb	4.457	7.44	1257	10000	
Fe	57	2	72	61.283	ppb	61.283	6.03	1240	400000	
Co	59	2	72	0.044	ppb	0.044	13.00	127	2000	
Ni	60	2	72	16.051	ppb	16.051	2.91	11547	5000	
Cu	63	2	72	0.706	ppb	0.706	33.84	3541	5000	
Zn	66	2	72	18.840	ppb	18.840	6.78	3574	5000	
As	75	2	72	0.399	ppb	0.399	25.98	52	2000	
Se	78	1	72	0.205	ppb	0.205	31.18	148	2000	
Sr	88	2	72	54.747	ppb	54.747	4.86	12919	4000	
Zr	90	2	72	29.421	ppb	29.421	19.17	293	1000	
Nb	93	2	72	0.107	ppb	0.107	17.83	473	200	
Mo	95	2	115	1.097	ppb	1.097	14.38	957	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-73.63	7	100	
Ag	107	2	115	-0.013	ppb	-0.013	-32.62	17	100	
Cd	111	2	115	0.071	ppb	0.071	120.93	33	2000	
Sn	120	2	115	0.176	ppb	0.176	11.20	197	2000	
Sb	121	2	115	0.063	ppb	0.063	95.30	60	1000	
Ba	137	2	115	105.394	ppb	105.394	2.34	17079	5000	
W	182	2	165	0.023	ppb	0.023	102.01	557	100	
Pt	195	2	165	0.004	ppb	0.004	72.62	127	100	
Tl	205	2	165	0.027	ppb	0.027	19.72	377	2000	
Pb	208	2	165	0.107	ppb	0.107	6.12	2354	5000	
Th	232	2	165	0.063	ppb	0.063	11.74	1040	2000	
U	238	2	165	0.036	ppb	0.036	14.22	673	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	730863	0.35	911621	80.17	60	120	
Sc (IS)	45	1	HMI H2	45065974	0.85	50068556	90.01	60	120	
Sc (IS)	45	2	HMI He	413196	1.18	451776	91.46	60	120	
Sc (IS)	45	3	No Gas	101140518	0.64	123511628	81.89	60	120	
Ge Internal Standard	72	1	HMI H2	23304917	0.91	25603826	91.02	60	120	
Ge Internal Standard	72	2	HMI He	675663	1.56	720714	93.75	60	120	
In Internal Standard	115	2	HMI He	1728953	0.93	1819211	95.04	60	120	
Ho-165	165	2	HMI He	14801314	0.45	15094203	98.06	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-24-b
Data File Name	250SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:06:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	9.176	ppb	9.176	21.41	86360	500000	
Li	7	2	45	25.507	ppb	25.507	78.44	4364	500000	
Li	7	3	45	6.043	ppb	6.043	49.59	3761166	50000	
Be	9	1	6	-0.011	ppb	-0.011	-804.68	13	2000	
B	11	1	6	-5.289	ppb	-5.289	-37.47	11978	2000	
Na	23	1	45	22126.867	ppb	22126.867	1.04	79589349	2000	>LDR
Na	23	2	45	21642.438	ppb	21642.438	1.29	2463991	400000	
Mg	24	2	45	7260.762	ppb	7260.762	0.51	336821	400000	
Al	27	2	45	213.178	ppb	213.178	11.92	1997	400000	
K	39	1	45	-161.110	ppb	-161.110	-12.37	8384791	400000	
K	39	2	45	854.120	ppb	854.120	4.69	19658	400000	
Ca	40	1	45	13243.554	ppb	13243.554	0.34	92054289	400000	
Ca	44	2	45	12882.271	ppb	12882.271	1.38	15374	400000	
Ti	47	2	45	1538.972	ppb	1538.972	140.28	57	4000	
V	51	2	72	2.273	ppb	2.273	31.38	1816	2000	
Cr	52	2	72	2.372	ppb	2.372	1.99	2780	5000	
Mn	55	2	72	7.587	ppb	7.587	3.98	2090	10000	
Fe	57	2	72	173.091	ppb	173.091	6.37	3230	400000	
Co	59	2	72	0.088	ppb	0.088	54.11	227	2000	
Ni	60	2	72	1.953	ppb	1.953	26.27	1430	5000	
Cu	63	2	72	0.265	ppb	0.265	58.03	2574	5000	
Zn	66	2	72	4.183	ppb	4.183	26.38	893	5000	
As	75	2	72	1.533	ppb	1.533	8.18	174	2000	
Se	78	1	72	3.972	ppb	3.972	4.36	2254	2000	
Sr	88	2	72	89.824	ppb	89.824	1.90	20933	4000	
Zr	90	2	72	42.149	ppb	42.149	10.72	397	1000	
Nb	93	2	72	0.094	ppb	0.094	10.21	427	200	
Mo	95	2	115	0.105	ppb	0.105	23.96	93	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-180.98	17	100	
Ag	107	2	115	-0.014	ppb	-0.014	-11.46	13	100	
Cd	111	2	115	0.012	ppb	0.012	305.82	17	2000	
Sn	120	2	115	0.151	ppb	0.151	14.67	183	2000	
Sb	121	2	115	0.072	ppb	0.072	70.08	67	1000	
Ba	137	2	115	136.943	ppb	136.943	2.76	22653	5000	
W	182	2	165	0.025	ppb	0.025	69.57	570	100	
Pt	195	2	165	-0.002	ppb	-0.002	-310.10	80	100	
Tl	205	2	165	0.025	ppb	0.025	24.14	357	2000	
Pb	208	2	165	0.123	ppb	0.123	1.38	2520	5000	
Th	232	2	165	0.079	ppb	0.079	15.48	1273	2000	
U	238	2	165	0.064	ppb	0.064	1.51	1137	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	736995	1.58	911621	80.84	60	120	
Sc (IS)	45	1	HMI H2	45024748	0.44	50068556	89.93	60	120	
Sc (IS)	45	2	HMI He	411907	0.50	451776	91.18	60	120	
Sc (IS)	45	3	No Gas	100725622	0.66	123511628	81.55	60	120	
Ge Internal Standard	72	1	HMI H2	23404508	0.39	25603826	91.41	60	120	
Ge Internal Standard	72	2	HMI He	667851	1.02	720714	92.67	60	120	
In Internal Standard	115	2	HMI He	1765078	1.92	1819211	97.02	60	120	
Ho-165	165	2	HMI He	14705762	0.71	15094203	97.43	60	120	

Sample Report

Sample Table

Sample Name	280-90592-a-25-d
Data File Name	251SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:09:47-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.117	ppb	3.117	31.11	83788	500000	
Li	7	2	45	12.540	ppb	12.540	68.88	4144	500000	
Li	7	3	45	6.893	ppb	6.893	14.74	3761477	50000	
Be	9	1	6	-0.037	ppb	-0.037	-122.69	7	2000	
B	11	1	6	-6.136	ppb	-6.136	-10.48	11501	2000	
Na	23	1	45	49824.874	ppb	49824.874	0.40	177181497	2000	>LDR
Na	23	2	45	48146.848	ppb	48146.848	0.57	5421815	400000	
Mg	24	2	45	10365.644	ppb	10365.644	0.89	476751	400000	
Al	27	2	45	0.788	ppb	0.788	360.56	73	400000	
K	39	1	45	301.328	ppb	301.328	5.95	10251188	400000	
K	39	2	45	1276.633	ppb	1276.633	1.01	26944	400000	
Ca	40	1	45	26257.908	ppb	26257.908	0.69	180709477	400000	
Ca	44	2	45	25960.744	ppb	25960.744	2.86	30700	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	-0.041	ppb	-0.041	-753.64	15	2000	
Cr	52	2	72	-0.009	ppb	-0.009	-411.55	277	5000	
Mn	55	2	72	78.360	ppb	78.360	0.80	21177	10000	
Fe	57	2	72	1204.607	ppb	1204.607	2.60	21624	400000	
Co	59	2	72	0.795	ppb	0.795	5.86	1864	2000	
Ni	60	2	72	0.488	ppb	0.488	2.94	393	5000	
Cu	63	2	72	0.087	ppb	0.087	71.49	2190	5000	
Zn	66	2	72	3.803	ppb	3.803	16.32	823	5000	
As	75	2	72	2.450	ppb	2.450	5.34	272	2000	
Se	78	1	72	-0.018	ppb	-0.018	-109.25	24	2000	
Sr	88	2	72	141.997	ppb	141.997	3.53	32935	4000	
Zr	90	2	72	13.600	ppb	13.600	13.54	157	1000	
Nb	93	2	72	0.048	ppb	0.048	36.25	277	200	
Mo	95	2	115	0.278	ppb	0.278	23.23	243	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-254.02	13	100	
Ag	107	2	115	-0.009	ppb	-0.009	-49.66	33	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.064	ppb	0.064	27.21	120	2000	
Sb	121	2	115	0.007	ppb	0.007	363.67	27	1000	
Ba	137	2	115	124.817	ppb	124.817	1.47	20330	5000	
W	182	2	165	0.006	ppb	0.006	264.26	440	100	
Pt	195	2	165	0.000	ppb	0.000	-13645.97	97	100	
Tl	205	2	165	0.011	ppb	0.011	53.60	230	2000	
Pb	208	2	165	0.024	ppb	0.024	53.55	1363	5000	
Th	232	2	165	0.020	ppb	0.020	31.24	410	2000	
U	238	2	165	0.008	ppb	0.008	28.35	190	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	722481	0.37	911621	79.25	60	120	
Sc (IS)	45	1	HMI H2	44606353	0.42	50068556	89.09	60	120	
Sc (IS)	45	2	HMI He	408482	1.14	451776	90.42	60	120	
Sc (IS)	45	3	No Gas	100437015	0.76	123511628	81.32	60	120	
Ge Internal Standard	72	1	HMI H2	23148314	0.33	25603826	90.41	60	120	
Ge Internal Standard	72	2	HMI He	665042	0.64	720714	92.28	60	120	
In Internal Standard	115	2	HMI He	1737681	1.68	1819211	95.52	60	120	
Ho-165	165	2	HMI He	14614022	1.12	15094203	96.82	60	120	

Sample Table

Sample Name	280-90592-a-27-b
Data File Name	252SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:13:35-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.435	ppb	-19.435	-25.24	77451	500000	
Li	7	2	45	3.780	ppb	3.780	777.58	4031	500000	
Li	7	3	45	-21.919	ppb	-21.919	-11.74	3376351	50000	
Be	9	1	6	-0.063	ppb	-0.063	0.00	0	2000	
B	11	1	6	-21.159	ppb	-21.159	-8.65	7375	2000	
Na	23	1	45	-0.866	ppb	-0.866	-318.19	296560	2000	
Na	23	2	45	-8.341	ppb	-8.341	-24.43	10263	400000	
Mg	24	2	45	0.463	ppb	0.463	523.74	233	400000	
Al	27	2	45	-1.103	ppb	-1.103	-204.55	57	400000	
K	39	1	45	-1054.707	ppb	-1054.707	-1.05	4565649	400000	
K	39	2	45	-5.553	ppb	-5.553	-318.85	4344	400000	
Ca	40	1	45	12.791	ppb	12.791	12.75	196893	400000	
Ca	44	2	45	18.236	ppb	18.236	210.01	40	400000	
Ti	47	2	45	-78.639	ppb	-78.639	-482.94	7	4000	
V	51	2	72	-0.105	ppb	-0.105	-132.10	-36	2000	
Cr	52	2	72	0.113	ppb	0.113	52.14	407	5000	
Mn	55	2	72	0.058	ppb	0.058	166.92	50	10000	
Fe	57	2	72	3.491	ppb	3.491	96.15	190	400000	
Co	59	2	72	0.004	ppb	0.004	118.30	30	2000	
Ni	60	2	72	-0.009	ppb	-0.009	-344.07	43	5000	
Cu	63	2	72	0.062	ppb	0.062	264.84	2147	5000	
Zn	66	2	72	1.043	ppb	1.043	64.65	330	5000	
As	75	2	72	-0.006	ppb	-0.006	-687.67	7	2000	
Se	78	1	72	0.004	ppb	0.004	389.87	36	2000	
Sr	88	2	72	0.263	ppb	0.263	52.83	77	4000	
Zr	90	2	72	3.559	ppb	3.559	18.35	73	1000	
Nb	93	2	72	0.003	ppb	0.003	100.68	130	200	
Mo	95	2	115	0.038	ppb	0.038	45.63	33	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-81.81	10	100	
Ag	107	2	115	-0.012	ppb	-0.012	-39.74	20	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.038	ppb	0.038	54.48	103	2000	
Sb	121	2	115	-0.037	ppb	-0.037	0.00	0	1000	
Ba	137	2	115	0.104	ppb	0.104	91.65	23	5000	
W	182	2	165	-0.001	ppb	-0.001	-810.14	393	100	
Pt	195	2	165	0.003	ppb	0.003	249.47	117	100	
Tl	205	2	165	0.014	ppb	0.014	52.01	260	2000	
Pb	208	2	165	0.114	ppb	0.114	30.56	2414	5000	
Th	232	2	165	0.011	ppb	0.011	49.12	280	2000	
U	238	2	165	0.000	ppb	0.000	-138.63	53	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	746105	0.77	911621	81.84	60	120	
Sc (IS)	45	1	HMI H2	44759386	0.63	50068556	89.40	60	120	
Sc (IS)	45	2	HMI He	409635	0.77	451776	90.67	60	120	
Sc (IS)	45	3	No Gas	99970392	0.44	123511628	80.94	60	120	
Ge Internal Standard	72	1	HMI H2	23287871	0.38	25603826	90.95	60	120	
Ge Internal Standard	72	2	HMI He	668457	0.44	720714	92.75	60	120	
In Internal Standard	115	2	HMI He	1749287	1.31	1819211	96.16	60	120	
Ho-165	165	2	HMI He	14722749	0.49	15094203	97.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	253_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:17:23-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	459.096	ppb	1.177	218244	500	91.8	90	110	
Li	7	2	45	511.825	ppb	6.997	11224	500	102.4	90	110	
Li	7	3	45	461.824	ppb	1.746	9748823	500	92.4	90	110	
Be	9	1	6	50.832	ppb	2.915	13429	50	101.7	90	110	
B	11	1	6	16.792	ppb	5.134	18733	50	33.6	90	110	>+\-10%
Na	23	1	45	5040.826	ppb	0.068	18285906	5000	100.8	90	110	
Na	23	2	45	4816.021	ppb	1.201	549699	5000	96.3	90	110	
Mg	24	2	45	5031.350	ppb	2.316	230377	5000	100.6	90	110	
Al	27	2	45	5036.374	ppb	1.321	45050	5000	100.7	90	110	
K	39	1	45	4976.411	ppb	0.544	30057379	5000	99.5	90	110	
K	39	2	45	5040.874	ppb	1.484	92867	5000	100.8	90	110	
Ca	40	1	45	5155.856	ppb	0.568	35750069	5000	103.1	90	110	
Ca	44	2	45	5147.799	ppb	9.481	6071	5000	103.0	90	110	
Ti	47	2	45	-78.365	ppb	-485.229	7	50	-156.7	90	110	>+\-10%
V	51	2	72	50.756	ppb	2.440	39185	50	101.5	90	110	
Cr	52	2	72	49.806	ppb	1.059	52167	50	99.6	90	110	
Mn	55	2	72	51.993	ppb	2.449	13996	50	104.0	90	110	
Fe	57	2	72	5024.176	ppb	0.872	89377	5000	100.5	90	110	
Co	59	2	72	51.034	ppb	2.558	117736	50	102.1	90	110	
Ni	60	2	72	52.186	ppb	1.677	36682	50	104.4	90	110	
Cu	63	2	72	50.934	ppb	1.108	108607	50	101.9	90	110	
Zn	66	2	72	51.258	ppb	5.554	9283	50	102.5	90	110	
As	75	2	72	49.971	ppb	0.902	5369	50	99.9	90	110	
Se	78	1	72	51.310	ppb	0.337	28709	50	102.6	90	110	
Sr	88	2	72	51.980	ppb	2.613	12011	50	104.0	90	110	
Zr	90	2	72	98.153	ppb	34.648	857	50	196.3	90	110	>+\-10%
Nb	93	2	72	99.946	ppb	0.586	321873	100	99.9	90	110	
Mo	95	2	115	48.745	ppb	3.220	42780	50	97.5	90	110	
Pd	105	2	115	49.753	ppb	1.945	83188	50	99.5	90	110	
Ag	107	2	115	49.890	ppb	0.864	176821	50	99.8	90	110	
Cd	111	2	115	50.360	ppb	1.326	14780	50	100.7	90	110	
Sn	120	2	115	48.955	ppb	1.489	33921	50	97.9	90	110	
Sb	121	2	115	49.702	ppb	1.645	29790	50	99.4	90	110	
Ba	137	2	115	51.391	ppb	3.879	8379	50	102.8	90	110	
W	182	2	165	48.568	ppb	0.311	329103	50	97.1	90	110	
Pt	195	2	165	48.426	ppb	1.566	340047	50	96.9	90	110	
Tl	205	2	165	50.283	ppb	1.071	452151	50	100.6	90	110	
Pb	208	2	165	50.558	ppb	0.498	586243	50	101.1	90	110	
Th	232	2	165	48.381	ppb	0.525	702075	50	96.8	90	110	
U	238	2	165	47.561	ppb	0.610	796651	50	95.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	745550	0.62	911621	81.78	60	120	
Sc (IS)	45	1	HMI H2	44831813	0.23	50068556	89.54	60	120	
Sc (IS)	45	2	HMI He	406502	0.86	451776	89.98	60	120	
Sc (IS)	45	3	No Gas	102085002	1.00	123511628	82.65	60	120	
Ge Internal Standard	72	1	HMI H2	23409195	0.47	25603826	91.43	60	120	
Ge Internal Standard	72	2	HMI He	661982	0.61	720714	91.85	60	120	
In Internal Standard	115	2	HMI He	1738687	0.25	1819211	95.57	60	120	
Ho-165	165	2	HMI He	14569886	0.56	15094203	96.53	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	254_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:21:11-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-16.611	ppb	-3.3	3506685	10	
Be	9	1	6	-0.001	ppb	-4121.4	17	0.5	
B	11	1	6	-20.657	ppb	-8.0	7642	0.5	
Na	23	1	45	-23.294	ppb	-5.4	219103	25	
Na	23	2	45	-29.544	ppb	-13.5	7799	25	
Mg	24	2	45	5.120	ppb	0.6	443	25	
Al	27	2	45	-1.781	ppb	-253.1	50	15	
K	39	1	45	-132.216	ppb	-23.9	8551893	50	
K	39	2	45	-27.471	ppb	-7.2	3921	50	
Ca	40	1	45	2.245	ppb	12.4	125533	50	
Ca	44	2	45	-1.034	ppb	-1265.6	17	25	
Ti	47	2	45	-80.385	ppb	-468.7	7	0.5	
V	51	2	72	0.051	ppb	224.3	84	1	
Cr	52	2	72	-0.071	ppb	-97.4	210	1	
Mn	55	2	72	0.198	ppb	60.6	87	0.5	
Fe	57	2	72	1.592	ppb	115.7	153	25	
Co	59	2	72	0.026	ppb	45.3	80	0.5	
Ni	60	2	72	0.021	ppb	156.3	63	1	
Cu	63	2	72	0.015	ppb	434.8	2017	1	
Zn	66	2	72	0.375	ppb	134.1	207	5	
As	75	2	72	0.026	ppb	232.4	10	1	
Se	78	1	72	0.029	ppb	53.6	51	1	
Sr	88	2	72	0.020	ppb	427.1	20	0.5	
Zr	90	2	72	0.473	ppb	537.4	47	1	
Nb	93	2	72	1.078	ppb	3.5	3571	2	
Mo	95	2	115	0.046	ppb	65.6	40	0.5	
Pd	105	2	115	0.041	ppb	25.7	90	1	
Ag	107	2	115	0.010	ppb	112.3	97	1	
Cd	111	2	115	-0.020	ppb	-98.4	7	0.5	
Sn	120	2	115	0.051	ppb	175.1	110	1	
Sb	121	2	115	0.058	ppb	44.0	57	0.6	
Ba	137	2	115	0.002	ppb	1526.2	7	0.5	
W	182	2	165	0.074	ppb	8.2	890	1	
Pt	195	2	165	0.025	ppb	17.3	273	1	
Tl	205	2	165	0.054	ppb	39.2	610	0.1	
Pb	208	2	165	0.025	ppb	5.0	1360	0.5	
Th	232	2	165	0.058	ppb	20.6	953	1	
U	238	2	165	0.028	ppb	17.8	530	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	757540	1.11	911621	83.10	60	120	
Sc (IS)	45	1	HMI H2	45265444	1.39	50068556	90.41	60	120	
Sc (IS)	45	2	HMI He	405767	0.97	451776	89.82	60	120	
Sc (IS)	45	3	No Gas	101785255	0.99	123511628	82.41	60	120	
Ge Internal Standard	72	1	HMI H2	23473927	1.12	25603826	91.68	60	120	
Ge Internal Standard	72	2	HMI He	658135	0.49	720714	91.32	60	120	
In Internal Standard	115	2	HMI He	1720946	0.58	1819211	94.60	60	120	
Ho-165	165	2	HMI He	14507896	0.56	15094203	96.12	60	120	

Sample Report

Sample Table

Sample Name	280-90595-a-1-b
Data File Name	255SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:25:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-28.569	ppb	-28.569	-9.40	70771	500000	
Li	7	2	45	-4.301	ppb	-4.301	-675.18	3914	500000	
Li	7	3	45	-21.347	ppb	-21.347	-11.47	3292442	50000	
Be	9	1	6	0.040	ppb	0.040	128.93	23	2000	
B	11	1	6	1799.502	ppb	1799.502	0.35	475975	2000	
Na	23	1	45	625459.799	ppb	625459.799	0.47	2108971755	2000	>LDR
Na	23	2	45	579606.737	ppb	579606.737	0.60	65395036	400000	
Mg	24	2	45	39429.094	ppb	39429.094	1.31	1819671	400000	
Al	27	2	45	65.676	ppb	65.676	32.22	657	400000	
K	39	1	45	164171.744	ppb	164171.744	0.36	664015803	400000	
K	39	2	45	165862.313	ppb	165862.313	0.26	2940261	400000	
Ca	40	1	45	23657.270	ppb	23657.270	0.82	154633541	400000	
Ca	44	2	45	22790.807	ppb	22790.807	0.36	27061	400000	
Ti	47	2	45	242.174	ppb	242.174	278.59	17	4000	
V	51	2	72	15.393	ppb	15.393	2.87	11647	2000	
Cr	52	2	72	10.020	ppb	10.020	3.38	10477	5000	
Mn	55	2	72	71.601	ppb	71.601	3.13	18824	10000	
Fe	57	2	72	202.470	ppb	202.470	5.11	3637	400000	
Co	59	2	72	5.994	ppb	5.994	5.01	13529	2000	
Ni	60	2	72	60.507	ppb	60.507	1.03	41556	5000	
Cu	63	2	72	0.398	ppb	0.398	15.64	2767	5000	
Zn	66	2	72	40.298	ppb	40.298	2.34	7162	5000	
As	75	2	72	51.217	ppb	51.217	2.13	5377	2000	
Se	78	1	72	0.266	ppb	0.266	38.38	168	2000	
Sr	88	2	72	234.894	ppb	234.894	0.46	52998	4000	
Zr	90	2	72	209.203	ppb	209.203	7.14	1740	1000	
Nb	93	2	72	1.049	ppb	1.049	5.84	3419	200	
Mo	95	2	115	1.620	ppb	1.620	12.58	1357	2000	
Pd	105	2	115	0.018	ppb	0.018	103.70	50	100	
Ag	107	2	115	-0.014	ppb	-0.014	-31.88	13	100	
Cd	111	2	115	-0.031	ppb	-0.031	-65.06	3	2000	
Sn	120	2	115	0.664	ppb	0.664	5.06	510	2000	
Sb	121	2	115	1.661	ppb	1.661	30.68	967	1000	
Ba	137	2	115	321.896	ppb	321.896	2.38	50012	5000	
W	182	2	165	0.204	ppb	0.204	3.41	1730	100	
Pt	195	2	165	0.012	ppb	0.012	136.12	173	100	
Tl	205	2	165	0.027	ppb	0.027	55.88	367	2000	
Pb	208	2	165	0.162	ppb	0.162	14.37	2870	5000	
Th	232	2	165	0.139	ppb	0.139	12.11	2084	2000	
U	238	2	165	0.272	ppb	0.272	8.61	4494	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	642239	0.94	911621	70.45	60	120	
Sc (IS)	45	1	HMI H2	42361344	0.48	50068556	84.61	60	120	
Sc (IS)	45	2	HMI He	410036	1.34	451776	90.76	60	120	
Sc (IS)	45	3	No Gas	97276425	0.37	123511628	78.76	60	120	
Ge Internal Standard	72	1	HMI H2	21535541	0.39	25603826	84.11	60	120	
Ge Internal Standard	72	2	HMI He	646934	1.09	720714	89.76	60	120	
In Internal Standard	115	2	HMI He	1658101	1.60	1819211	91.14	60	120	
Ho-165	165	2	HMI He	14198917	0.35	15094203	94.07	60	120	

Sample Table

Sample Name	280-90595-a-1-bSD@5
Data File Name	256SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:28:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.492	ppb	-25.492	-8.13	77331	500000	
Li	7	2	45	8.205	ppb	8.205	333.01	4191	500000	
Li	7	3	45	-19.174	ppb	-19.174	-10.85	3591522	50000	
Be	9	1	6	0.000	ppb	0.000	157413.12	17	2000	
B	11	1	6	346.382	ppb	346.382	0.40	117277	2000	
Na	23	1	45	125926.028	ppb	125926.028	0.11	458679526	2000	>LDR
Na	23	2	45	118666.447	ppb	118666.447	1.14	13709085	400000	
Mg	24	2	45	7876.844	ppb	7876.844	0.71	372186	400000	
Al	27	2	45	17.576	ppb	17.576	101.83	230	400000	
K	39	1	45	32515.565	ppb	32515.565	0.28	149378384	400000	
K	39	2	45	32603.505	ppb	32603.505	0.30	595086	400000	
Ca	40	1	45	4641.184	ppb	4641.184	0.35	32842208	400000	
Ca	44	2	45	4571.167	ppb	4571.167	4.80	5568	400000	
Ti	47	2	45	19.454	ppb	19.454	1626.07	10	4000	
V	51	2	72	2.899	ppb	2.899	25.58	2305	2000	
Cr	52	2	72	16.718	ppb	16.718	3.35	17900	5000	
Mn	55	2	72	16.518	ppb	16.518	5.47	4521	10000	
Fe	57	2	72	221.241	ppb	221.241	10.30	4101	400000	
Co	59	2	72	1.190	ppb	1.190	11.74	2800	2000	
Ni	60	2	72	12.646	ppb	12.646	3.55	9026	5000	
Cu	63	2	72	1.021	ppb	1.021	11.99	4181	5000	
Zn	66	2	72	7.175	ppb	7.175	5.52	1437	5000	
As	75	2	72	10.141	ppb	10.141	5.99	1108	2000	
Se	78	1	72	0.056	ppb	0.056	84.04	65	2000	
Sr	88	2	72	46.295	ppb	46.295	3.47	10820	4000	
Zr	90	2	72	44.440	ppb	44.440	26.02	417	1000	
Nb	93	2	72	0.206	ppb	0.206	11.08	790	200	
Mo	95	2	115	0.520	ppb	0.520	9.89	453	2000	
Pd	105	2	115	0.015	ppb	0.015	50.87	47	100	
Ag	107	2	115	-0.007	ppb	-0.007	-82.24	37	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.139	ppb	0.139	85.96	170	2000	
Sb	121	2	115	0.282	ppb	0.282	31.20	190	1000	
Ba	137	2	115	60.928	ppb	60.928	3.46	9873	5000	
W	182	2	165	0.052	ppb	0.052	10.64	740	100	
Pt	195	2	165	0.005	ppb	0.005	229.82	133	100	
Tl	205	2	165	0.015	ppb	0.015	87.55	263	2000	
Pb	208	2	165	0.042	ppb	0.042	35.71	1543	5000	
Th	232	2	165	0.014	ppb	0.014	26.05	313	2000	
U	238	2	165	0.062	ppb	0.062	8.67	1083	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	744611	0.42	911621	81.68	60	120	
Sc (IS)	45	1	HMI H2	45736511	0.06	50068556	91.35	60	120	
Sc (IS)	45	2	HMI He	419582	0.81	451776	92.87	60	120	
Sc (IS)	45	3	No Gas	105246432	0.65	123511628	85.21	60	120	
Ge Internal Standard	72	1	HMI H2	23438147	0.39	25603826	91.54	60	120	
Ge Internal Standard	72	2	HMI He	669467	0.70	720714	92.89	60	120	
In Internal Standard	115	2	HMI He	1728919	2.03	1819211	95.04	60	120	
Ho-165	165	2	HMI He	14453505	0.97	15094203	95.76	60	120	

Sample Table

Sample Name	280-90595-a-1-c ms
Data File Name	257SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:32:40-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	38.028	ppb	38.028	11.61	91112	500000	
Li	7	2	45	34.975	ppb	34.975	31.69	4514	500000	
Li	7	3	45	54.691	ppb	54.691	0.78	4312725	50000	
Be	9	1	6	43.577	ppb	43.577	1.21	10210	2000	
B	11	1	6	1846.791	ppb	1846.791	0.80	502448	2000	
Na	23	1	45	626223.393	ppb	626223.393	0.54	2155091061	2000	>LDR
Na	23	2	45	585331.871	ppb	585331.871	0.86	66527034	400000	
Mg	24	2	45	40001.909	ppb	40001.909	0.27	1859896	400000	
Al	27	2	45	492.262	ppb	492.262	8.71	4534	400000	
K	39	1	45	165271.375	ppb	165271.375	0.62	682187510	400000	
K	39	2	45	167632.999	ppb	167632.999	0.60	2993448	400000	
Ca	40	1	45	23551.277	ppb	23551.277	0.21	157115061	400000	
Ca	44	2	45	24072.421	ppb	24072.421	1.86	28790	400000	
Ti	47	2	45	1532.502	ppb	1532.502	63.15	57	4000	
V	51	2	72	57.457	ppb	57.457	1.01	43462	2000	
Cr	52	2	72	53.265	ppb	53.265	2.60	54654	5000	
Mn	55	2	72	114.506	ppb	114.506	1.56	30166	10000	
Fe	57	2	72	677.750	ppb	677.750	5.28	11921	400000	
Co	59	2	72	45.729	ppb	45.729	1.54	103386	2000	
Ni	60	2	72	98.601	ppb	98.601	1.84	67874	5000	
Cu	63	2	72	39.768	ppb	39.768	0.86	83529	5000	
Zn	66	2	72	77.009	ppb	77.009	2.36	13599	5000	
As	75	2	72	92.235	ppb	92.235	3.21	9706	2000	
Se	78	1	72	39.132	ppb	39.132	2.22	20345	2000	
Sr	88	2	72	278.415	ppb	278.415	3.16	62995	4000	
Zr	90	2	72	4624.014	ppb	4624.014	3.18	37655	1000	
Nb	93	2	72	0.283	ppb	0.283	13.63	1010	200	
Mo	95	2	115	44.107	ppb	44.107	0.30	37107	2000	
Pd	105	2	115	0.012	ppb	0.012	93.66	40	100	
Ag	107	2	115	36.552	ppb	36.552	1.34	124203	100	
Cd	111	2	115	38.733	ppb	38.733	5.07	10897	2000	
Sn	120	2	115	38.627	ppb	38.627	2.18	25670	2000	
Sb	121	2	115	41.974	ppb	41.974	3.95	24115	1000	
Ba	137	2	115	362.791	ppb	362.791	1.30	56663	5000	
W	182	2	165	38.268	ppb	38.268	0.51	251914	100	
Pt	195	2	165	0.004	ppb	0.004	170.44	123	100	
Tl	205	2	165	37.326	ppb	37.326	1.51	325982	2000	
Pb	208	2	165	38.455	ppb	38.455	1.14	433288	5000	
Th	232	2	165	33.218	ppb	33.218	0.89	468190	2000	
U	238	2	165	37.634	ppb	37.634	0.46	612213	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	661022	0.42	911621	72.51	60	120	
Sc (IS)	45	1	HMI H2	43235681	0.45	50068556	86.35	60	120	
Sc (IS)	45	2	HMI He	413064	1.06	451776	91.43	60	120	
Sc (IS)	45	3	No Gas	99028965	1.02	123511628	80.18	60	120	
Ge Internal Standard	72	1	HMI H2	21742530	0.50	25603826	84.92	60	120	
Ge Internal Standard	72	2	HMI He	648709	0.73	720714	90.01	60	120	
In Internal Standard	115	2	HMI He	1666698	0.78	1819211	91.62	60	120	
Ho-165	165	2	HMI He	14150189	1.03	15094203	93.75	60	120	

Sample Report

Sample Table

Sample Name	280-90595-a-1-d msd
Data File Name	258SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:36:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	41.030	ppb	41.030	12.02	91913	500000	
Li	7	2	45	62.064	ppb	62.064	5.63	4908	500000	
Li	7	3	45	53.445	ppb	53.445	0.79	4302079	50000	
Be	9	1	6	43.361	ppb	43.361	2.50	10100	2000	
B	11	1	6	1883.601	ppb	1883.601	0.92	509244	2000	
Na	23	1	45	627390.332	ppb	627390.332	0.70	2158089408	2000	>LDR
Na	23	2	45	591687.567	ppb	591687.567	1.00	67280636	400000	
Mg	24	2	45	40657.261	ppb	40657.261	1.33	1891425	400000	
Al	27	2	45	473.072	ppb	473.072	7.53	4361	400000	
K	39	1	45	165144.393	ppb	165144.393	0.52	681347670	400000	
K	39	2	45	168499.109	ppb	168499.109	1.10	3010652	400000	
Ca	40	1	45	23572.169	ppb	23572.169	0.54	157178138	400000	
Ca	44	2	45	23955.383	ppb	23955.383	1.54	28667	400000	
Ti	47	2	45	1648.338	ppb	1648.338	90.93	60	4000	
V	51	2	72	57.885	ppb	57.885	1.02	43734	2000	
Cr	52	2	72	55.104	ppb	55.104	2.95	56463	5000	
Mn	55	2	72	117.420	ppb	117.420	1.24	30901	10000	
Fe	57	2	72	699.586	ppb	699.586	4.40	12288	400000	
Co	59	2	72	45.997	ppb	45.997	1.00	103875	2000	
Ni	60	2	72	98.407	ppb	98.407	1.18	67666	5000	
Cu	63	2	72	39.582	ppb	39.582	0.80	83054	5000	
Zn	66	2	72	76.774	ppb	76.774	1.56	13542	5000	
As	75	2	72	93.839	ppb	93.839	1.81	9862	2000	
Se	78	1	72	39.166	ppb	39.166	1.97	20251	2000	
Sr	88	2	72	273.177	ppb	273.177	0.50	61727	4000	
Zr	90	2	72	4627.166	ppb	4627.166	1.09	37638	1000	
Nb	93	2	72	0.168	ppb	0.168	12.91	647	200	
Mo	95	2	115	43.921	ppb	43.921	2.41	37151	2000	
Pd	105	2	115	0.014	ppb	0.014	27.52	43	100	
Ag	107	2	115	37.539	ppb	37.539	2.92	128232	100	
Cd	111	2	115	40.030	ppb	40.030	5.77	11321	2000	
Sn	120	2	115	38.196	ppb	38.196	1.19	25527	2000	
Sb	121	2	115	41.829	ppb	41.829	2.20	24181	1000	
Ba	137	2	115	353.250	ppb	353.250	1.36	55479	5000	
W	182	2	165	38.583	ppb	38.583	1.24	252324	100	
Pt	195	2	165	0.009	ppb	0.009	61.38	157	100	
Tl	205	2	165	37.798	ppb	37.798	0.25	327985	2000	
Pb	208	2	165	38.809	ppb	38.809	1.57	434459	5000	
Th	232	2	165	33.385	ppb	33.385	0.68	467486	2000	
U	238	2	165	37.954	ppb	37.954	0.83	613415	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	657164	0.37	911621	72.09	60	120	
Sc (IS)	45	1	HMI H2	43215229	0.36	50068556	86.31	60	120	
Sc (IS)	45	2	HMI He	413268	1.17	451776	91.48	60	120	
Sc (IS)	45	3	No Gas	99147529	1.13	123511628	80.27	60	120	
Ge Internal Standard	72	1	HMI H2	21623241	0.32	25603826	84.45	60	120	
Ge Internal Standard	72	2	HMI He	647948	0.71	720714	89.90	60	120	
In Internal Standard	115	2	HMI He	1676224	2.29	1819211	92.14	60	120	
Ho-165	165	2	HMI He	14058298	1.01	15094203	93.14	60	120	

Sample Report

Sample Table

Sample Name	280-90595-a-1-bPDS
Data File Name	259SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:40:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350342 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.709	ppb	-27.709	-10.84	72662	500000	
Li	7	2	45	-21.565	ppb	-21.565	-69.66	3747	500000	
Li	7	3	45	-20.559	ppb	-20.559	-24.58	3355395	50000	
Be	9	1	6	215.968	ppb	215.968	2.03	49924	2000	
B	11	1	6	1842.983	ppb	1842.983	0.91	495346	2000	
Na	23	1	45	618778.005	ppb	618778.005	0.73	2135023328	2000	>LDR
Na	23	2	45	571957.010	ppb	571957.010	0.87	65883276	400000	
Mg	24	2	45	39482.079	ppb	39482.079	0.23	1860488	400000	
Al	27	2	45	2076.784	ppb	2076.784	4.16	19167	400000	
K	39	1	45	163187.445	ppb	163187.445	0.25	675465937	400000	
K	39	2	45	164916.626	ppb	164916.626	0.92	2984642	400000	
Ca	40	1	45	23364.676	ppb	23364.676	0.79	156274218	400000	
Ca	44	2	45	23108.734	ppb	23108.734	1.12	28013	400000	
Ti	47	2	45	5349.679	ppb	5349.679	8.35	177	4000	
V	51	2	72	220.697	ppb	220.697	2.27	167545	2000	
Cr	52	2	72	209.772	ppb	209.772	1.59	215367	5000	
Mn	55	2	72	277.785	ppb	277.785	3.27	73468	10000	
Fe	57	2	72	2283.424	ppb	2283.424	0.51	40049	400000	
Co	59	2	72	201.507	ppb	201.507	0.74	457531	2000	
Ni	60	2	72	251.943	ppb	251.943	1.16	174138	5000	
Cu	63	2	72	190.570	ppb	190.570	0.84	394563	5000	
Zn	66	2	72	231.475	ppb	231.475	2.12	40774	5000	
As	75	2	72	251.011	ppb	251.011	1.56	26513	2000	
Se	78	1	72	192.230	ppb	192.230	0.18	99003	2000	
Sr	88	2	72	230.194	ppb	230.194	2.33	52300	4000	
Zr	90	2	72	26259.351	ppb	26259.351	0.72	214585	1000	>LDR
Nb	93	2	72	0.914	ppb	0.914	3.40	3014	200	
Mo	95	2	115	202.684	ppb	202.684	2.57	170664	2000	
Pd	105	2	115	0.028	ppb	0.028	123.81	67	100	
Ag	107	2	115	37.163	ppb	37.163	2.53	126386	100	
Cd	111	2	115	192.646	ppb	192.646	0.72	54230	2000	
Sn	120	2	115	196.690	ppb	196.690	2.03	130543	2000	
Sb	121	2	115	200.417	ppb	200.417	1.87	115192	1000	
Ba	137	2	115	527.242	ppb	527.242	1.63	82430	5000	
W	182	2	165	189.323	ppb	189.323	0.69	1246760	100	
Pt	195	2	165	0.074	ppb	0.074	2.45	597	100	
Tl	205	2	165	201.644	ppb	201.644	1.48	1763207	2000	
Pb	208	2	165	186.381	ppb	186.381	0.58	2099464	5000	
Th	232	2	165	0.679	ppb	0.679	6.89	9687	2000	
U	238	2	165	192.949	ppb	192.949	0.91	3143479	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	653020	1.06	911621	71.63	60	120	
Sc (IS)	45	1	HMI H2	43349334	0.75	50068556	86.58	60	120	
Sc (IS)	45	2	HMI He	418630	0.95	451776	92.66	60	120	
Sc (IS)	45	3	No Gas	98853879	1.13	123511628	80.04	60	120	
Ge Internal Standard	72	1	HMI H2	21566215	0.19	25603826	84.23	60	120	
Ge Internal Standard	72	2	HMI He	651545	0.92	720714	90.40	60	120	
In Internal Standard	115	2	HMI He	1668779	2.43	1819211	91.73	60	120	
Ho-165	165	2	HMI He	14173187	1.61	15094203	93.90	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	260_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:44:16-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	455.631	ppb	1.260	224122	500	91.1	90	110	
Li	7	2	45	455.016	ppb	4.239	11057	500	91.0	90	110	
Li	7	3	45	462.411	ppb	1.483	10089493	500	92.5	90	110	
Be	9	1	6	51.550	ppb	3.078	13792	50	103.1	90	110	
B	11	1	6	70.095	ppb	3.315	35134	50	140.2	90	110	>+\-10%
Na	23	1	45	5577.264	ppb	1.634	20840772	5000	111.5	90	110	>+\-10%
Na	23	2	45	4981.146	ppb	0.430	603044	5000	99.6	90	110	
Mg	24	2	45	5044.533	ppb	1.904	245156	5000	100.9	90	110	
Al	27	2	45	5116.079	ppb	1.680	48569	5000	102.3	90	110	
K	39	1	45	5172.617	ppb	1.258	31867150	5000	103.5	90	110	
K	39	2	45	5103.458	ppb	1.596	99720	5000	102.1	90	110	
Ca	40	1	45	5203.951	ppb	0.371	37230584	5000	104.1	90	110	
Ca	44	2	45	5242.485	ppb	1.748	6565	5000	104.8	90	110	
Ti	47	2	45	-297.903	ppb	0.000	0	50	-595.8	90	110	>+\-10%
V	51	2	72	51.620	ppb	3.363	41262	50	103.2	90	110	
Cr	52	2	72	48.476	ppb	1.129	52588	50	97.0	90	110	
Mn	55	2	72	52.754	ppb	2.167	14707	50	105.5	90	110	
Fe	57	2	72	5023.284	ppb	1.161	92533	5000	100.5	90	110	
Co	59	2	72	50.900	ppb	2.018	121595	50	101.8	90	110	
Ni	60	2	72	49.649	ppb	4.266	36138	50	99.3	90	110	
Cu	63	2	72	49.808	ppb	1.117	110019	50	99.6	90	110	
Zn	66	2	72	48.974	ppb	4.578	9189	50	97.9	90	110	
As	75	2	72	51.169	ppb	1.497	5692	50	102.3	90	110	
Se	78	1	72	51.041	ppb	1.036	28897	50	102.1	90	110	
Sr	88	2	72	55.033	ppb	1.170	13169	50	110.1	90	110	>+\-10%
Zr	90	2	72	37.096	ppb	13.126	363	50	74.2	90	110	>+\-10%
Nb	93	2	72	97.877	ppb	0.854	326393	100	97.9	90	110	
Mo	95	2	115	49.061	ppb	2.439	43830	50	98.1	90	110	
Pd	105	2	115	48.883	ppb	1.542	83198	50	97.8	90	110	
Ag	107	2	115	48.795	ppb	1.753	176042	50	97.6	90	110	
Cd	111	2	115	49.275	ppb	2.106	14723	50	98.6	90	110	
Sn	120	2	115	48.752	ppb	4.700	34379	50	97.5	90	110	
Sb	121	2	115	49.353	ppb	1.113	30114	50	98.7	90	110	
Ba	137	2	115	53.105	ppb	2.832	8813	50	106.2	90	110	
W	182	2	165	47.613	ppb	0.875	325771	50	95.2	90	110	
Pt	195	2	165	46.724	ppb	2.919	331247	50	93.4	90	110	
Tl	205	2	165	49.359	ppb	1.823	448142	50	98.7	90	110	
Pb	208	2	165	50.003	ppb	1.635	585429	50	100.0	90	110	
Th	232	2	165	47.573	ppb	0.992	697064	50	95.1	90	110	
U	238	2	165	46.809	ppb	1.262	791651	50	93.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	755043	0.33	911621	82.82	60	120	
Sc (IS)	45	1	HMI H2	46257348	0.90	50068556	92.39	60	120	
Sc (IS)	45	2	HMI He	431431	0.61	451776	95.50	60	120	
Sc (IS)	45	3	No Gas	105567078	1.02	123511628	85.47	60	120	
Ge Internal Standard	72	1	HMI H2	23688385	1.09	25603826	92.52	60	120	
Ge Internal Standard	72	2	HMI He	685473	0.65	720714	95.11	60	120	
In Internal Standard	115	2	HMI He	1769994	0.88	1819211	97.29	60	120	
Ho-165	165	2	HMI He	14711675	0.73	15094203	97.47	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	261_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:48:03-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-17.653	ppb	-20.8	3620923	10	
Be	9	1	6	0.034	ppb	223.5	27	0.5	
B	11	1	6	1.312	ppb	163.1	14663	0.5	>RL
Na	23	1	45	92.931	ppb	1.8	647963	25	>RL
Na	23	2	45	70.963	ppb	5.5	20329	25	>RL
Mg	24	2	45	8.318	ppb	4.0	630	25	
Al	27	2	45	2.037	ppb	175.6	90	15	
K	39	1	45	-13.514	ppb	-116.2	9202673	50	
K	39	2	45	8.386	ppb	225.6	4861	50	
Ca	40	1	45	3.812	ppb	7.2	138644	50	
Ca	44	2	45	24.550	ppb	117.9	50	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	-0.080	ppb	-213.7	-16	1	
Cr	52	2	72	-0.044	ppb	-199.6	250	1	
Mn	55	2	72	0.040	ppb	181.8	47	0.5	
Fe	57	2	72	0.285	ppb	88.7	137	25	
Co	59	2	72	0.039	ppb	36.7	117	0.5	
Ni	60	2	72	0.053	ppb	111.8	90	1	
Cu	63	2	72	0.065	ppb	53.3	2224	1	
Zn	66	2	72	1.953	ppb	6.1	510	5	
As	75	2	72	0.067	ppb	76.2	16	1	
Se	78	1	72	0.067	ppb	31.5	72	1	
Sr	88	2	72	0.003	ppb	2134.7	17	0.5	
Zr	90	2	72	-1.338	ppb	-199.0	33	1	
Nb	93	2	72	1.129	ppb	3.0	3914	2	
Mo	95	2	115	0.125	ppb	18.1	113	0.5	
Pd	105	2	115	0.025	ppb	81.5	67	1	
Ag	107	2	115	0.030	ppb	43.9	177	1	
Cd	111	2	115	0.012	ppb	164.0	17	0.5	
Sn	120	2	115	0.077	ppb	93.3	133	1	
Sb	121	2	115	0.049	ppb	20.7	53	0.6	
Ba	137	2	115	0.120	ppb	103.4	27	0.5	
W	182	2	165	0.069	ppb	26.9	867	1	
Pt	195	2	165	0.015	ppb	43.0	207	1	
Tl	205	2	165	0.056	ppb	12.6	637	0.1	
Pb	208	2	165	0.035	ppb	25.0	1487	0.5	
Th	232	2	165	0.062	ppb	18.1	1027	1	
U	238	2	165	0.038	ppb	3.0	707	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	775293	0.79	911621	85.05	60	120	
Sc (IS)	45	1	HMI H2	45981659	0.61	50068556	91.84	60	120	
Sc (IS)	45	2	HMI He	433769	1.30	451776	96.01	60	120	
Sc (IS)	45	3	No Gas	105508305	0.14	123511628	85.42	60	120	
Ge Internal Standard	72	1	HMI H2	23555248	1.01	25603826	92.00	60	120	
Ge Internal Standard	72	2	HMI He	690202	0.92	720714	95.77	60	120	
In Internal Standard	115	2	HMI He	1795017	0.99	1819211	98.67	60	120	
Ho-165	165	2	HMI He	14673480	1.91	15094203	97.21	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350344/1-a
Data File Name	262_BLK.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:51:53-07:00
Sample Type	Blank
Dilution	1
Comment	350344 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-20.108	ppb	-10.16592495	78686	0.5
Li	7	2	45	-22.747	ppb	-134.0606456	3824	0.5
Li	7	3	45	-22.593	ppb	-8.881480291	3467840	10
Be	9	1	6	-0.013	ppb	-429.0132488	13	0.5
B	11	1	6	-7.310	ppb	-11.49721374	11684	0.5
Na	23	1	45	52.383	ppb	2.804848514	495255	25
Na	23	2	45	42.675	ppb	5.031433701	16805	25
Mg	24	2	45	3.542	ppb	12.53778638	393	25
Al	27	2	45	7.102	ppb	26.14787635	137	15
K	39	1	45	-968.031	ppb	-0.804006851	5022570	50
K	39	2	45	5.865	ppb	204.8168777	4771	50
Ca	40	1	45	13.466	ppb	1.982528628	205308	50
Ca	44	2	45	13.868	ppb	161.3526657	37	25
Ti	47	2	45	-297.903	ppb	-1.81092E-06	0	0.5
V	51	2	72	-0.028	ppb	-210.5094723	25	1
Cr	52	2	72	0.083	ppb	101.4429768	387	1
Mn	55	2	72	0.124	ppb	57.80486596	70	0.5
Fe	57	2	72	4.439	ppb	97.31298942	213	25
Co	59	2	72	0.007	ppb	149.3377895	40	0.5
Ni	60	2	72	0.049	ppb	186.477797	87	1
Cu	63	2	72	0.181	ppb	38.08000399	2474	1
Zn	66	2	72	2.480	ppb	20.60275152	607	5
As	75	2	72	0.027	ppb	199.2654674	11	1
Se	78	1	72	0.010	ppb	393.3792902	40	1
Sr	88	2	72	0.031	ppb	79.89942329	23	0.5
Zr	90	2	72	3.687	ppb	65.43635446	77	1
Nb	93	2	72	0.501	ppb	8.317826847	1804	2
Mo	95	2	115	0.018	ppb	69.27728425	17	0.5
Pd	105	2	115	0.006	ppb	210.7209612	33	1
Ag	107	2	115	-0.007	ppb	-62.72065048	40	1
Cd	111	2	115	-0.043	ppb	0	0	0.5
Sn	120	2	115	0.179	ppb	53.31333481	210	1
Sb	121	2	115	-0.006	ppb	-273.5321708	20	0.6
Ba	137	2	115	0.292	ppb	29.2464221	57	0.5
W	182	2	165	0.024	ppb	115.1002885	570	1
Pt	195	2	165	0.003	ppb	212.9570386	120	1
Tl	205	2	165	0.031	ppb	53.57220718	423	0.1
Pb	208	2	165	0.109	ppb	3.512700672	2390	0.5
Th	232	2	165	0.082	ppb	11.07674214	1337	1
U	238	2	165	0.011	ppb	46.42274997	250	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	756477	0.45	911621	82.98	60	120	
Sc (IS)	45	1	HMI H2	45586328	0.13	50068556	91.05	60	120	
Sc (IS)	45	2	HMI He	429950	1.98	451776	95.17	60	120	
Sc (IS)	45	3	No Gas	102937468	0.65	123511628	83.34	60	120	
Ge Internal Standard	72	1	HMI H2	23549831	0.40	25603826	91.98	60	120	
Ge Internal Standard	72	2	HMI He	688994	0.38	720714	95.60	60	120	
In Internal Standard	115	2	HMI He	1821617	1.32	1819211	100.13	60	120	
Ho-165	165	2	HMI He	14875562	0.53	15094203	98.55	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350344/2-a
Data File Name	263_LCS.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:55:42-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350344 6020
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	58.792	58.792	ppb	8.384	102846	400	14.7	80	120	>+/-20%
Li	7	2	45	46.919	46.919	ppb	22.705	4928	400	11.7	80	120	>+/-20%
Li	7	3	45	52.371	52.371	ppb	1.666	4450170	400	13.1	80	120	>+/-20%
Be	9	1	6	39.931	39.931	ppb	5.061	10774	40	99.8	80	120	
Na	23	2	45	36.064	36.064	ppb	7.483	16188	40	90.2	80	120	
Mg	24	2	45	2.096	2.096	ppb	78.823	327	40	5.2	80	120	>+/-20%
Al	27	2	45	385.237	385.237	ppb	2.982	3747	40	963.1	80	120	>+/-20%
K	39	2	45	6.360	6.360	ppb	339.700	4828	40	15.9	80	120	>+/-20%
Ca	44	2	45	324.291	324.291	ppb	8.215	427	40	810.7	80	120	>+/-20%
V	51	2	72	38.377	38.377	ppb	1.543	31141	40	95.9	80	120	
Cr	52	2	72	38.397	38.397	ppb	0.786	42321	40	96.0	80	120	
Mn	55	2	72	39.991	39.991	ppb	3.281	11321	40	100.0	80	120	
Fe	57	2	72	395.541	395.541	ppb	2.526	7515	40	988.9	80	120	>+/-20%
Co	59	2	72	38.606	38.606	ppb	1.570	93579	40	96.5	80	120	
Ni	60	2	72	37.806	37.806	ppb	6.214	27926	40	94.5	80	120	
Cu	63	2	72	38.260	38.260	ppb	0.753	86236	40	95.7	80	120	
Zn	66	2	72	40.221	40.221	ppb	2.980	7685	40	100.6	80	120	
As	75	2	72	38.276	38.276	ppb	3.144	4323	40	95.7	80	120	
Se	78	1	72	37.921	37.921	ppb	2.769	21350	40	94.8	80	120	
Nb	93	2	72	0.296	0.296	ppb	8.750	1127	40	0.7	80	120	>+/-20%
Mo	95	2	115	39.211	39.211	ppb	2.045	36029	40	98.0	80	120	
Pd	105	2	115	0.006	0.006	ppb	209.928	33	40	0.0	80	120	>+/-20%
Ag	107	2	115	37.349	37.349	ppb	0.941	138608	40	93.4	80	120	
Cd	111	2	115	38.208	38.208	ppb	4.987	11741	40	95.5	80	120	
Sn	120	2	115	36.835	36.835	ppb	1.287	26739	40	92.1	80	120	
Sb	121	2	115	36.293	36.293	ppb	0.995	22779	40	90.7	80	120	
Ba	137	2	115	41.463	41.463	ppb	1.548	7078	40	103.7	80	120	
W	182	2	165	37.090	37.090	ppb	1.564	257654	40	92.7	80	120	
Pt	195	2	165	-0.003	-0.003	ppb	-156.404	77	40	0.0	80	120	>+/-20%
Tl	205	2	165	38.320	38.320	ppb	1.023	353161	40	95.8	80	120	
Pb	208	2	165	38.930	38.930	ppb	1.209	462862	40	97.3	80	120	
Th	232	2	165	36.522	36.522	ppb	1.295	543156	40	91.3	80	120	
U	238	2	165	36.606	36.606	ppb	0.724	628387	40	91.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	761091	0.36	911621	83.49	60	120	
Sc (IS)	45	1	HMI H2	45843458	0.64	50068556	91.56	60	120	
Sc (IS)	45	2	HMI He	434254	1.12	451776	96.12	60	120	
Sc (IS)	45	3	No Gas	102884482	0.45	123511628	83.30	60	120	
Ge Internal Standard	72	1	HMI H2	23546102	0.21	25603826	91.96	60	120	
Ge Internal Standard	72	2	HMI He	695478	0.78	720714	96.50	60	120	
In Internal Standard	115	2	HMI He	1820274	0.80	1819211	100.06	60	120	
Ho-165	165	2	HMI He	14931334	0.27	15094203	98.92	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-3-b
Data File Name	264SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T07:59:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.738	ppb	57.738	5.11	97390	500000	
Li	7	2	45	85.411	ppb	85.411	48.42	5281	500000	
Li	7	3	45	65.529	ppb	65.529	5.38	4488542	50000	
Be	9	1	6	0.008	ppb	0.008	830.99	17	2000	
B	11	1	6	2745.168	ppb	2745.168	1.23	743346	2000	
Na	23	1	45	531966.035	ppb	531966.035	0.92	1843868559	2000	>LDR
Na	23	2	45	495275.629	ppb	495275.629	0.87	56714026	400000	
Mg	24	2	45	68367.581	ppb	68367.581	0.52	3202382	400000	
Al	27	2	45	5.351	ppb	5.351	80.41	117	400000	
K	39	1	45	9229.505	ppb	9229.505	0.22	46650411	400000	
K	39	2	45	9784.897	ppb	9784.897	1.60	180283	400000	
Ca	40	1	45	93246.337	ppb	93246.337	0.63	626195257	400000	
Ca	44	2	45	144263.558	ppb	144263.558	0.43	173754	400000	
Ti	47	2	45	-191.832	ppb	-191.832	-95.77	3	4000	
V	51	2	72	60.329	ppb	60.329	3.49	46356	2000	
Cr	52	2	72	0.973	ppb	0.973	1.95	1293	5000	
Mn	55	2	72	17.725	ppb	17.725	6.79	4771	10000	
Fe	57	2	72	5.752	ppb	5.752	133.10	227	400000	
Co	59	2	72	0.059	ppb	0.059	12.85	157	2000	
Ni	60	2	72	0.449	ppb	0.449	10.79	363	5000	
Cu	63	2	72	0.706	ppb	0.706	6.08	3460	5000	
Zn	66	2	72	2.330	ppb	2.330	38.24	553	5000	
As	75	2	72	6.098	ppb	6.098	10.80	659	2000	
Se	78	1	72	17.956	ppb	17.956	2.45	9433	2000	
Sr	88	2	72	9737.592	ppb	9737.592	1.37	2238033	4000	
Zr	90	2	72	121.638	ppb	121.638	14.31	1047	1000	
Nb	93	2	72	0.237	ppb	0.237	7.93	880	200	
Mo	95	2	115	12.747	ppb	12.747	2.55	10881	2000	
Pd	105	2	115	0.028	ppb	0.028	90.76	67	100	
Ag	107	2	115	-0.001	ppb	-0.001	-449.44	57	100	
Cd	111	2	115	-0.020	ppb	-0.020	-199.87	7	2000	
Sn	120	2	115	0.287	ppb	0.287	58.23	267	2000	
Sb	121	2	115	0.346	ppb	0.346	6.43	223	1000	
Ba	137	2	115	34.680	ppb	34.680	5.81	5501	5000	
W	182	2	165	0.134	ppb	0.134	5.90	1280	100	
Pt	195	2	165	-0.006	ppb	-0.006	-65.58	57	100	
Tl	205	2	165	0.050	ppb	0.050	35.57	570	2000	
Pb	208	2	165	0.006	ppb	0.006	140.15	1133	5000	
Th	232	2	165	0.248	ppb	0.248	17.79	3664	2000	
U	238	2	165	10.233	ppb	10.233	2.14	168907	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	663153	0.32	911621	72.74	60	120	
Sc (IS)	45	1	HMI H2	43545244	0.31	50068556	86.97	60	120	
Sc (IS)	45	2	HMI He	416155	1.00	451776	92.12	60	120	
Sc (IS)	45	3	No Gas	99899012	0.76	123511628	80.88	60	120	
Ge Internal Standard	72	1	HMI H2	21930273	0.40	25603826	85.65	60	120	
Ge Internal Standard	72	2	HMI He	659221	1.84	720714	91.47	60	120	
In Internal Standard	115	2	HMI He	1691173	0.75	1819211	92.96	60	120	
Ho-165	165	2	HMI He	14354068	0.35	15094203	95.10	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-3-bSD@5
Data File Name	265SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:03:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.520	ppb	-6.520	-19.88	83510	500000	
Li	7	2	45	2.647	ppb	2.647	628.82	4161	500000	
Li	7	3	45	-2.508	ppb	-2.508	-77.88	3839851	50000	
Be	9	1	6	-0.038	ppb	-0.038	-115.21	7	2000	
B	11	1	6	554.708	ppb	554.708	1.45	180017	2000	
Na	23	1	45	106600.760	ppb	106600.760	0.72	390628034	2000	>LDR
Na	23	2	45	101068.401	ppb	101068.401	0.69	11822694	400000	
Mg	24	2	45	13580.174	ppb	13580.174	0.06	649449	400000	
Al	27	2	45	5.108	ppb	5.108	84.41	117	400000	
K	39	1	45	1793.256	ppb	1793.256	2.89	17042003	400000	
K	39	2	45	1955.621	ppb	1955.621	2.44	40466	400000	
Ca	40	1	45	18603.781	ppb	18603.781	0.43	132089155	400000	
Ca	44	2	45	29088.199	ppb	29088.199	2.16	35773	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	11.824	ppb	11.824	6.88	9440	2000	
Cr	52	2	72	5.552	ppb	5.552	2.13	6251	5000	
Mn	55	2	72	4.537	ppb	4.537	16.24	1290	10000	
Fe	57	2	72	75.959	ppb	75.959	6.98	1520	400000	
Co	59	2	72	0.019	ppb	0.019	100.68	67	2000	
Ni	60	2	72	0.192	ppb	0.192	75.04	190	5000	
Cu	63	2	72	0.578	ppb	0.578	11.94	3304	5000	
Zn	66	2	72	1.932	ppb	1.932	22.75	500	5000	
As	75	2	72	1.258	ppb	1.258	6.21	147	2000	
Se	78	1	72	3.510	ppb	3.510	9.28	2017	2000	
Sr	88	2	72	1786.580	ppb	1786.580	0.87	424782	4000	
Zr	90	2	72	3.391	ppb	3.391	99.77	73	1000	
Nb	93	2	72	0.079	ppb	0.079	25.74	383	200	
Mo	95	2	115	2.575	ppb	2.575	3.60	2294	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-58.89	13	100	
Ag	107	2	115	-0.001	ppb	-0.001	-615.13	60	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.056	ppb	0.056	63.72	117	2000	
Sb	121	2	115	0.121	ppb	0.121	52.80	97	1000	
Ba	137	2	115	5.910	ppb	5.910	1.88	983	5000	
W	182	2	165	0.038	ppb	0.038	25.45	653	100	
Pt	195	2	165	-0.001	ppb	-0.001	-153.39	90	100	
Tl	205	2	165	0.007	ppb	0.007	127.71	197	2000	
Pb	208	2	165	0.015	ppb	0.015	110.71	1250	5000	
Th	232	2	165	0.018	ppb	0.018	15.85	373	2000	
U	238	2	165	2.091	ppb	2.091	2.24	35044	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	746425	0.28	911621	81.88	60	120	
Sc (IS)	45	1	HMI H2	46007294	0.56	50068556	91.89	60	120	
Sc (IS)	45	2	HMI He	424760	0.29	451776	94.02	60	120	
Sc (IS)	45	3	No Gas	105926358	1.12	123511628	85.76	60	120	
Ge Internal Standard	72	1	HMI H2	23650702	0.77	25603826	92.37	60	120	
Ge Internal Standard	72	2	HMI He	681907	0.51	720714	94.62	60	120	
In Internal Standard	115	2	HMI He	1764586	1.49	1819211	97.00	60	120	
Ho-165	165	2	HMI He	14555029	0.67	15094203	96.43	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-3-c ms
Data File Name	266SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:07:08-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	116.671	ppb	116.671	1.65	115073	500000	
Li	7	2	45	129.778	ppb	129.778	33.24	6028	500000	
Li	7	3	45	132.854	ppb	132.854	0.71	5496441	50000	
Be	9	1	6	44.574	ppb	44.574	1.57	10363	2000	
B	11	1	6	2856.015	ppb	2856.015	1.14	764538	2000	
Na	23	1	45	534785.982	ppb	534785.982	0.27	1867581572	2000	>LDR
Na	23	2	45	499021.398	ppb	499021.398	0.21	58103316	400000	
Mg	24	2	45	68566.689	ppb	68566.689	0.15	3265571	400000	
Al	27	2	45	368.044	ppb	368.044	4.28	3490	400000	
K	39	1	45	9324.256	ppb	9324.256	0.55	47392756	400000	
K	39	2	45	9788.034	ppb	9788.034	1.03	183374	400000	
Ca	40	1	45	94701.454	ppb	94701.454	0.56	640750444	400000	
Ca	44	2	45	144550.446	ppb	144550.446	0.96	177017	400000	
Ti	47	2	45	333.970	ppb	333.970	189.05	20	4000	
V	51	2	72	102.218	ppb	102.218	0.85	78748	2000	
Cr	52	2	72	39.035	ppb	39.035	1.36	40884	5000	
Mn	55	2	72	58.981	ppb	58.981	1.39	15851	10000	
Fe	57	2	72	390.407	ppb	390.407	4.28	7052	400000	
Co	59	2	72	37.706	ppb	37.706	1.98	86868	2000	
Ni	60	2	72	37.302	ppb	37.302	3.46	26190	5000	
Cu	63	2	72	37.545	ppb	37.545	1.43	80459	5000	
Zn	66	2	72	38.763	ppb	38.763	5.28	7042	5000	
As	75	2	72	44.660	ppb	44.660	2.82	4792	2000	
Se	78	1	72	54.355	ppb	54.355	2.44	28733	2000	
Sr	88	2	72	9898.003	ppb	9898.003	0.38	2281170	4000	
Zr	90	2	72	4806.142	ppb	4806.142	2.29	39877	1000	
Nb	93	2	72	0.121	ppb	0.121	30.70	510	200	
Mo	95	2	115	53.453	ppb	53.453	2.20	46376	2000	
Pd	105	2	115	0.025	ppb	0.025	29.00	63	100	
Ag	107	2	115	35.568	ppb	35.568	1.07	124616	100	
Cd	111	2	115	36.173	ppb	36.173	8.63	10494	2000	
Sn	120	2	115	37.015	ppb	37.015	0.32	25370	2000	
Sb	121	2	115	38.647	ppb	38.647	2.02	22903	1000	
Ba	137	2	115	76.028	ppb	76.028	4.17	12252	5000	
W	182	2	165	37.211	ppb	37.211	1.30	249321	100	
Pt	195	2	165	-0.002	ppb	-0.002	-610.26	83	100	
Tl	205	2	165	36.247	ppb	36.247	1.05	322214	2000	
Pb	208	2	165	36.643	ppb	36.643	1.67	420254	5000	
Th	232	2	165	36.243	ppb	36.243	0.38	519924	2000	
U	238	2	165	46.327	ppb	46.327	1.31	767007	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	656014	0.71	911621	71.96	60	120	
Sc (IS)	45	1	HMI H2	43872318	0.02	50068556	87.62	60	120	
Sc (IS)	45	2	HMI He	423124	0.21	451776	93.66	60	120	
Sc (IS)	45	3	No Gas	102690082	0.24	123511628	83.14	60	120	
Ge Internal Standard	72	1	HMI H2	22118638	0.77	25603826	86.39	60	120	
Ge Internal Standard	72	2	HMI He	661001	1.13	720714	91.71	60	120	
In Internal Standard	115	2	HMI He	1718587	0.77	1819211	94.47	60	120	
Ho-165	165	2	HMI He	14402906	1.52	15094203	95.42	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-3-d msd
Data File Name	267SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:10:58-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	125.930	ppb	125.930	5.70	119460	500000	
Li	7	2	45	164.365	ppb	164.365	13.18	6455	500000	
Li	7	3	45	131.967	ppb	131.967	3.27	5492119	50000	
Be	9	1	6	41.432	ppb	41.432	2.20	9776	2000	
B	11	1	6	2836.318	ppb	2836.318	1.57	770561	2000	
Na	23	1	45	515716.372	ppb	515716.372	0.80	1827345999	2000	>LDR
Na	23	2	45	489036.035	ppb	489036.035	1.00	56201446	400000	
Mg	24	2	45	67665.403	ppb	67665.403	0.51	3180835	400000	
Al	27	2	45	405.709	ppb	405.709	4.98	3791	400000	
K	39	1	45	8973.926	ppb	8973.926	0.82	46616341	400000	
K	39	2	45	9605.865	ppb	9605.865	1.89	177705	400000	
Ca	40	1	45	91343.275	ppb	91343.275	0.27	627076977	400000	
Ca	44	2	45	142527.807	ppb	142527.807	1.62	172272	400000	
Ti	47	2	45	-83.291	ppb	-83.291	-446.29	7	4000	
V	51	2	72	99.276	ppb	99.276	1.52	76332	2000	
Cr	52	2	72	39.051	ppb	39.051	4.95	40821	5000	
Mn	55	2	72	58.041	ppb	58.041	1.53	15567	10000	
Fe	57	2	72	398.633	ppb	398.633	3.26	7182	400000	
Co	59	2	72	38.587	ppb	38.587	0.82	88723	2000	
Ni	60	2	72	38.168	ppb	38.168	2.26	26751	5000	
Cu	63	2	72	37.608	ppb	37.608	0.95	80435	5000	
Zn	66	2	72	39.218	ppb	39.218	6.07	7112	5000	
As	75	2	72	45.466	ppb	45.466	3.26	4868	2000	
Se	78	1	72	55.019	ppb	55.019	2.23	29545	2000	
Sr	88	2	72	9512.310	ppb	9512.310	0.73	2187727	4000	
Zr	90	2	72	4946.074	ppb	4946.074	2.11	40956	1000	
Nb	93	2	72	0.072	ppb	0.072	16.86	350	200	
Mo	95	2	115	53.553	ppb	53.553	1.41	46386	2000	
Pd	105	2	115	0.009	ppb	0.009	208.73	37	100	
Ag	107	2	115	35.737	ppb	35.737	1.61	125020	100	
Cd	111	2	115	35.565	ppb	35.565	6.01	10307	2000	
Sn	120	2	115	36.700	ppb	36.700	0.51	25116	2000	
Sb	121	2	115	38.916	ppb	38.916	2.67	23026	1000	
Ba	137	2	115	73.207	ppb	73.207	1.04	11778	5000	
W	182	2	165	37.279	ppb	37.279	1.43	249410	100	
Pt	195	2	165	0.000	ppb	0.000	-1989.27	93	100	
Tl	205	2	165	36.122	ppb	36.122	1.80	320627	2000	
Pb	208	2	165	36.781	ppb	36.781	0.94	421232	5000	
Th	232	2	165	36.240	ppb	36.240	0.75	519074	2000	
U	238	2	165	45.951	ppb	45.951	0.32	759673	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	665680	0.10	911621	73.02	60	120	
Sc (IS)	45	1	HMI H2	44514406	0.10	50068556	88.91	60	120	
Sc (IS)	45	2	HMI He	417639	0.37	451776	92.44	60	120	
Sc (IS)	45	3	No Gas	102825342	0.53	123511628	83.25	60	120	
Ge Internal Standard	72	1	HMI H2	22468852	0.26	25603826	87.76	60	120	
Ge Internal Standard	72	2	HMI He	659657	0.42	720714	91.53	60	120	
In Internal Standard	115	2	HMI He	1716000	0.36	1819211	94.33	60	120	
Ho-165	165	2	HMI He	14380172	0.11	15094203	95.27	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-3-b PDS
Data File Name	268SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:14:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.298	ppb	49.298	5.41	97498	500000	
Li	7	2	45	38.270	ppb	38.270	87.15	4691	500000	
Li	7	3	45	57.655	ppb	57.655	2.25	4573306	50000	
Be	9	1	6	204.740	ppb	204.740	2.21	48494	2000	
B	11	1	6	2730.710	ppb	2730.710	0.34	746073	2000	
Na	23	1	45	507180.046	ppb	507180.046	0.16	1804568186	2000	>LDR
Na	23	2	45	476864.681	ppb	476864.681	0.83	55719889	400000	
Mg	24	2	45	66118.822	ppb	66118.822	0.71	3160157	400000	
Al	27	2	45	2077.656	ppb	2077.656	4.00	19454	400000	
K	39	1	45	8874.591	ppb	8874.591	0.54	46392061	400000	
K	39	2	45	9460.267	ppb	9460.267	0.33	178023	400000	
Ca	40	1	45	89720.302	ppb	89720.302	0.22	618491471	400000	
Ca	44	2	45	138766.340	ppb	138766.340	0.64	170536	400000	
Ti	47	2	45	5586.354	ppb	5586.354	2.08	187	4000	
V	51	2	72	262.067	ppb	262.067	0.35	203396	2000	
Cr	52	2	72	198.796	ppb	198.796	0.17	208668	5000	
Mn	55	2	72	217.492	ppb	217.492	1.01	58807	10000	
Fe	57	2	72	2007.034	ppb	2007.034	1.45	36004	400000	
Co	59	2	72	192.045	ppb	192.045	0.55	445789	2000	
Ni	60	2	72	191.013	ppb	191.013	0.86	134976	5000	
Cu	63	2	72	185.749	ppb	185.749	0.72	393238	5000	
Zn	66	2	72	184.331	ppb	184.331	2.25	33225	5000	
As	75	2	72	200.683	ppb	200.683	0.87	21672	2000	
Se	78	1	72	205.150	ppb	205.150	0.35	110426	2000	
Sr	88	2	72	9274.844	ppb	9274.844	2.56	2154019	4000	
Zr	90	2	72	25120.234	ppb	25120.234	0.98	209875	1000	>LDR
Nb	93	2	72	0.755	ppb	0.755	4.91	2567	200	
Mo	95	2	115	209.285	ppb	209.285	1.92	181493	2000	
Pd	105	2	115	0.017	ppb	0.017	4.30	50	100	
Ag	107	2	115	36.281	ppb	36.281	2.03	127073	100	
Cd	111	2	115	186.846	ppb	186.846	3.56	54137	2000	
Sn	120	2	115	189.406	ppb	189.406	1.45	129469	2000	
Sb	121	2	115	192.164	ppb	192.164	2.80	113728	1000	
Ba	137	2	115	237.217	ppb	237.217	1.90	38195	5000	
W	182	2	165	187.466	ppb	187.466	1.02	1253724	100	
Pt	195	2	165	0.074	ppb	0.074	10.76	607	100	
Tl	205	2	165	197.897	ppb	197.897	0.65	1757578	2000	
Pb	208	2	165	183.217	ppb	183.217	0.24	2096045	5000	
Th	232	2	165	0.586	ppb	0.586	4.51	8509	2000	
U	238	2	165	202.722	ppb	202.722	0.50	3354217	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	669050	0.59	911621	73.39	60	120	
Sc (IS)	45	1	HMI H2	44699173	0.47	50068556	89.28	60	120	
Sc (IS)	45	2	HMI He	424647	1.36	451776	94.00	60	120	
Sc (IS)	45	3	No Gas	104109715	0.76	123511628	84.29	60	120	
Ge Internal Standard	72	1	HMI H2	22540032	0.48	25603826	88.03	60	120	
Ge Internal Standard	72	2	HMI He	666103	0.12	720714	92.42	60	120	
In Internal Standard	115	2	HMI He	1718484	2.39	1819211	94.46	60	120	
Ho-165	165	2	HMI He	14393522	1.05	15094203	95.36	60	120	

Sample Table

Sample Name	280-90514-a-4-d
Data File Name	269SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:18:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	106.665	ppb	106.665	3.65	112373	500000	
Li	7	2	45	130.956	ppb	130.956	40.55	5915	500000	
Li	7	3	45	122.931	ppb	122.931	3.55	5401598	50000	
Be	9	1	6	0.097	ppb	0.097	158.05	37	2000	
B	11	1	6	5367.574	ppb	5367.574	1.81	1403261	2000	
Na	23	1	45	791483.306	ppb	791483.306	0.91	2768349825	2000	>LDR
Na	23	2	45	752555.358	ppb	752555.358	1.31	85764442	400000	
Mg	24	2	45	106319.840	ppb	106319.840	1.16	4956692	400000	
Al	27	2	45	4.311	ppb	4.311	70.24	107	400000	
K	39	1	45	10870.858	ppb	10870.858	1.18	53874934	400000	
K	39	2	45	11257.531	ppb	11257.531	1.43	205765	400000	
Ca	40	1	45	116476.993	ppb	116476.993	0.25	789328815	400000	
Ca	44	2	45	204295.516	ppb	204295.516	0.88	244912	400000	
Ti	47	2	45	-190.373	ppb	-190.373	-97.83	3	4000	
V	51	2	72	31.609	ppb	31.609	2.06	24134	2000	
Cr	52	2	72	9.753	ppb	9.753	3.13	10323	5000	
Mn	55	2	72	1.142	ppb	1.142	18.17	337	10000	
Fe	57	2	72	73.815	ppb	73.815	5.55	1420	400000	
Co	59	2	72	0.128	ppb	0.128	4.49	313	2000	
Ni	60	2	72	0.358	ppb	0.358	37.92	297	5000	
Cu	63	2	72	0.813	ppb	0.813	9.09	3656	5000	
Zn	66	2	72	3.696	ppb	3.696	19.45	790	5000	
As	75	2	72	2.881	ppb	2.881	8.04	313	2000	
Se	78	1	72	32.745	ppb	32.745	1.75	17291	2000	
Sr	88	2	72	15692.528	ppb	15692.528	0.70	3579349	4000	
Zr	90	2	72	30.961	ppb	30.961	11.21	297	1000	
Nb	93	2	72	0.006	ppb	0.006	214.11	137	200	
Mo	95	2	115	68.067	ppb	68.067	1.88	57761	2000	
Pd	105	2	115	0.074	ppb	0.074	56.15	140	100	
Ag	107	2	115	0.038	ppb	0.038	67.87	190	100	
Cd	111	2	115	0.075	ppb	0.075	74.47	33	2000	
Sn	120	2	115	0.144	ppb	0.144	46.77	170	2000	
Sb	121	2	115	0.107	ppb	0.107	58.67	83	1000	
Ba	137	2	115	31.665	ppb	31.665	0.62	4994	5000	
W	182	2	165	0.196	ppb	0.196	9.38	1673	100	
Pt	195	2	165	0.000	ppb	0.000	-3342.42	93	100	
Tl	205	2	165	0.068	ppb	0.068	19.42	720	2000	
Pb	208	2	165	0.047	ppb	0.047	19.71	1570	5000	
Th	232	2	165	0.008	ppb	0.008	52.05	223	2000	
U	238	2	165	21.327	ppb	21.327	1.02	346990	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	645441	0.38	911621	70.80	60	120	
Sc (IS)	45	1	HMI H2	43943169	0.52	50068556	87.77	60	120	
Sc (IS)	45	2	HMI He	414224	1.35	451776	91.69	60	120	
Sc (IS)	45	3	No Gas	103360335	0.48	123511628	83.68	60	120	
Ge Internal Standard	72	1	HMI H2	22080423	1.05	25603826	86.24	60	120	
Ge Internal Standard	72	2	HMI He	654204	0.69	720714	90.77	60	120	
In Internal Standard	115	2	HMI He	1681225	1.63	1819211	92.42	60	120	
Ho-165	165	2	HMI He	14150394	0.44	15094203	93.75	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	270_CCV.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:22:28-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	425.150	ppb	2.477	226230	500	85.0	90	110	>+\-10%
Li	7	2	45	465.586	ppb	3.579	11337	500	93.1	90	110	
Li	7	3	45	452.959	ppb	0.889	10497608	500	90.6	90	110	
Be	9	1	6	47.102	ppb	2.718	12852	50	94.2	90	110	
B	11	1	6	159.706	ppb	1.910	63526	50	319.4	90	110	>+\-10%
Na	23	1	45	5507.396	ppb	1.448	21671762	5000	110.1	90	110	>+\-10%
Na	23	2	45	5011.689	ppb	2.026	613206	5000	100.2	90	110	
Mg	24	2	45	5047.358	ppb	1.252	247966	5000	100.9	90	110	
Al	27	2	45	5129.867	ppb	1.592	49227	5000	102.6	90	110	
K	39	1	45	4783.238	ppb	1.333	31764465	5000	95.7	90	110	
K	39	2	45	5158.554	ppb	1.315	101845	5000	103.2	90	110	
Ca	40	1	45	5174.965	ppb	0.690	38980104	5000	103.5	90	110	
Ca	44	2	45	5129.369	ppb	4.661	6491	5000	102.6	90	110	
Ti	47	2	45	-196.672	ppb	-89.153	3	50	-393.3	90	110	>+\-10%
V	51	2	72	51.611	ppb	5.347	42084	50	103.2	90	110	
Cr	52	2	72	50.107	ppb	0.848	55447	50	100.2	90	110	
Mn	55	2	72	52.903	ppb	3.709	15044	50	105.8	90	110	
Fe	57	2	72	5023.809	ppb	1.837	94416	5000	100.5	90	110	
Co	59	2	72	50.281	ppb	2.559	122549	50	100.6	90	110	
Ni	60	2	72	50.251	ppb	1.610	37320	50	100.5	90	110	
Cu	63	2	72	49.440	ppb	1.001	111441	50	98.9	90	110	
Zn	66	2	72	49.517	ppb	2.425	9480	50	99.0	90	110	
As	75	2	72	49.529	ppb	1.682	5623	50	99.1	90	110	
Se	78	1	72	51.038	ppb	0.552	30557	50	102.1	90	110	
Sr	88	2	72	55.024	ppb	2.250	13432	50	110.0	90	110	>+\-10%
Zr	90	2	72	26.764	ppb	16.410	280	50	53.5	90	110	>+\-10%
Nb	93	2	72	98.231	ppb	1.742	334208	100	98.2	90	110	
Mo	95	2	115	50.008	ppb	3.010	45096	50	100.0	90	110	
Pd	105	2	115	49.783	ppb	3.282	85526	50	99.6	90	110	
Ag	107	2	115	49.832	ppb	2.519	181477	50	99.7	90	110	
Cd	111	2	115	50.324	ppb	1.948	15177	50	100.6	90	110	
Sn	120	2	115	49.031	ppb	1.024	34914	50	98.1	90	110	
Sb	121	2	115	49.868	ppb	2.284	30712	50	99.7	90	110	
Ba	137	2	115	52.214	ppb	7.434	8746	50	104.4	90	110	
W	182	2	165	48.341	ppb	1.132	335282	50	96.7	90	110	
Pt	195	2	165	47.489	ppb	1.354	341298	50	95.0	90	110	
Tl	205	2	165	49.652	ppb	0.575	456990	50	99.3	90	110	
Pb	208	2	165	50.086	ppb	0.920	594452	50	100.2	90	110	
Th	232	2	165	47.830	ppb	1.058	710400	50	95.7	90	110	
U	238	2	165	47.273	ppb	0.824	810454	50	94.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	769840	0.95	911621	84.45	60	120	
Sc (IS)	45	1	HMI H2	48701768	0.64	50068556	97.27	60	120	
Sc (IS)	45	2	HMI He	436134	0.98	451776	96.54	60	120	
Sc (IS)	45	3	No Gas	111236235	0.34	123511628	90.06	60	120	
Ge Internal Standard	72	1	HMI H2	25048809	0.44	25603826	97.83	60	120	
Ge Internal Standard	72	2	HMI He	699407	0.91	720714	97.04	60	120	
In Internal Standard	115	2	HMI He	1786909	1.21	1819211	98.22	60	120	
Ho-165	165	2	HMI He	14913066	0.85	15094203	98.80	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	271_CCB.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:26:14-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-20.420	ppb	-11.2	3763684	10	
Be	9	1	6	-0.027	ppb	-236.6	10	0.5	
B	11	1	6	36.333	ppb	5.5	25542	0.5	>RL
Na	23	1	45	112.258	ppb	3.4	735477	25	>RL
Na	23	2	45	95.635	ppb	4.9	23476	25	>RL
Mg	24	2	45	12.889	ppb	23.5	860	25	
Al	27	2	45	-1.839	ppb	-117.5	53	15	
K	39	1	45	-79.371	ppb	-17.2	9126465	50	
K	39	2	45	-13.469	ppb	-124.1	4491	50	
Ca	40	1	45	9.015	ppb	8.9	179632	50	
Ca	44	2	45	8.363	ppb	93.4	30	25	
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	-0.072	ppb	-230.0	-11	1	
Cr	52	2	72	-0.079	ppb	-86.2	213	1	
Mn	55	2	72	0.098	ppb	245.6	63	0.5	
Fe	57	2	72	4.311	ppb	81.6	213	25	
Co	59	2	72	0.018	ppb	85.2	67	0.5	
Ni	60	2	72	0.007	ppb	495.7	57	1	
Cu	63	2	72	-0.064	ppb	-48.3	1960	1	
Zn	66	2	72	0.117	ppb	208.2	170	5	
As	75	2	72	0.003	ppb	2131.2	8	1	
Se	78	1	72	0.031	ppb	46.1	53	1	
Sr	88	2	72	0.853	ppb	11.9	223	0.5	>RL
Zr	90	2	72	-0.224	ppb	-304.6	43	1	
Nb	93	2	72	1.063	ppb	5.9	3727	2	
Mo	95	2	115	0.093	ppb	33.6	87	0.5	
Pd	105	2	115	0.037	ppb	54.3	90	1	
Ag	107	2	115	0.015	ppb	97.8	123	1	
Cd	111	2	115	-0.001	ppb	-6891.1	13	0.5	
Sn	120	2	115	0.103	ppb	58.6	157	1	
Sb	121	2	115	0.057	ppb	98.9	60	0.6	
Ba	137	2	115	0.057	ppb	153.7	17	0.5	
W	182	2	165	0.073	ppb	21.7	920	1	
Pt	195	2	165	0.016	ppb	28.8	213	1	
Tl	205	2	165	0.055	ppb	39.7	647	0.1	
Pb	208	2	165	0.031	ppb	35.3	1483	0.5	
Th	232	2	165	0.059	ppb	21.0	1013	1	
U	238	2	165	0.037	ppb	15.4	710	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	774598	0.13	911621	84.97	60	120	
Sc (IS)	45	1	HMI H2	47060208	0.53	50068556	93.99	60	120	
Sc (IS)	45	2	HMI He	437499	0.62	451776	96.84	60	120	
Sc (IS)	45	3	No Gas	110810368	0.34	123511628	89.72	60	120	
Ge Internal Standard	72	1	HMI H2	24260213	0.25	25603826	94.75	60	120	
Ge Internal Standard	72	2	HMI He	696484	0.45	720714	96.64	60	120	
In Internal Standard	115	2	HMI He	1845291	0.44	1819211	101.43	60	120	
Ho-165	165	2	HMI He	15088040	1.25	15094203	99.96	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-5-b
Data File Name	272SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:30:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.359	ppb	8.359	44.78	89127	500000	
Li	7	2	45	-2.604	ppb	-2.604	-988.61	4167	500000	
Li	7	3	45	12.928	ppb	12.928	21.50	3998621	50000	
Be	9	1	6	0.054	ppb	0.054	73.71	30	2000	
B	11	1	6	270.553	ppb	270.553	1.03	92278	2000	
Na	23	1	45	61195.905	ppb	61195.905	0.95	227256977	2000	>LDR
Na	23	2	45	58028.289	ppb	58028.289	1.72	6934001	400000	
Mg	24	2	45	44029.064	ppb	44029.064	1.39	2149011	400000	
Al	27	2	45	0.316	ppb	0.316	1509.70	73	400000	
K	39	1	45	5295.675	ppb	5295.675	0.86	32643586	400000	
K	39	2	45	6171.697	ppb	6171.697	1.10	120222	400000	
Ca	40	1	45	72110.680	ppb	72110.680	1.20	518223379	400000	
Ca	44	2	45	85018.596	ppb	85018.596	1.19	106714	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	53.809	ppb	53.809	1.88	43408	2000	
Cr	52	2	72	12.934	ppb	12.934	0.84	14376	5000	
Mn	55	2	72	2.712	ppb	2.712	13.39	797	10000	
Fe	57	2	72	180.939	ppb	180.939	2.44	3490	400000	
Co	59	2	72	0.056	ppb	0.056	38.15	157	2000	
Ni	60	2	72	0.344	ppb	0.344	21.42	303	5000	
Cu	63	2	72	0.938	ppb	0.938	13.91	4137	5000	
Zn	66	2	72	1.286	ppb	1.286	42.74	387	5000	
As	75	2	72	6.013	ppb	6.013	11.46	682	2000	
Se	78	1	72	0.573	ppb	0.573	2.22	359	2000	
Sr	88	2	72	2548.195	ppb	2548.195	0.53	614570	4000	
Zr	90	2	72	0.582	ppb	0.582	714.28	50	1000	
Nb	93	2	72	0.694	ppb	0.694	8.91	2460	200	
Mo	95	2	115	0.962	ppb	0.962	11.05	877	2000	
Pd	105	2	115	0.010	ppb	0.010	204.05	40	100	
Ag	107	2	115	-0.005	ppb	-0.005	-81.97	47	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.350	ppb	0.350	16.50	330	2000	
Sb	121	2	115	0.150	ppb	0.150	6.84	117	1000	
Ba	137	2	115	139.138	ppb	139.138	1.69	23521	5000	
W	182	2	165	0.037	ppb	0.037	32.18	663	100	
Pt	195	2	165	-0.002	ppb	-0.002	-455.46	87	100	
Tl	205	2	165	0.048	ppb	0.048	5.52	577	2000	
Pb	208	2	165	0.015	ppb	0.015	49.51	1280	5000	
Th	232	2	165	0.113	ppb	0.113	10.78	1804	2000	
U	238	2	165	4.295	ppb	4.295	1.20	73957	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	726317	0.58	911621	79.67	60	120	
Sc (IS)	45	1	HMI H2	46598771	0.63	50068556	93.07	60	120	
Sc (IS)	45	2	HMI He	433629	0.95	451776	95.98	60	120	
Sc (IS)	45	3	No Gas	104622358	0.59	123511628	84.71	60	120	
Ge Internal Standard	72	1	HMI H2	23693333	0.67	25603826	92.54	60	120	
Ge Internal Standard	72	2	HMI He	691717	0.43	720714	95.98	60	120	
In Internal Standard	115	2	HMI He	1803514	1.46	1819211	99.14	60	120	
Ho-165	165	2	HMI He	14967103	0.84	15094203	99.16	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-6-b
Data File Name	273SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:33:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	43.995	ppb	43.995	6.16	96415	500000	
Li	7	2	45	58.699	ppb	58.699	47.70	4941	500000	
Li	7	3	45	45.076	ppb	45.076	9.42	4404941	50000	
Be	9	1	6	-0.036	ppb	-0.036	-66.80	7	2000	
B	11	1	6	1219.994	ppb	1219.994	1.31	349056	2000	
Na	23	1	45	261638.676	ppb	261638.676	0.28	935666573	2000	>LDR
Na	23	2	45	249513.616	ppb	249513.616	1.37	28855030	400000	
Mg	24	2	45	55073.566	ppb	55073.566	1.93	2604668	400000	
Al	27	2	45	-0.533	ppb	-0.533	-419.12	63	400000	
K	39	1	45	12620.602	ppb	12620.602	0.75	62480296	400000	
K	39	2	45	13441.417	ppb	13441.417	1.97	248353	400000	
Ca	40	1	45	62131.801	ppb	62131.801	0.08	430460740	400000	
Ca	44	2	45	81611.145	ppb	81611.145	2.45	99248	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	77.964	ppb	77.964	2.99	60851	2000	
Cr	52	2	72	4.734	ppb	4.734	13.69	5278	5000	
Mn	55	2	72	15.152	ppb	15.152	7.65	4151	10000	
Fe	57	2	72	79.915	ppb	79.915	2.85	1563	400000	
Co	59	2	72	0.144	ppb	0.144	16.51	357	2000	
Ni	60	2	72	0.958	ppb	0.958	6.17	730	5000	
Cu	63	2	72	0.695	ppb	0.695	3.42	3490	5000	
Zn	66	2	72	0.836	ppb	0.836	26.15	293	5000	
As	75	2	72	14.607	ppb	14.607	2.31	1593	2000	
Se	78	1	72	0.705	ppb	0.705	1.74	417	2000	
Sr	88	2	72	3968.996	ppb	3968.996	0.42	926567	4000	
Zr	90	2	72	5.537	ppb	5.537	43.69	90	1000	
Nb	93	2	72	0.403	ppb	0.403	10.48	1433	200	
Mo	95	2	115	2.408	ppb	2.408	1.76	2117	2000	
Pd	105	2	115	0.008	ppb	0.008	214.17	37	100	
Ag	107	2	115	-0.009	ppb	-0.009	-88.78	30	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.121	ppb	0.121	58.06	160	2000	
Sb	121	2	115	0.085	ppb	0.085	111.26	73	1000	
Ba	137	2	115	141.347	ppb	141.347	2.69	23077	5000	
W	182	2	165	0.092	ppb	0.092	18.38	1017	100	
Pt	195	2	165	0.008	ppb	0.008	88.89	153	100	
Tl	205	2	165	0.025	ppb	0.025	7.41	360	2000	
Pb	208	2	165	0.019	ppb	0.019	38.28	1297	5000	
Th	232	2	165	0.055	ppb	0.055	7.06	920	2000	
U	238	2	165	9.749	ppb	9.749	0.96	163276	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	686639	0.56	911621	75.32	60	120	
Sc (IS)	45	1	HMI H2	44920013	0.12	50068556	89.72	60	120	
Sc (IS)	45	2	HMI He	420187	0.43	451776	93.01	60	120	
Sc (IS)	45	3	No Gas	104078062	0.76	123511628	84.27	60	120	
Ge Internal Standard	72	1	HMI H2	22811997	0.18	25603826	89.10	60	120	
Ge Internal Standard	72	2	HMI He	669565	0.35	720714	92.90	60	120	
In Internal Standard	115	2	HMI He	1741674	1.10	1819211	95.74	60	120	
Ho-165	165	2	HMI He	14564393	1.14	15094203	96.49	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-7-b
Data File Name	274SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:37:35-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	107.782	ppb	107.782	2.95	110536	500000	
Li	7	2	45	122.111	ppb	122.111	11.78	5778	500000	
Li	7	3	45	125.688	ppb	125.688	7.31	5352695	50000	
Be	9	1	6	0.071	ppb	0.071	108.35	30	2000	
B	11	1	6	5527.939	ppb	5527.939	2.90	1409238	2000	
Na	23	1	45	812314.641	ppb	812314.641	0.57	2786763692	2000	>LDR
Na	23	2	45	762586.138	ppb	762586.138	0.71	86724482	400000	
Mg	24	2	45	107278.103	ppb	107278.103	1.06	4990463	400000	
Al	27	2	45	-0.050	ppb	-0.050	-8818.93	67	400000	
K	39	1	45	11184.994	ppb	11184.994	1.00	54117414	400000	
K	39	2	45	11539.815	ppb	11539.815	0.85	210373	400000	
Ca	40	1	45	119910.175	ppb	119910.175	1.02	796997935	400000	
Ca	44	2	45	209496.365	ppb	209496.365	0.74	250586	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	33.046	ppb	33.046	3.60	24993	2000	
Cr	52	2	72	16.573	ppb	16.573	5.12	17182	5000	
Mn	55	2	72	1.965	ppb	1.965	11.37	550	10000	
Fe	57	2	72	164.724	ppb	164.724	7.07	2987	400000	
Co	59	2	72	0.100	ppb	0.100	41.39	247	2000	
Ni	60	2	72	0.658	ppb	0.658	6.77	500	5000	
Cu	63	2	72	1.171	ppb	1.171	4.92	4354	5000	
Zn	66	2	72	4.116	ppb	4.116	14.38	857	5000	
As	75	2	72	2.634	ppb	2.634	10.91	284	2000	
Se	78	1	72	33.350	ppb	33.350	1.70	17333	2000	
Sr	88	2	72	16291.561	ppb	16291.561	1.05	3680663	4000	
Zr	90	2	72	3.827	ppb	3.827	132.66	73	1000	
Nb	93	2	72	0.281	ppb	0.281	15.98	1003	200	
Mo	95	2	115	70.041	ppb	70.041	1.55	59145	2000	
Pd	105	2	115	0.047	ppb	0.047	26.11	97	100	
Ag	107	2	115	0.019	ppb	0.019	49.59	127	100	
Cd	111	2	115	-0.007	ppb	-0.007	-498.03	10	2000	
Sn	120	2	115	0.091	ppb	0.091	65.72	133	2000	
Sb	121	2	115	0.113	ppb	0.113	30.28	87	1000	
Ba	137	2	115	31.151	ppb	31.151	7.72	4884	5000	
W	182	2	165	0.098	ppb	0.098	11.33	1033	100	
Pt	195	2	165	-0.001	ppb	-0.001	-154.60	87	100	
Tl	205	2	165	0.013	ppb	0.013	77.06	247	2000	
Pb	208	2	165	0.037	ppb	0.037	14.37	1467	5000	
Th	232	2	165	0.035	ppb	0.035	16.40	613	2000	
U	238	2	165	21.998	ppb	21.998	1.26	358962	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	629612	0.90	911621	69.07	60	120	
Sc (IS)	45	1	HMI H2	43102594	1.02	50068556	86.09	60	120	
Sc (IS)	45	2	HMI He	413323	1.01	451776	91.49	60	120	
Sc (IS)	45	3	No Gas	101751762	0.63	123511628	82.38	60	120	
Ge Internal Standard	72	1	HMI H2	21730023	0.34	25603826	84.87	60	120	
Ge Internal Standard	72	2	HMI He	648003	0.72	720714	89.91	60	120	
In Internal Standard	115	2	HMI He	1673274	2.70	1819211	91.98	60	120	
Ho-165	165	2	HMI He	14192710	0.20	15094203	94.03	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-8-b
Data File Name	275SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:41:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.210	ppb	8.210	36.28	87221	500000	
Li	7	2	45	30.902	ppb	30.902	38.76	4511	500000	
Li	7	3	45	16.110	ppb	16.110	20.01	3947593	50000	
Be	9	1	6	-0.036	ppb	-0.036	-132.66	7	2000	
B	11	1	6	886.075	ppb	886.075	1.50	258466	2000	
Na	23	1	45	171556.286	ppb	171556.286	0.44	623242351	2000	>LDR
Na	23	2	45	163161.804	ppb	163161.804	0.21	18784779	400000	
Mg	24	2	45	44585.253	ppb	44585.253	0.89	2098869	400000	
Al	27	2	45	2.775	ppb	2.775	61.71	93	400000	
K	39	1	45	9898.755	ppb	9898.755	0.66	51755093	400000	
K	39	2	45	10699.310	ppb	10699.310	1.34	197702	400000	
Ca	40	1	45	92030.346	ppb	92030.346	0.28	647545937	400000	
Ca	44	2	45	100797.811	ppb	100797.811	1.47	122003	400000	
Ti	47	2	45	-84.272	ppb	-84.272	-439.08	7	4000	
V	51	2	72	132.552	ppb	132.552	1.82	103665	2000	
Cr	52	2	72	0.402	ppb	0.402	33.15	713	5000	
Mn	55	2	72	17.979	ppb	17.979	6.64	4928	10000	
Fe	57	2	72	9.205	ppb	9.205	25.63	293	400000	
Co	59	2	72	0.071	ppb	0.071	20.42	187	2000	
Ni	60	2	72	0.441	ppb	0.441	21.75	363	5000	
Cu	63	2	72	0.948	ppb	0.948	12.50	4034	5000	
Zn	66	2	72	2.404	ppb	2.404	24.43	577	5000	
As	75	2	72	7.822	ppb	7.822	3.94	859	2000	
Se	78	1	72	0.648	ppb	0.648	17.69	396	2000	
Sr	88	2	72	2409.520	ppb	2409.520	0.53	563845	4000	
Zr	90	2	72	0.342	ppb	0.342	704.09	47	1000	
Nb	93	2	72	0.063	ppb	0.063	33.21	327	200	
Mo	95	2	115	3.202	ppb	3.202	5.54	2800	2000	
Pd	105	2	115	0.001	ppb	0.001	1350.43	23	100	
Ag	107	2	115	0.011	ppb	0.011	171.07	103	100	
Cd	111	2	115	0.002	ppb	0.002	1828.13	13	2000	
Sn	120	2	115	0.142	ppb	0.142	20.40	173	2000	
Sb	121	2	115	0.141	ppb	0.141	14.54	107	1000	
Ba	137	2	115	182.995	ppb	182.995	1.26	29714	5000	
W	182	2	165	0.095	ppb	0.095	25.71	1037	100	
Pt	195	2	165	-0.008	ppb	-0.008	-36.52	40	100	
Tl	205	2	165	0.031	ppb	0.031	15.23	410	2000	
Pb	208	2	165	0.053	ppb	0.053	30.10	1690	5000	
Th	232	2	165	0.012	ppb	0.012	36.40	293	2000	
U	238	2	165	11.239	ppb	11.239	1.15	188085	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	690640	0.60	911621	75.76	60	120	
Sc (IS)	45	1	HMI H2	45624098	0.26	50068556	91.12	60	120	
Sc (IS)	45	2	HMI He	418211	0.52	451776	92.57	60	120	
Sc (IS)	45	3	No Gas	102199028	0.20	123511628	82.74	60	120	
Ge Internal Standard	72	1	HMI H2	23407354	0.59	25603826	91.42	60	120	
Ge Internal Standard	72	2	HMI He	671141	1.00	720714	93.12	60	120	
In Internal Standard	115	2	HMI He	1732555	0.66	1819211	95.24	60	120	
Ho-165	165	2	HMI He	14553234	1.51	15094203	96.42	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-9-b
Data File Name	276SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:45:10-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	18.606	ppb	18.606	8.55	88761	500000	
Li	7	2	45	32.450	ppb	32.450	42.78	4557	500000	
Li	7	3	45	24.305	ppb	24.305	4.30	4072657	50000	
Be	9	1	6	0.047	ppb	0.047	101.21	27	2000	
B	11	1	6	998.681	ppb	998.681	0.34	286758	2000	
Na	23	1	45	211564.044	ppb	211564.044	0.64	755125135	2000	>LDR
Na	23	2	45	200868.420	ppb	200868.420	11.44	23113855	400000	
Mg	24	2	45	39259.532	ppb	39259.532	13.37	1845430	400000	
Al	27	2	45	1.607	ppb	1.607	386.58	80	400000	
K	39	1	45	7920.314	ppb	7920.314	0.35	42494838	400000	
K	39	2	45	8800.740	ppb	8800.740	10.56	163459	400000	
Ca	40	1	45	70249.036	ppb	70249.036	0.30	485707339	400000	
Ca	44	2	45	81101.457	ppb	81101.457	12.22	98090	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	68.820	ppb	68.820	11.32	53237	2000	
Cr	52	2	72	14.802	ppb	14.802	12.56	15741	5000	
Mn	55	2	72	0.600	ppb	0.600	11.47	197	10000	
Fe	57	2	72	44.784	ppb	44.784	9.64	927	400000	
Co	59	2	72	0.030	ppb	0.030	76.58	90	2000	
Ni	60	2	72	0.239	ppb	0.239	30.10	217	5000	
Cu	63	2	72	0.392	ppb	0.392	15.19	2837	5000	
Zn	66	2	72	4.601	ppb	4.601	25.99	960	5000	
As	75	2	72	9.139	ppb	9.139	10.65	991	2000	
Se	78	1	72	1.887	ppb	1.887	6.93	1063	2000	
Sr	88	2	72	2523.802	ppb	2523.802	10.57	584045	4000	
Zr	90	2	72	3.177	ppb	3.177	30.07	70	1000	
Nb	93	2	72	0.045	ppb	0.045	23.51	267	200	
Mo	95	2	115	2.462	ppb	2.462	7.81	2140	2000	
Pd	105	2	115	0.007	ppb	0.007	49.94	33	100	
Ag	107	2	115	-0.015	ppb	-0.015	-18.63	10	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.048	ppb	0.048	116.63	107	2000	
Sb	121	2	115	0.012	ppb	0.012	108.99	30	1000	
Ba	137	2	115	108.530	ppb	108.530	10.13	17480	5000	
W	182	2	165	0.052	ppb	0.052	22.15	760	100	
Pt	195	2	165	-0.007	ppb	-0.007	-26.24	47	100	
Tl	205	2	165	0.011	ppb	0.011	52.55	230	2000	
Pb	208	2	165	0.013	ppb	0.013	122.08	1233	5000	
Th	232	2	165	0.007	ppb	0.007	59.45	213	2000	
U	238	2	165	8.527	ppb	8.527	13.35	143763	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	683591	0.21	911621	74.99	60	120	
Sc (IS)	45	1	HMI H2	44830019	0.58	50068556	89.54	60	120	
Sc (IS)	45	2	HMI He	420674	8.22	451776	93.12	60	120	
Sc (IS)	45	3	No Gas	102656462	0.39	123511628	83.11	60	120	
Ge Internal Standard	72	1	HMI H2	22844346	0.57	25603826	89.22	60	120	
Ge Internal Standard	72	2	HMI He	666343	5.68	720714	92.46	60	120	
In Internal Standard	115	2	HMI He	1726115	6.88	1819211	94.88	60	120	
Ho-165	165	2	HMI He	14751375	6.93	15094203	97.73	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-10-b
Data File Name	277SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:48:58-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	24.658	ppb	24.658	21.01	91223	500000	
Li	7	2	45	37.428	ppb	37.428	117.70	4507	500000	
Li	7	3	45	35.724	ppb	35.724	10.19	4183221	50000	
Be	9	1	6	-0.035	ppb	-0.035	-137.85	7	2000	
B	11	1	6	1125.591	ppb	1125.591	1.60	317645	2000	
Na	23	1	45	263001.419	ppb	263001.419	0.21	945747373	2000	>LDR
Na	23	2	45	255119.558	ppb	255119.558	7.91	28775863	400000	
Mg	24	2	45	45218.469	ppb	45218.469	9.42	2084826	400000	
Al	27	2	45	4.097	ppb	4.097	70.44	103	400000	
K	39	1	45	11697.343	ppb	11697.343	0.08	58895951	400000	
K	39	2	45	12948.248	ppb	12948.248	7.43	233551	400000	
Ca	40	1	45	65173.660	ppb	65173.660	0.30	454033127	400000	
Ca	44	2	45	85697.034	ppb	85697.034	8.38	101634	400000	
Ti	47	2	45	-83.162	ppb	-83.162	-447.25	7	4000	
V	51	2	72	113.289	ppb	113.289	8.72	86797	2000	
Cr	52	2	72	7.758	ppb	7.758	13.48	8299	5000	
Mn	55	2	72	0.688	ppb	0.688	21.52	217	10000	
Fe	57	2	72	24.152	ppb	24.152	31.91	553	400000	
Co	59	2	72	0.084	ppb	0.084	31.73	213	2000	
Ni	60	2	72	1.308	ppb	1.308	12.27	960	5000	
Cu	63	2	72	0.578	ppb	0.578	12.44	3190	5000	
Zn	66	2	72	2.069	ppb	2.069	19.73	507	5000	
As	75	2	72	17.050	ppb	17.050	9.01	1824	2000	
Se	78	1	72	0.396	ppb	0.396	8.93	251	2000	
Sr	88	2	72	3495.049	ppb	3495.049	7.06	801428	4000	
Zr	90	2	72	7.650	ppb	7.650	33.19	107	1000	
Nb	93	2	72	0.039	ppb	0.039	57.44	243	200	
Mo	95	2	115	3.989	ppb	3.989	12.01	3410	2000	
Pd	105	2	115	0.028	ppb	0.028	52.89	67	100	
Ag	107	2	115	-0.005	ppb	-0.005	-32.65	43	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.147	ppb	0.147	13.49	173	2000	
Sb	121	2	115	0.042	ppb	0.042	38.51	47	1000	
Ba	137	2	115	94.171	ppb	94.171	6.14	14980	5000	
W	182	2	165	0.084	ppb	0.084	35.96	953	100	
Pt	195	2	165	0.000	ppb	0.000	-2019.53	93	100	
Tl	205	2	165	0.012	ppb	0.012	32.26	240	2000	
Pb	208	2	165	0.027	ppb	0.027	20.23	1377	5000	
Th	232	2	165	0.010	ppb	0.010	46.51	257	2000	
U	238	2	165	9.298	ppb	9.298	8.08	154554	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	675221	0.65	911621	74.07	60	120	
Sc (IS)	45	1	HMI H2	45168768	0.44	50068556	90.21	60	120	
Sc (IS)	45	2	HMI He	410912	5.13	451776	90.95	60	120	
Sc (IS)	45	3	No Gas	101708578	0.65	123511628	82.35	60	120	
Ge Internal Standard	72	1	HMI H2	22990285	0.57	25603826	89.79	60	120	
Ge Internal Standard	72	2	HMI He	658980	4.24	720714	91.43	60	120	
In Internal Standard	115	2	HMI He	1699845	4.64	1819211	93.44	60	120	
Ho-165	165	2	HMI He	14490225	4.71	15094203	96.00	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-11-b
Data File Name	278SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:52:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	9.375	ppb	9.375	26.75	84287	500000	
Li	7	2	45	25.728	ppb	25.728	18.06	4364	500000	
Li	7	3	45	24.120	ppb	24.120	7.31	3927705	50000	
Be	9	1	6	-0.063	ppb	-0.063	0.00	0	2000	
B	11	1	6	1106.547	ppb	1106.547	0.71	307983	2000	
Na	23	1	45	297229.390	ppb	297229.390	0.27	1039089185	2000	>LDR
Na	23	2	45	279847.224	ppb	279847.224	2.37	31685270	400000	
Mg	24	2	45	36607.034	ppb	36607.034	1.76	1695334	400000	
Al	27	2	45	2.573	ppb	2.573	46.56	90	400000	
K	39	1	45	9646.069	ppb	9646.069	0.64	48768664	400000	
K	39	2	45	10367.089	ppb	10367.089	2.96	188570	400000	
Ca	40	1	45	58261.396	ppb	58261.396	0.41	394608727	400000	
Ca	44	2	45	89860.422	ppb	89860.422	1.35	107016	400000	
Ti	47	2	45	-189.110	ppb	-189.110	-99.64	3	4000	
V	51	2	72	76.056	ppb	76.056	2.48	58449	2000	
Cr	52	2	72	2.129	ppb	2.129	14.91	2490	5000	
Mn	55	2	72	1.930	ppb	1.930	7.89	550	10000	
Fe	57	2	72	11.959	ppb	11.959	29.86	337	400000	
Co	59	2	72	0.030	ppb	0.030	76.39	90	2000	
Ni	60	2	72	0.064	ppb	0.064	66.38	93	5000	
Cu	63	2	72	0.579	ppb	0.579	10.99	3194	5000	
Zn	66	2	72	1.478	ppb	1.478	36.64	403	5000	
As	75	2	72	13.232	ppb	13.232	1.56	1422	2000	
Se	78	1	72	5.993	ppb	5.993	2.42	3259	2000	
Sr	88	2	72	5559.778	ppb	5559.778	3.10	1277827	4000	
Zr	90	2	72	4.505	ppb	4.505	48.54	80	1000	
Nb	93	2	72	0.021	ppb	0.021	27.74	187	200	
Mo	95	2	115	14.978	ppb	14.978	2.19	12975	2000	
Pd	105	2	115	0.015	ppb	0.015	48.08	47	100	
Ag	107	2	115	-0.008	ppb	-0.008	-40.17	33	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.090	ppb	0.090	40.56	137	2000	
Sb	121	2	115	0.007	ppb	0.007	564.88	27	1000	
Ba	137	2	115	32.355	ppb	32.355	4.96	5211	5000	
W	182	2	165	0.059	ppb	0.059	13.53	793	100	
Pt	195	2	165	-0.001	ppb	-0.001	-120.27	87	100	
Tl	205	2	165	0.011	ppb	0.011	69.84	233	2000	
Pb	208	2	165	0.021	ppb	0.021	64.82	1313	5000	
Th	232	2	165	0.007	ppb	0.007	64.75	217	2000	
U	238	2	165	3.958	ppb	3.958	1.28	66112	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	665464	0.10	911621	73.00	60	120	
Sc (IS)	45	1	HMI H2	43913919	0.59	50068556	87.71	60	120	
Sc (IS)	45	2	HMI He	411512	1.86	451776	91.09	60	120	
Sc (IS)	45	3	No Gas	99057669	1.13	123511628	80.20	60	120	
Ge Internal Standard	72	1	HMI H2	22548891	0.52	25603826	88.07	60	120	
Ge Internal Standard	72	2	HMI He	659269	1.09	720714	91.47	60	120	
In Internal Standard	115	2	HMI He	1716411	0.90	1819211	94.35	60	120	
Ho-165	165	2	HMI He	14517024	0.22	15094203	96.18	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-12-b
Data File Name	279SMPL.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T08:56:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.744	ppb	-6.744	-72.60	81147	500000	
Li	7	2	45	11.900	ppb	11.900	297.38	4211	500000	
Li	7	3	45	3.783	ppb	3.783	48.67	3741466	50000	
Be	9	1	6	-0.063	ppb	-0.063	0.00	0	2000	
B	11	1	6	586.148	ppb	586.148	1.61	174196	2000	
Na	23	1	45	112062.874	ppb	112062.874	0.44	399302047	2000	>LDR
Na	23	2	45	107282.527	ppb	107282.527	0.92	12296287	400000	
Mg	24	2	45	33711.096	ppb	33711.096	0.97	1579451	400000	
Al	27	2	45	893.380	ppb	893.380	1.03	8239	400000	
K	39	1	45	6078.173	ppb	6078.173	1.54	34639409	400000	
K	39	2	45	7016.216	ppb	7016.216	0.60	130580	400000	
Ca	40	1	45	70608.017	ppb	70608.017	0.62	487189326	400000	
Ca	44	2	45	79074.026	ppb	79074.026	1.31	95270	400000	
Ti	47	2	45	2377.344	ppb	2377.344	32.87	83	4000	
V	51	2	72	50.777	ppb	50.777	2.34	39743	2000	
Cr	52	2	72	0.585	ppb	0.585	2.09	907	5000	
Mn	55	2	72	18.170	ppb	18.170	1.46	4981	10000	
Fe	57	2	72	702.054	ppb	702.054	3.57	12768	400000	
Co	59	2	72	0.325	ppb	0.325	18.40	780	2000	
Ni	60	2	72	0.830	ppb	0.830	10.86	640	5000	
Cu	63	2	72	1.000	ppb	1.000	18.71	4144	5000	
Zn	66	2	72	7.574	ppb	7.574	17.92	1510	5000	
As	75	2	72	6.262	ppb	6.262	8.39	689	2000	
Se	78	1	72	0.899	ppb	0.899	3.65	527	2000	
Sr	88	2	72	2003.598	ppb	2003.598	0.71	468774	4000	
Zr	90	2	72	42.334	ppb	42.334	4.09	400	1000	
Nb	93	2	72	0.023	ppb	0.023	62.78	197	200	
Mo	95	2	115	0.451	ppb	0.451	18.52	400	2000	
Pd	105	2	115	0.002	ppb	0.002	698.01	27	100	
Ag	107	2	115	-0.009	ppb	-0.009	-19.01	33	100	
Cd	111	2	115	-0.032	ppb	-0.032	-60.01	3	2000	
Sn	120	2	115	0.110	ppb	0.110	20.82	153	2000	
Sb	121	2	115	0.078	ppb	0.078	95.73	70	1000	
Ba	137	2	115	126.193	ppb	126.193	0.94	20777	5000	
W	182	2	165	0.623	ppb	0.623	10.14	4678	100	
Pt	195	2	165	-0.004	ppb	-0.004	-182.14	70	100	
Tl	205	2	165	0.013	ppb	0.013	27.41	253	2000	
Pb	208	2	165	0.345	ppb	0.345	13.47	5137	5000	
Th	232	2	165	0.102	ppb	0.102	16.09	1617	2000	
U	238	2	165	9.211	ppb	9.211	0.35	156533	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	686362	0.21	911621	75.29	60	120	
Sc (IS)	45	1	HMI H2	44738386	0.57	50068556	89.35	60	120	
Sc (IS)	45	2	HMI He	416235	0.98	451776	92.13	60	120	
Sc (IS)	45	3	No Gas	100973032	0.23	123511628	81.75	60	120	
Ge Internal Standard	72	1	HMI H2	22986147	0.67	25603826	89.78	60	120	
Ge Internal Standard	72	2	HMI He	671040	1.36	720714	93.11	60	120	
In Internal Standard	115	2	HMI He	1756547	0.86	1819211	96.56	60	120	
Ho-165	165	2	HMI He	14776775	0.88	15094203	97.90	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-13-b
Data File Name	280SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:00:20-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	23.782	ppb	23.782	8.78	89842	500000	
Li	7	2	45	39.589	ppb	39.589	87.83	4637	500000	
Li	7	3	45	28.956	ppb	28.956	2.75	4039901	50000	
Be	9	1	6	0.006	ppb	0.006	1120.48	17	2000	
B	11	1	6	345.384	ppb	345.384	1.80	107771	2000	
Na	23	1	45	85277.621	ppb	85277.621	0.60	303077015	2000	>LDR
Na	23	2	45	80556.511	ppb	80556.511	0.75	9279269	400000	
Mg	24	2	45	43249.705	ppb	43249.705	0.91	2035718	400000	
Al	27	2	45	4.605	ppb	4.605	132.94	110	400000	
K	39	1	45	6349.692	ppb	6349.692	1.01	35684804	400000	
K	39	2	45	7160.224	ppb	7160.224	1.15	133785	400000	
Ca	40	1	45	76493.808	ppb	76493.808	0.19	526306259	400000	
Ca	44	2	45	87647.082	ppb	87647.082	0.97	106087	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	59.750	ppb	59.750	1.01	46778	2000	
Cr	52	2	72	1.039	ppb	1.039	0.96	1387	5000	
Mn	55	2	72	0.974	ppb	0.974	26.29	300	10000	
Fe	57	2	72	12.166	ppb	12.166	41.92	347	400000	
Co	59	2	72	0.068	ppb	0.068	36.16	180	2000	
Ni	60	2	72	0.117	ppb	0.117	14.02	133	5000	
Cu	63	2	72	0.413	ppb	0.413	24.55	2904	5000	
Zn	66	2	72	1.477	ppb	1.477	48.47	410	5000	
As	75	2	72	8.407	ppb	8.407	7.69	922	2000	
Se	78	1	72	0.628	ppb	0.628	17.84	377	2000	
Sr	88	2	72	2742.908	ppb	2742.908	0.20	642057	4000	
Zr	90	2	72	1.929	ppb	1.929	104.21	60	1000	
Nb	93	2	72	0.012	ppb	0.012	68.22	160	200	
Mo	95	2	115	1.248	ppb	1.248	15.86	1103	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-487.56	17	100	
Ag	107	2	115	-0.007	ppb	-0.007	-82.82	40	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.101	ppb	0.101	46.35	147	2000	
Sb	121	2	115	0.101	ppb	0.101	34.56	83	1000	
Ba	137	2	115	188.035	ppb	188.035	0.54	30856	5000	
W	182	2	165	0.183	ppb	0.183	23.45	1663	100	
Pt	195	2	165	0.000	ppb	0.000	25.96	100	100	
Tl	205	2	165	0.014	ppb	0.014	28.49	260	2000	
Pb	208	2	165	0.033	ppb	0.033	47.43	1487	5000	
Th	232	2	165	0.008	ppb	0.008	35.96	233	2000	
U	238	2	165	4.450	ppb	4.450	1.48	75885	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	686022	0.30	911621	75.25	60	120	
Sc (IS)	45	1	HMI H2	44612058	0.21	50068556	89.10	60	120	
Sc (IS)	45	2	HMI He	418171	0.58	451776	92.56	60	120	
Sc (IS)	45	3	No Gas	100331259	0.91	123511628	81.23	60	120	
Ge Internal Standard	72	1	HMI H2	22925293	0.60	25603826	89.54	60	120	
Ge Internal Standard	72	2	HMI He	671369	0.87	720714	93.15	60	120	
In Internal Standard	115	2	HMI He	1750896	0.49	1819211	96.24	60	120	
Ho-165	165	2	HMI He	14823448	0.43	15094203	98.21	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	281_CCV_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:04:30-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	436.823	ppb	2.501	215904	500	87.4	90	110	>+\-10%
Li	7	2	45	479.851	ppb	10.595	11030	500	96.0	90	110	
Li	7	3	45	451.826	ppb	0.869	9838577	500	90.4	90	110	
Be	9	1	6	51.408	ppb	1.663	13305	50	102.8	90	110	
B	11	1	6	46.876	ppb	6.530	27181	50	93.8	90	110	
Na	23	1	45	5130.806	ppb	0.685	18977346	5000	102.6	90	110	
Na	23	2	45	4863.074	ppb	1.427	568552	5000	97.3	90	110	
Mg	24	2	45	5040.932	ppb	1.357	236483	5000	100.8	90	110	
Al	27	2	45	4956.302	ppb	1.873	45420	5000	99.1	90	110	
K	39	1	45	4880.088	ppb	0.777	30240932	5000	97.6	90	110	
K	39	2	45	5100.229	ppb	1.804	96212	5000	102.0	90	110	
Ca	40	1	45	5229.604	ppb	0.338	36982556	5000	104.6	90	110	
Ca	44	2	45	5114.429	ppb	4.207	6181	5000	102.3	90	110	
Ti	47	2	45	20.078	ppb	2743.111	10	50	40.2	90	110	>+\-10%
V	51	2	72	49.913	ppb	4.239	39413	50	99.8	90	110	
Cr	52	2	72	49.729	ppb	1.250	53277	50	99.5	90	110	
Mn	55	2	72	53.136	ppb	1.889	14630	50	106.3	90	110	
Fe	57	2	72	5007.735	ppb	0.171	91126	5000	100.2	90	110	
Co	59	2	72	50.301	ppb	0.748	118706	50	100.6	90	110	
Ni	60	2	72	50.591	ppb	0.321	36378	50	101.2	90	110	
Cu	63	2	72	49.599	ppb	1.287	108234	50	99.2	90	110	
Zn	66	2	72	48.933	ppb	1.911	9073	50	97.9	90	110	
As	75	2	72	49.268	ppb	1.958	5414	50	98.5	90	110	
Se	78	1	72	50.578	ppb	1.240	28690	50	101.2	90	110	
Sr	88	2	72	55.182	ppb	2.923	13045	50	110.4	90	110	>+\-10%
Zr	90	2	72	16.002	ppb	18.875	180	50	32.0	90	110	>+\-10%
Nb	93	2	72	98.209	ppb	1.222	323515	100	98.2	90	110	
Mo	95	2	115	48.941	ppb	3.411	43857	50	97.9	90	110	
Pd	105	2	115	49.260	ppb	2.079	84085	50	98.5	90	110	
Ag	107	2	115	48.869	ppb	0.957	176854	50	97.7	90	110	
Cd	111	2	115	49.115	ppb	3.150	14724	50	98.2	90	110	
Sn	120	2	115	48.525	ppb	2.621	34326	50	97.0	90	110	
Sb	121	2	115	48.690	ppb	1.406	29804	50	97.4	90	110	
Ba	137	2	115	48.257	ppb	5.602	8032	50	96.5	90	110	
W	182	2	165	47.775	ppb	0.773	330227	50	95.6	90	110	
Pt	195	2	165	46.866	ppb	0.862	335682	50	93.7	90	110	
Tl	205	2	165	49.135	ppb	1.701	450664	50	98.3	90	110	
Pb	208	2	165	49.244	ppb	0.604	582502	50	98.5	90	110	
Th	232	2	165	47.147	ppb	0.573	697900	50	94.3	90	110	
U	238	2	165	46.672	ppb	0.981	797427	50	93.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	730380	0.67	911621	80.12	60	120	
Sc (IS)	45	1	HMI H2	45725538	0.65	50068556	91.33	60	120	
Sc (IS)	45	2	HMI He	416476	1.15	451776	92.19	60	120	
Sc (IS)	45	3	No Gas	104413848	0.75	123511628	84.54	60	120	
Ge Internal Standard	72	1	HMI H2	23732247	0.27	25603826	92.69	60	120	
Ge Internal Standard	72	2	HMI He	677121	0.90	720714	93.95	60	120	
In Internal Standard	115	2	HMI He	1775410	1.50	1819211	97.59	60	120	
Ho-165	165	2	HMI He	14862512	0.92	15094203	98.47	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	282_CCB_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:08:20-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-23.860	ppb	-10.8	3520067	10	
Be	9	1	6	-0.012	ppb	-355.6	13	0.5	
B	11	1	6	0.409	ppb	743.6	13769	0.5	
Na	23	1	45	69.907	ppb	1.4	564867	25	>RL
Na	23	2	45	55.008	ppb	18.5	17876	25	>RL
Mg	24	2	45	12.219	ppb	12.3	797	25	
Al	27	2	45	-1.264	ppb	-213.0	57	15	
K	39	1	45	-132.593	ppb	-15.2	8704615	50	
K	39	2	45	-7.435	ppb	-407.8	4427	50	
Ca	40	1	45	15.227	ppb	6.3	220049	50	
Ca	44	2	45	25.664	ppb	30.0	50	25	>RL
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	0.111	ppb	87.1	136	1	
Cr	52	2	72	-0.012	ppb	-633.5	283	1	
Mn	55	2	72	0.136	ppb	66.5	73	0.5	
Fe	57	2	72	1.025	ppb	141.0	150	25	
Co	59	2	72	0.032	ppb	68.3	100	0.5	
Ni	60	2	72	0.040	ppb	119.8	80	1	
Cu	63	2	72	-0.054	ppb	-80.7	1960	1	
Zn	66	2	72	0.127	ppb	184.1	170	5	
As	75	2	72	0.015	ppb	115.5	10	1	
Se	78	1	72	0.049	ppb	121.7	63	1	
Sr	88	2	72	0.572	ppb	42.8	153	0.5	>RL
Zr	90	2	72	-4.027	ppb	-28.8	10	1	
Nb	93	2	72	1.109	ppb	0.8	3837	2	
Mo	95	2	115	0.066	ppb	49.2	60	0.5	
Pd	105	2	115	0.054	ppb	73.5	117	1	
Ag	107	2	115	0.013	ppb	106.8	113	1	
Cd	111	2	115	0.000	ppb	3916.9	13	0.5	
Sn	120	2	115	0.029	ppb	140.3	100	1	
Sb	121	2	115	0.027	ppb	121.0	40	0.6	
Ba	137	2	115	0.140	ppb	114.0	30	0.5	
W	182	2	165	0.059	ppb	43.4	820	1	
Pt	195	2	165	0.021	ppb	16.7	253	1	
Tl	205	2	165	0.043	ppb	29.5	530	0.1	
Pb	208	2	165	0.024	ppb	64.9	1387	0.5	
Th	232	2	165	0.059	ppb	21.9	1003	1	
U	238	2	165	0.026	ppb	13.4	503	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	742285	0.37	911621	81.42	60	120	
Sc (IS)	45	1	HMI H2	46078293	0.85	50068556	92.03	60	120	
Sc (IS)	45	2	HMI He	421008	1.33	451776	93.19	60	120	
Sc (IS)	45	3	No Gas	104993675	0.19	123511628	85.01	60	120	
Ge Internal Standard	72	1	HMI H2	23784137	0.12	25603826	92.89	60	120	
Ge Internal Standard	72	2	HMI He	688709	0.35	720714	95.56	60	120	
In Internal Standard	115	2	HMI He	1804341	1.04	1819211	99.18	60	120	
Ho-165	165	2	HMI He	14979397	0.25	15094203	99.24	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-14-b
Data File Name	283SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:12:08-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.663	ppb	14.663	34.76	87181	500000	
Li	7	2	45	16.589	ppb	16.589	114.57	4271	500000	
Li	7	3	45	19.393	ppb	19.393	17.38	3923826	50000	
Be	9	1	6	-0.035	ppb	-0.035	-136.52	7	2000	
B	11	1	6	1197.249	ppb	1197.249	0.47	336783	2000	
Na	23	1	45	275048.171	ppb	275048.171	0.85	976919079	2000	>LDR
Na	23	2	45	261606.057	ppb	261606.057	2.20	29886040	400000	
Mg	24	2	45	34014.931	ppb	34014.931	1.86	1589248	400000	
Al	27	2	45	15.955	ppb	15.955	53.95	213	400000	
K	39	1	45	10701.089	ppb	10701.089	0.96	53982883	400000	
K	39	2	45	11538.700	ppb	11538.700	0.57	211268	400000	
Ca	40	1	45	50713.304	ppb	50713.304	0.48	348978888	400000	
Ca	44	2	45	68954.084	ppb	68954.084	0.83	82850	400000	
Ti	47	2	45	237.009	ppb	237.009	207.60	17	4000	
V	51	2	72	154.914	ppb	154.914	0.91	120518	2000	
Cr	52	2	72	1.686	ppb	1.686	14.36	2060	5000	
Mn	55	2	72	4.437	ppb	4.437	8.99	1237	10000	
Fe	57	2	72	16.530	ppb	16.530	14.45	423	400000	
Co	59	2	72	0.128	ppb	0.128	25.74	320	2000	
Ni	60	2	72	0.076	ppb	0.076	30.20	103	5000	
Cu	63	2	72	0.342	ppb	0.342	18.71	2737	5000	
Zn	66	2	72	1.377	ppb	1.377	27.57	390	5000	
As	75	2	72	25.819	ppb	25.819	6.07	2802	2000	
Se	78	1	72	3.303	ppb	3.303	9.10	1824	2000	
Sr	88	2	72	3320.709	ppb	3320.709	1.03	772943	4000	
Zr	90	2	72	2.772	ppb	2.772	22.59	67	1000	
Nb	93	2	72	0.756	ppb	0.756	10.93	2577	200	
Mo	95	2	115	6.425	ppb	6.425	4.88	5658	2000	
Pd	105	2	115	0.034	ppb	0.034	46.26	80	100	
Ag	107	2	115	-0.008	ppb	-0.008	-107.37	37	100	
Cd	111	2	115	-0.032	ppb	-0.032	-62.57	3	2000	
Sn	120	2	115	0.135	ppb	0.135	48.98	170	2000	
Sb	121	2	115	0.062	ppb	0.062	80.12	60	1000	
Ba	137	2	115	70.278	ppb	70.278	3.65	11504	5000	
W	182	2	165	0.314	ppb	0.314	5.38	2554	100	
Pt	195	2	165	0.001	ppb	0.001	287.53	107	100	
Tl	205	2	165	0.036	ppb	0.036	9.97	463	2000	
Pb	208	2	165	0.047	ppb	0.047	26.90	1647	5000	
Th	232	2	165	0.130	ppb	0.130	15.14	2030	2000	
U	238	2	165	6.563	ppb	6.563	1.94	111521	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	674605	0.77	911621	74.00	60	120	
Sc (IS)	45	1	HMI H2	44614323	0.37	50068556	89.11	60	120	
Sc (IS)	45	2	HMI He	415129	1.28	451776	91.89	60	120	
Sc (IS)	45	3	No Gas	100496395	0.51	123511628	81.37	60	120	
Ge Internal Standard	72	1	HMI H2	22720938	0.85	25603826	88.74	60	120	
Ge Internal Standard	72	2	HMI He	667624	0.98	720714	92.63	60	120	
In Internal Standard	115	2	HMI He	1745479	1.72	1819211	95.95	60	120	
Ho-165	165	2	HMI He	14773434	0.51	15094203	97.87	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-15-b
Data File Name	284SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:15:54-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	19.337	ppb	19.337	2.27	87991	500000	
Li	7	2	45	33.280	ppb	33.280	20.73	4514	500000	
Li	7	3	45	26.460	ppb	26.460	14.85	3975118	50000	
Be	9	1	6	-0.063	ppb	-0.063	0.00	0	2000	
B	11	1	6	1259.496	ppb	1259.496	1.34	348689	2000	
Na	23	1	45	323187.980	ppb	323187.980	0.29	1140636970	2000	>LDR
Na	23	2	45	302713.135	ppb	302713.135	0.80	34594727	400000	
Mg	24	2	45	39308.932	ppb	39308.932	1.50	1837445	400000	
Al	27	2	45	2.853	ppb	2.853	62.26	93	400000	
K	39	1	45	11179.742	ppb	11179.742	0.72	55644586	400000	
K	39	2	45	11806.850	ppb	11806.850	1.87	216136	400000	
Ca	40	1	45	51487.019	ppb	51487.019	0.25	352082688	400000	
Ca	44	2	45	79622.610	ppb	79622.610	1.14	95703	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	103.340	ppb	103.340	1.32	80293	2000	
Cr	52	2	72	3.175	ppb	3.175	8.64	3617	5000	
Mn	55	2	72	0.305	ppb	0.305	48.81	117	10000	
Fe	57	2	72	22.702	ppb	22.702	29.01	533	400000	
Co	59	2	72	0.009	ppb	0.009	52.76	43	2000	
Ni	60	2	72	0.119	ppb	0.119	48.43	133	5000	
Cu	63	2	72	0.013	ppb	0.013	972.93	2037	5000	
Zn	66	2	72	1.011	ppb	1.011	35.06	323	5000	
As	75	2	72	20.768	ppb	20.768	4.89	2252	2000	
Se	78	1	72	6.025	ppb	6.025	6.98	3308	2000	
Sr	88	2	72	4966.897	ppb	4966.897	1.23	1154359	4000	
Zr	90	2	72	-0.002	ppb	-0.002	-28619.94	43	1000	
Nb	93	2	72	0.384	ppb	0.384	10.69	1367	200	
Mo	95	2	115	17.749	ppb	17.749	2.95	15461	2000	
Pd	105	2	115	0.029	ppb	0.029	72.24	70	100	
Ag	107	2	115	-0.007	ppb	-0.007	-114.46	40	100	
Cd	111	2	115	-0.043	ppb	-0.043	0.00	0	2000	
Sn	120	2	115	0.303	ppb	0.303	24.39	283	2000	
Sb	121	2	115	0.103	ppb	0.103	82.29	83	1000	
Ba	137	2	115	73.171	ppb	73.171	1.11	11838	5000	
W	182	2	165	1.443	ppb	1.443	3.00	10264	100	
Pt	195	2	165	-0.002	ppb	-0.002	-366.64	83	100	
Tl	205	2	165	0.020	ppb	0.020	15.02	317	2000	
Pb	208	2	165	0.029	ppb	0.029	56.48	1427	5000	
Th	232	2	165	0.042	ppb	0.042	3.39	733	2000	
U	238	2	165	2.966	ppb	2.966	0.11	50238	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	665159	0.56	911621	72.96	60	120	
Sc (IS)	45	1	HMI H2	44334496	0.45	50068556	88.55	60	120	
Sc (IS)	45	2	HMI He	415276	1.20	451776	91.92	60	120	
Sc (IS)	45	3	No Gas	99511459	0.61	123511628	80.57	60	120	
Ge Internal Standard	72	1	HMI H2	22766137	0.34	25603826	88.92	60	120	
Ge Internal Standard	72	2	HMI He	666592	0.50	720714	92.49	60	120	
In Internal Standard	115	2	HMI He	1725631	0.26	1819211	94.86	60	120	
Ho-165	165	2	HMI He	14717717	1.53	15094203	97.51	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-16-b
Data File Name	285SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:19:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.199	ppb	60.199	6.79	99129	500000	
Li	7	2	45	101.129	ppb	101.129	25.89	5434	500000	
Li	7	3	45	62.371	ppb	62.371	1.95	4395484	50000	
Be	9	1	6	0.007	ppb	0.007	1645.92	17	2000	
B	11	1	6	706.819	ppb	706.819	3.00	199519	2000	
Na	23	1	45	166151.000	ppb	166151.000	0.13	582179178	2000	>LDR
Na	23	2	45	158395.392	ppb	158395.392	0.62	17894444	400000	
Mg	24	2	45	105425.740	ppb	105425.740	0.62	4869624	400000	
Al	27	2	45	4.061	ppb	4.061	66.98	103	400000	
K	39	1	45	13791.461	ppb	13791.461	1.65	66059866	400000	
K	39	2	45	14494.465	ppb	14494.465	1.05	261211	400000	
Ca	40	1	45	110539.961	ppb	110539.961	0.30	750140015	400000	
Ca	44	2	45	171212.746	ppb	171212.746	0.65	203353	400000	
Ti	47	2	45	-80.960	ppb	-80.960	-464.13	7	4000	
V	51	2	72	95.124	ppb	95.124	3.84	73469	2000	
Cr	52	2	72	0.126	ppb	0.126	32.49	417	5000	
Mn	55	2	72	91.270	ppb	91.270	2.62	24568	10000	
Fe	57	2	72	13.158	ppb	13.158	24.00	360	400000	
Co	59	2	72	0.737	ppb	0.737	9.68	1723	2000	
Ni	60	2	72	1.563	ppb	1.563	22.25	1147	5000	
Cu	63	2	72	0.766	ppb	0.766	17.42	3604	5000	
Zn	66	2	72	1.340	ppb	1.340	22.11	380	5000	
As	75	2	72	15.457	ppb	15.457	2.69	1667	2000	
Se	78	1	72	0.302	ppb	0.302	25.48	196	2000	
Sr	88	2	72	11445.344	ppb	11445.344	0.78	2643891	4000	
Zr	90	2	72	0.830	ppb	0.830	383.80	50	1000	
Nb	93	2	72	0.148	ppb	0.148	32.36	597	200	
Mo	95	2	115	2.107	ppb	2.107	5.18	1857	2000	
Pd	105	2	115	0.009	ppb	0.009	215.64	37	100	
Ag	107	2	115	-0.001	ppb	-0.001	-423.31	60	100	
Cd	111	2	115	-0.032	ppb	-0.032	-60.27	3	2000	
Sn	120	2	115	0.073	ppb	0.073	26.10	127	2000	
Sb	121	2	115	0.157	ppb	0.157	34.62	117	1000	
Ba	137	2	115	214.602	ppb	214.602	0.71	35114	5000	
W	182	2	165	0.080	ppb	0.080	9.40	943	100	
Pt	195	2	165	0.003	ppb	0.003	75.80	120	100	
Tl	205	2	165	0.035	ppb	0.035	5.08	450	2000	
Pb	208	2	165	-0.007	ppb	-0.007	-132.66	1007	5000	
Th	232	2	165	0.021	ppb	0.021	13.63	430	2000	
U	238	2	165	13.055	ppb	13.055	1.26	220482	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	660212	1.15	911621	72.42	60	120	
Sc (IS)	45	1	HMI H2	44004303	0.49	50068556	87.89	60	120	
Sc (IS)	45	2	HMI He	410380	0.69	451776	90.84	60	120	
Sc (IS)	45	3	No Gas	98707492	0.36	123511628	79.92	60	120	
Ge Internal Standard	72	1	HMI H2	22628290	0.71	25603826	88.38	60	120	
Ge Internal Standard	72	2	HMI He	662549	0.39	720714	91.93	60	120	
In Internal Standard	115	2	HMI He	1745983	1.32	1819211	95.97	60	120	
Ho-165	165	2	HMI He	14687705	0.28	15094203	97.31	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-17-b
Data File Name	286SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:23:30-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	242.861	ppb	242.861	1.53	141981	500000	
Li	7	2	45	293.223	ppb	293.223	7.04	7812	500000	
Li	7	3	45	272.511	ppb	272.511	0.43	7083096	50000	
Be	9	1	6	0.004	ppb	0.004	1457.58	13	2000	
B	11	1	6	5174.266	ppb	5174.266	0.76	1175835	2000	
Na	23	1	45	1282699.788	ppb	1282699.788	0.28	4201198337	2000	>LDR
Na	23	2	45	1218882.890	ppb	1218882.890	1.17	131226598	400000	
Mg	24	2	45	344526.084	ppb	344526.084	0.87	15172502	400000	
Al	27	2	45	-0.021	ppb	-0.021	-16842.57	63	400000	
K	39	1	45	26679.342	ppb	26679.342	0.19	111765748	400000	
K	39	2	45	25838.729	ppb	25838.729	1.64	440690	400000	
Ca	40	1	45	386329.011	ppb	386329.011	0.55	2451476017	400000	
Ca	44	2	45	556669.704	ppb	556669.704	1.50	630365	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	58.793	ppb	58.793	2.28	41769	2000	
Cr	52	2	72	9.128	ppb	9.128	3.30	9013	5000	
Mn	55	2	72	2.221	ppb	2.221	6.99	580	10000	
Fe	57	2	72	97.890	ppb	97.890	4.60	1717	400000	
Co	59	2	72	0.204	ppb	0.204	11.13	453	2000	
Ni	60	2	72	1.674	ppb	1.674	11.23	1127	5000	
Cu	63	2	72	0.692	ppb	0.692	27.69	3170	5000	
Zn	66	2	72	2.054	ppb	2.054	5.77	467	5000	
As	75	2	72	8.554	ppb	8.554	2.66	852	2000	
Se	78	1	72	1.771	ppb	1.771	4.65	881	2000	
Sr	88	2	72	34438.602	ppb	34438.602	0.94	7315905	4000	>LDR
Zr	90	2	72	5.280	ppb	5.280	23.90	80	1000	
Nb	93	2	72	0.119	ppb	0.119	1.64	463	200	
Mo	95	2	115	4.912	ppb	4.912	12.11	3927	2000	
Pd	105	2	115	0.174	ppb	0.174	9.14	287	100	
Ag	107	2	115	0.006	ppb	0.006	169.71	77	100	
Cd	111	2	115	-0.031	ppb	-0.031	-71.75	3	2000	
Sn	120	2	115	0.312	ppb	0.312	57.37	267	2000	
Sb	121	2	115	0.060	ppb	0.060	20.35	53	1000	
Ba	137	2	115	106.593	ppb	106.593	2.48	15848	5000	
W	182	2	165	0.226	ppb	0.226	1.71	1770	100	
Pt	195	2	165	-0.004	ppb	-0.004	-32.15	60	100	
Tl	205	2	165	0.014	ppb	0.014	28.74	240	2000	
Pb	208	2	165	0.072	ppb	0.072	17.74	1760	5000	
Th	232	2	165	0.012	ppb	0.012	12.59	273	2000	
U	238	2	165	24.544	ppb	24.544	0.72	378585	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	560844	0.23	911621	61.52	60	120	
Sc (IS)	45	1	HMI H2	41150942	0.22	50068556	82.19	60	120	
Sc (IS)	45	2	HMI He	391300	1.18	451776	86.61	60	120	
Sc (IS)	45	3	No Gas	99278415	0.12	123511628	80.38	60	120	
Ge Internal Standard	72	1	HMI H2	20150454	0.55	25603826	78.70	60	120	
Ge Internal Standard	72	2	HMI He	609269	0.69	720714	84.54	60	120	
In Internal Standard	115	2	HMI He	1586231	2.46	1819211	87.19	60	120	
Ho-165	165	2	HMI He	13415806	1.16	15094203	88.88	60	120	

Sample Report

Sample Table

Sample Name	280-90514-a-18-b
Data File Name	287SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:27:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.444	ppb	-17.444	-17.99	76858	500000	
Li	7	2	45	-3.008	ppb	-3.008	-346.45	3921	500000	
Li	7	3	45	-9.971	ppb	-9.971	-38.81	3419640	50000	
Be	9	1	6	-0.020	ppb	-0.020	-386.06	10	2000	
B	11	1	6	794.942	ppb	794.942	1.45	219738	2000	
Na	23	1	45	169074.526	ppb	169074.526	0.09	593452418	2000	>LDR
Na	23	2	45	156190.023	ppb	156190.023	3.31	17556211	400000	
Mg	24	2	45	38491.884	ppb	38491.884	4.49	1769000	400000	
Al	27	2	45	2.246	ppb	2.246	109.40	87	400000	
K	39	1	45	6246.193	ppb	6246.193	0.78	34829804	400000	
K	39	2	45	6906.726	ppb	6906.726	4.61	126146	400000	
Ca	40	1	45	92251.799	ppb	92251.799	0.22	627146017	400000	
Ca	44	2	45	98386.561	ppb	98386.561	4.34	116259	400000	
Ti	47	2	45	-297.903	ppb	-297.903	0.00	0	4000	
V	51	2	72	46.623	ppb	46.623	7.20	35490	2000	
Cr	52	2	72	1.600	ppb	1.600	13.24	1924	5000	
Mn	55	2	72	0.290	ppb	0.290	46.37	110	10000	
Fe	57	2	72	21.383	ppb	21.383	23.96	500	400000	
Co	59	2	72	0.014	ppb	0.014	62.96	53	2000	
Ni	60	2	72	0.214	ppb	0.214	15.11	197	5000	
Cu	63	2	72	0.083	ppb	0.083	77.60	2140	5000	
Zn	66	2	72	0.691	ppb	0.691	45.18	260	5000	
As	75	2	72	6.207	ppb	6.207	8.35	664	2000	
Se	78	1	72	2.501	ppb	2.501	6.22	1387	2000	
Sr	88	2	72	2308.668	ppb	2308.668	4.36	525451	4000	
Zr	90	2	72	0.521	ppb	0.521	283.17	47	1000	
Nb	93	2	72	0.050	ppb	0.050	74.42	277	200	
Mo	95	2	115	0.857	ppb	0.857	18.13	737	2000	
Pd	105	2	115	0.021	ppb	0.021	31.67	57	100	
Ag	107	2	115	-0.012	ppb	-0.012	-24.20	20	100	
Cd	111	2	115	-0.020	ppb	-0.020	-195.27	7	2000	
Sn	120	2	115	0.042	ppb	0.042	237.01	103	2000	
Sb	121	2	115	0.110	ppb	0.110	36.64	87	1000	
Ba	137	2	115	121.912	ppb	121.912	3.60	19475	5000	
W	182	2	165	0.523	ppb	0.523	14.95	3914	100	
Pt	195	2	165	0.001	ppb	0.001	329.36	107	100	
Tl	205	2	165	0.011	ppb	0.011	97.46	227	2000	
Pb	208	2	165	-0.008	ppb	-0.008	-48.55	973	5000	
Th	232	2	165	0.009	ppb	0.009	22.35	243	2000	
U	238	2	165	3.181	ppb	3.181	5.63	53052	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	650815	0.77	911621	71.39	60	120	
Sc (IS)	45	1	HMI H2	44080949	0.13	50068556	88.04	60	120	
Sc (IS)	45	2	HMI He	408441	1.64	451776	90.41	60	120	
Sc (IS)	45	3	No Gas	96878372	0.36	123511628	78.44	60	120	
Ge Internal Standard	72	1	HMI H2	22678612	0.63	25603826	88.58	60	120	
Ge Internal Standard	72	2	HMI He	653098	1.70	720714	90.62	60	120	
In Internal Standard	115	2	HMI He	1704729	1.08	1819211	93.71	60	120	
Ho-165	165	2	HMI He	14502869	1.87	15094203	96.08	60	120	

Sample Report

Sample Table

Sample Name	280-90564-a-1-a
Data File Name	288SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:31:10-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	119.647	ppb	119.647	3.12	106469	500000	
Li	7	2	45	169.179	ppb	169.179	24.96	6075	500000	
Li	7	3	45	151.613	ppb	151.613	2.57	5349298	50000	
Be	9	1	6	0.162	ppb	0.162	49.04	43	2000	
B	11	1	6	1662.610	ppb	1662.610	0.75	373878	2000	
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	
Na	23	2	45	1415813.898	ppb	1415813.898	0.89	151506461	400000	
Mg	24	2	45	91882.029	ppb	91882.029	0.85	4022390	400000	
Al	27	2	45	9.419	ppb	9.419	97.88	143	400000	
K	39	1	45	5380.091	ppb	5380.091	0.07	28547530	400000	
K	39	2	45	5765.335	ppb	5765.335	1.42	101017	400000	
Ca	40	1	45	391039.643	ppb	391039.643	0.68	2429633724	400000	
Ca	44	2	45	439775.065	ppb	439775.065	0.29	495005	400000	
Ti	47	2	45	-68.563	ppb	-68.563	-579.36	7	4000	
V	51	2	72	1.645	ppb	1.645	7.86	1201	2000	
Cr	52	2	72	0.363	ppb	0.363	24.70	607	5000	
Mn	55	2	72	35.325	ppb	35.325	4.54	8706	10000	
Fe	57	2	72	32.723	ppb	32.723	19.83	647	400000	
Co	59	2	72	0.055	ppb	0.055	17.16	137	2000	
Ni	60	2	72	2.602	ppb	2.602	8.08	1717	5000	
Cu	63	2	72	99.293	ppb	99.293	0.17	191905	5000	
Zn	66	2	72	23.298	ppb	23.298	3.86	3931	5000	
As	75	2	72	1.085	ppb	1.085	20.14	114	2000	
Se	78	1	72	2.820	ppb	2.820	5.17	1371	2000	
Sr	88	2	72	13136.750	ppb	13136.750	1.31	2772703	4000	
Zr	90	2	72	17.197	ppb	17.197	12.27	170	1000	
Nb	93	2	72	0.059	ppb	0.059	52.19	283	200	
Mo	95	2	115	1.493	ppb	1.493	4.30	1177	2000	
Pd	105	2	115	0.065	ppb	0.065	58.16	117	100	
Ag	107	2	115	0.009	ppb	0.009	46.66	87	100	
Cd	111	2	115	0.046	ppb	0.046	130.29	23	2000	
Sn	120	2	115	0.175	ppb	0.175	37.22	177	2000	
Sb	121	2	115	0.162	ppb	0.162	76.14	107	1000	
Ba	137	2	115	12.757	ppb	12.757	5.73	1870	5000	
W	182	2	165	0.014	ppb	0.014	34.94	453	100	
Pt	195	2	165	-0.001	ppb	-0.001	-232.57	83	100	
Tl	205	2	165	0.020	ppb	0.020	39.35	287	2000	
Pb	208	2	165	0.055	ppb	0.055	41.92	1593	5000	
Th	232	2	165	0.019	ppb	0.019	39.34	363	2000	
U	238	2	165	7.732	ppb	7.732	0.66	120471	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	544886	0.37	911621	59.77	60	120	IS Failed
Sc (IS)	45	1	HMI H2	40293052	0.51	50068556	80.48	60	120	
Sc (IS)	45	2	HMI He	388941	0.72	451776	86.09	60	120	
Sc (IS)	45	3	No Gas	95661992	0.37	123511628	77.45	60	120	
Ge Internal Standard	72	1	HMI H2	19924656	0.46	25603826	77.82	60	120	
Ge Internal Standard	72	2	HMI He	605420	1.41	720714	84.00	60	120	
In Internal Standard	115	2	HMI He	1560666	2.00	1819211	85.79	60	120	
Ho-165	165	2	HMI He	13547207	0.23	15094203	89.75	60	120	

Sample Report

Sample Table

Sample Name	280-90564-a-2-a
Data File Name	289SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:34:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	483.003	ppb	483.003	0.62	201909	500000	
Li	7	2	45	527.033	ppb	527.033	1.72	11050	500000	
Li	7	3	45	555.544	ppb	555.544	0.67	10562520	50000	
Be	9	1	6	3.367	ppb	3.367	14.70	643	2000	
B	11	1	6	5020.698	ppb	5020.698	2.17	1078340	2000	
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	
Na	23	2	45	1729725.981	ppb	1729725.981	0.31	186844531	400000	
Mg	24	2	45	194386.732	ppb	194386.732	0.24	8589628	400000	
Al	27	2	45	27.407	ppb	27.407	26.20	300	400000	
K	39	1	45	16994.570	ppb	16994.570	0.41	72457521	400000	
K	39	2	45	16903.954	ppb	16903.954	1.46	290746	400000	
Ca	40	1	45	352030.347	ppb	352030.347	0.16	2181295434	400000	
Ca	44	2	45	399523.485	ppb	399523.485	0.50	453933	400000	
Ti	47	2	45	-70.017	ppb	-70.017	-563.73	7	4000	
V	51	2	72	3.272	ppb	3.272	17.88	2323	2000	
Cr	52	2	72	4.541	ppb	4.541	2.93	4537	5000	
Mn	55	2	72	134.628	ppb	134.628	4.57	32721	10000	
Fe	57	2	72	260.035	ppb	260.035	4.63	4294	400000	
Co	59	2	72	3.290	ppb	3.290	2.01	6885	2000	
Ni	60	2	72	8.011	ppb	8.011	2.14	5131	5000	
Cu	63	2	72	888.322	ppb	888.322	1.08	1683596	5000	
Zn	66	2	72	81.992	ppb	81.992	0.30	13356	5000	
As	75	2	72	3.564	ppb	3.564	5.82	353	2000	
Se	78	1	72	1.229	ppb	1.229	16.96	605	2000	
Sr	88	2	72	13259.889	ppb	13259.889	0.48	2768146	4000	
Zr	90	2	72	102.209	ppb	102.209	6.35	807	1000	
Nb	93	2	72	0.044	ppb	0.044	48.70	237	200	
Mo	95	2	115	6.714	ppb	6.714	4.13	5218	2000	
Pd	105	2	115	0.016	ppb	0.016	108.64	43	100	
Ag	107	2	115	0.061	ppb	0.061	29.56	247	100	
Cd	111	2	115	0.020	ppb	0.020	283.04	17	2000	
Sn	120	2	115	0.983	ppb	0.983	15.61	670	2000	
Sb	121	2	115	1.364	ppb	1.364	6.40	743	1000	
Ba	137	2	115	25.428	ppb	25.428	1.43	3674	5000	
W	182	2	165	0.043	ppb	0.043	20.40	623	100	
Pt	195	2	165	-0.001	ppb	-0.001	-4.00	80	100	
Tl	205	2	165	0.010	ppb	0.010	77.67	203	2000	
Pb	208	2	165	0.185	ppb	0.185	6.52	2920	5000	
Th	232	2	165	0.039	ppb	0.039	26.56	623	2000	
U	238	2	165	2.032	ppb	2.032	2.18	30965	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	529982	0.79	911621	58.14	60	120	IS Failed
Sc (IS)	45	1	HMI H2	40183185	0.70	50068556	80.26	60	120	
Sc (IS)	45	2	HMI He	392597	0.52	451776	86.90	60	120	
Sc (IS)	45	3	No Gas	98291499	0.66	123511628	79.58	60	120	
Ge Internal Standard	72	1	HMI H2	19657248	0.53	25603826	76.77	60	120	
Ge Internal Standard	72	2	HMI He	598782	1.39	720714	83.08	60	120	
In Internal Standard	115	2	HMI He	1539721	1.81	1819211	84.64	60	120	
Ho-165	165	2	HMI He	13230775	0.39	15094203	87.65	60	120	

Sample Report

Sample Table

Sample Name	280-90564-a-3-a
Data File Name	290SMPL_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:38:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350344 6020
ISTD Ref FileName	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	167.991	ppb	167.991	2.65	115194	500000	
Li	7	2	45	167.158	ppb	167.158	12.40	5824	500000	
Li	7	3	45	212.520	ppb	212.520	1.65	6120126	50000	
Be	9	1	6	-0.007	ppb	-0.007	-1456.81	10	2000	
B	11	1	6	1034.483	ppb	1034.483	0.78	216633	2000	
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	
Na	23	2	45	2303156.042	ppb	2303156.042	0.65	237217296	400000	>LDR
Mg	24	2	45	135357.002	ppb	135357.002	0.60	5703262	400000	
Al	27	2	45	2.755	ppb	2.755	71.26	83	400000	
K	39	1	45	8236.877	ppb	8236.877	0.81	38057945	400000	
K	39	2	45	7396.958	ppb	7396.958	1.54	123595	400000	
Ca	40	1	45	647968.405	ppb	647968.405	0.78	3889051249	400000	
Ca	44	2	45	687546.273	ppb	687546.273	0.57	744860	400000	
Ti	47	2	45	-60.012	ppb	-60.012	-686.60	7	4000	
V	51	2	72	1.139	ppb	1.139	68.11	790	2000	
Cr	52	2	72	4.231	ppb	4.231	3.78	4021	5000	
Mn	55	2	72	15.882	ppb	15.882	7.16	3684	10000	
Fe	57	2	72	72.762	ppb	72.762	11.16	1217	400000	
Co	59	2	72	0.043	ppb	0.043	54.84	103	2000	
Ni	60	2	72	3.373	ppb	3.373	7.43	2070	5000	
Cu	63	2	72	7.441	ppb	7.441	6.45	15064	5000	
Zn	66	2	72	30.346	ppb	30.346	5.81	4761	5000	
As	75	2	72	0.893	ppb	0.893	25.40	89	2000	
Se	78	1	72	2.524	ppb	2.524	1.09	1153	2000	
Sr	88	2	72	16865.019	ppb	16865.019	1.19	3335852	4000	
Zr	90	2	72	20.588	ppb	20.588	14.46	183	1000	
Nb	93	2	72	0.019	ppb	0.019	94.72	153	200	
Mo	95	2	115	1.083	ppb	1.083	9.38	763	2000	
Pd	105	2	115	0.051	ppb	0.051	20.85	87	100	
Ag	107	2	115	0.010	ppb	0.010	185.51	80	100	
Cd	111	2	115	0.042	ppb	0.042	6.60	20	2000	
Sn	120	2	115	0.187	ppb	0.187	77.94	163	2000	
Sb	121	2	115	0.224	ppb	0.224	43.91	127	1000	
Ba	137	2	115	18.702	ppb	18.702	7.79	2454	5000	
W	182	2	165	0.003	ppb	0.003	331.88	360	100	
Pt	195	2	165	0.004	ppb	0.004	136.33	110	100	
Tl	205	2	165	0.007	ppb	0.007	63.71	170	2000	
Pb	208	2	165	0.306	ppb	0.306	2.35	3980	5000	
Th	232	2	165	0.006	ppb	0.006	95.74	180	2000	
U	238	2	165	11.464	ppb	11.464	0.78	165739	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	499308	0.33	911621	54.77	60	120	IS Failed
Sc (IS)	45	1	HMI H2	38924486	0.59	50068556	77.74	60	120	
Sc (IS)	45	2	HMI He	374369	1.18	451776	82.87	60	120	
Sc (IS)	45	3	No Gas	96092389	1.11	123511628	77.80	60	120	
Ge Internal Standard	72	1	HMI H2	18687934	0.85	25603826	72.99	60	120	
Ge Internal Standard	72	2	HMI He	567358	1.16	720714	78.72	60	120	
In Internal Standard	115	2	HMI He	1399099	3.26	1819211	76.91	60	120	
Ho-165	165	2	HMI He	12573003	0.71	15094203	83.30	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4238448
Data File Name	291_CCV_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:42:39-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	413.099	ppb	0.545	194930	500	82.6	90	110	>+\-10%
Li	7	2	45	451.097	ppb	3.652	9790	500	90.2	90	110	
Li	7	3	45	424.472	ppb	1.339	8922910	500	84.9	90	110	>+\-10%
Be	9	1	6	51.619	ppb	4.939	11914	50	103.2	90	110	
B	11	1	6	83.455	ppb	1.140	33808	50	166.9	90	110	>+\-10%
Na	23	1	45	7711.450	ppb	2.853	26482218	5000	154.2	90	110	>+\-10%
Na	23	2	45	6333.298	ppb	5.495	679490	5000	126.7	90	110	>+\-10%
Mg	24	2	45	5147.613	ppb	0.622	222742	5000	103.0	90	110	
Al	27	2	45	5084.680	ppb	0.562	42981	5000	101.7	90	110	
K	39	1	45	4952.807	ppb	0.900	28524290	5000	99.1	90	110	
K	39	2	45	5095.163	ppb	2.195	88640	5000	101.9	90	110	
Ca	40	1	45	5759.925	ppb	1.000	38015439	5000	115.2	90	110	>+\-10%
Ca	44	2	45	5743.190	ppb	8.325	6398	5000	114.9	90	110	>+\-10%
Ti	47	2	45	-297.903	ppb	0.000	0	50	-595.8	90	110	>+\-10%
V	51	2	72	49.420	ppb	3.601	36305	50	98.8	90	110	
Cr	52	2	72	48.279	ppb	1.656	48125	50	96.6	90	110	
Mn	55	2	72	52.398	ppb	2.207	13422	50	104.8	90	110	
Fe	57	2	72	5040.007	ppb	1.043	85313	5000	100.8	90	110	
Co	59	2	72	50.995	ppb	1.157	111953	50	102.0	90	110	
Ni	60	2	72	50.557	ppb	1.586	33816	50	101.1	90	110	
Cu	63	2	72	50.087	ppb	0.544	101656	50	100.2	90	110	
Zn	66	2	72	48.031	ppb	2.998	8286	50	96.1	90	110	
As	75	2	72	49.716	ppb	2.165	5082	50	99.4	90	110	
Se	78	1	72	50.645	ppb	1.582	27348	50	101.3	90	110	
Sr	88	2	72	59.241	ppb	4.686	13025	50	118.5	90	110	>+\-10%
Zr	90	2	72	10.002	ppb	63.234	120	50	20.0	90	110	>+\-10%
Nb	93	2	72	99.845	ppb	1.253	305945	100	99.8	90	110	
Mo	95	2	115	50.103	ppb	3.190	41260	50	100.2	90	110	
Pd	105	2	115	50.625	ppb	2.830	79417	50	101.2	90	110	
Ag	107	2	115	49.894	ppb	1.144	165957	50	99.8	90	110	
Cd	111	2	115	50.178	ppb	2.380	13819	50	100.4	90	110	
Sn	120	2	115	48.443	ppb	1.497	31503	50	96.9	90	110	
Sb	121	2	115	49.891	ppb	4.060	28057	50	99.8	90	110	
Ba	137	2	115	51.964	ppb	7.402	7949	50	103.9	90	110	
W	182	2	165	48.481	ppb	0.416	309213	50	97.0	90	110	
Pt	195	2	165	48.254	ppb	0.629	318924	50	96.5	90	110	
Tl	205	2	165	49.884	ppb	0.317	422222	50	99.8	90	110	
Pb	208	2	165	50.024	ppb	1.434	545988	50	100.0	90	110	
Th	232	2	165	48.393	ppb	0.369	660999	50	96.8	90	110	
U	238	2	165	47.399	ppb	0.445	747292	50	94.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	651379	0.89	911621	71.45	60	120	
Sc (IS)	45	1	HMI H2	42687308	0.42	50068556	85.26	60	120	
Sc (IS)	45	2	HMI He	384131	1.40	451776	85.03	60	120	
Sc (IS)	45	3	No Gas	98338999	0.35	123511628	79.62	60	120	
Ge Internal Standard	72	1	HMI H2	22591452	0.21	25603826	88.23	60	120	
Ge Internal Standard	72	2	HMI He	629881	0.25	720714	87.40	60	120	
In Internal Standard	115	2	HMI He	1631923	1.96	1819211	89.70	60	120	
Ho-165	165	2	HMI He	13713861	0.14	15094203	90.86	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4238446
Data File Name	292_CCB_Li111016.D
Data Path Name	D:\MassHunter Data\Li110916.b
Acq Date Time	2016-11-11T09:46:26-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	167CALB_Li111016.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-28.803	ppb	-8.8	3215334	10	
Be	9	1	6	-0.006	ppb	-759.0	13	0.5	
B	11	1	6	17.941	ppb	2.9	17008	0.5	>RL
Na	23	1	45	652.305	ppb	2.6	2516125	25	>RL
Na	23	2	45	550.907	ppb	3.0	71118	25	>RL
Mg	24	2	45	23.963	ppb	19.0	1277	25	
Al	27	2	45	0.994	ppb	257.8	73	15	
K	39	1	45	-99.538	ppb	-32.2	8244435	50	
K	39	2	45	0.165	ppb	8441.8	4314	50	
Ca	40	1	45	53.433	ppb	5.0	458002	50	>RL
Ca	44	2	45	42.777	ppb	72.0	67	25	>RL
Ti	47	2	45	-297.903	ppb	0.0	0	0.5	
V	51	2	72	0.028	ppb	226.5	66	1	
Cr	52	2	72	-0.098	ppb	-104.7	180	1	
Mn	55	2	72	0.127	ppb	121.7	67	0.5	
Fe	57	2	72	2.654	ppb	64.5	170	25	
Co	59	2	72	0.013	ppb	60.4	50	0.5	
Ni	60	2	72	0.003	ppb	1377.5	50	1	
Cu	63	2	72	0.043	ppb	183.4	2050	1	
Zn	66	2	72	0.085	ppb	379.5	153	5	
As	75	2	72	-0.017	ppb	-299.3	6	1	
Se	78	1	72	0.072	ppb	36.2	72	1	
Sr	88	2	72	1.464	ppb	9.8	347	0.5	>RL
Zr	90	2	72	0.124	ppb	1486.1	43	1	
Nb	93	2	72	1.153	ppb	1.7	3762	2	
Mo	95	2	115	0.085	ppb	27.5	73	0.5	
Pd	105	2	115	0.056	ppb	27.5	113	1	
Ag	107	2	115	0.026	ppb	51.7	153	1	
Cd	111	2	115	0.015	ppb	276.6	17	0.5	
Sn	120	2	115	0.080	ppb	95.9	130	1	
Sb	121	2	115	0.053	ppb	36.4	53	0.6	
Ba	137	2	115	0.003	ppb	2465.4	7	0.5	
W	182	2	165	0.048	ppb	38.3	700	1	
Pt	195	2	165	0.026	ppb	44.8	273	1	
Tl	205	2	165	0.054	ppb	13.6	603	0.1	
Pb	208	2	165	0.024	ppb	44.2	1320	0.5	
Th	232	2	165	0.063	ppb	3.5	997	1	
U	238	2	165	0.032	ppb	6.3	573	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	664702	0.39	911621	72.91	60	120	
Sc (IS)	45	1	HMI H2	42936316	1.00	50068556	85.76	60	120	
Sc (IS)	45	2	HMI He	397540	0.86	451776	87.99	60	120	
Sc (IS)	45	3	No Gas	97746725	0.48	123511628	79.14	60	120	
Ge Internal Standard	72	1	HMI H2	22687589	0.38	25603826	88.61	60	120	
Ge Internal Standard	72	2	HMI He	649903	0.57	720714	90.17	60	120	
In Internal Standard	115	2	HMI He	1709028	2.63	1819211	93.94	60	120	
Ho-165	165	2	HMI He	14190164	0.94	15094203	94.01	60	120	

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ICPMS Data Review Checklist

LIMS Batch Number(s): 351276	Filename(s): Li111116a	Instrument ID (circle one): 024 077 078
Analyst/1st Reviewer/Date: [signature] 11/14/16		Method (circle): 200.8 6020 6020A
Matrix (circle): Water Solid Leachate		QC Type (circle): Standard DOD Q4 DoD Q5 QAPP Other
		Circle: Total TR PD Dissolved

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Tune					
1. Tune solution analyzed minimum of 4 times for 6020 or 5 times for 200.8	✓			✓	
2. Tune RSD <5%	✓			✓	
3. Resolution ≤ 0.9 AMU full width at 10% peak height Note: This also satisfies 200.8, 1.0 AMU at 5% peak height	✓			✓	
4. Mass calibration results within ± 0.1 amu of expected value	✓			✓	
B. Calibration/Instrument/Run QC					
1. Instrument calibrated per lab SOP?	✓			✓	
2. For multi-point calibrations: $r \geq 0.995$ -- |x-intercept| ≤ RL	✓			✓	
3. High Level LDR Check Standard: required by DoD daily if samples analyzed > highest ICAL level -- 90-110% recovery	✓			✓	
4. ICB/CCB: run before samples, 10% frequency, & closing Result < ½ RL (routine), < LOD/2x MDL (DoD or special project)	✓			✓	
5. ICV/CCV: frequency initial, 10%, & closing; 90-110% recovery	✓			✓	
6. ICVL/CCVL: 70-130% recovery (6020A); Not applicable (other)	✓			✓	
7. ICSA/ICSAB: run before samples and every 12 hours ICSA detections for non-spiked <2*RL (<LOD or 2x MDL for DoD or special projects) ICSAB for spiked elements 80-120%; *If no, list analytes:*	✓			✓	☐ Results outside limits due to contamination. ☐ Concentration of affected analyte in sample is less than RL ☐ Concentration of affected analyte in sample is more than 10x analyte signal in ICSA.
8. RL-level check standard: CRI: 50-150% (routine) 80-120% recovery (DoD):	✓ ✓			✓	
C. Client Samples and QC Sample Results					
1. Samples with target element concentrations > 90% linear range diluted and reanalyzed (200.8)	✓			✓	Comments:
2. Sample IS response: 30-120% of ICB IS (6020) 70-150% of ICB IS (6020A) 60-125% (200.8)	✓			✓	☐ High IS response. Sample(s) rerun at dilution. ☐ Low IS response. Sample(s) rerun at dilution.
D. Preparation/Matrix QC					
1. Method Blank: one per preparation batch result < ½ RL	✓			✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
2. LCS: one per preparation batch; 80-120% recovery or historical (routine) 85-115% recovery or historical (200.8); project limits (other)	✓				☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
3. MS/MSD or MS/Dup frequency: a pair per batch (routine); a pair per 10 samples (200.8);	✓				☐ Insufficient sample
4. MS/MSD recovery & RPD: 75-125% recovery or historical (routine); 70-130% recovery (200.8); 20% RPD;	✓				☐ LCS acceptable – matrix effects ☐ Native analyte > 4x spike level ☐ Matrix effect and native analyte > 4x spike

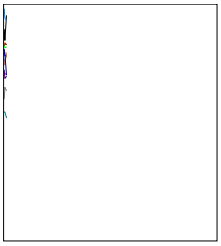
Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
G. Digestion/Matrix QC (continued)					
5. Serial dilution: one per prep batch (6020/6020A) Required if MS/MSD fail (DoD) – run at 5x dilution of parent sample; ≤10% difference.	✓			✓	Sample result <50 x MDL
6. Post digestion spike: one per 6020/6020A batch Required if MS/MSD fail (DoD) 75-125% recovery	✓			✓	
H. Raw Data & TALS Data Entry					
1. TALS Sample List Tab	✓				
a. LIMS Sample IDs / Containers are correct	✓			✓	
b. Method and matrix are correct	✓			✓	
c. Date and time are correct	✓			✓	
d. Dilutions are correct	✓			✓	
e. Correct suffix designated; eg., DU, (where applicable)	✓				
2. TALS Sample Results Tab	✓				
a. All reported analytes are marked Primary or Secondary	✓			✓	
b. All unused data are marked Rejected or Accepted. Unused data are clearly identified with reason not used	✓			✓	
c. Out of control QC is clearly identified	✓			✓	
d. Any data that has a qualifier is reviewed with appropriate action taken (NCM if needed)	✓			✓	
e. The attached data file includes the filename, instrument, and analyst initials	✓			✓	
3. TALS Worksheet Tab is complete and correct	✓			✓	
4. TALS Reagent Tab is complete and correct	✓			✓	
5. TALS QC Links Tab is correct	✓			✓	
6. TALS Batch Information Screen documentation is complete	✓			✓	
7. TALS Status set to appropriate review level	✓			✓	
I. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	
5. Raw Data PDF attached as document				✓	

Comments: _____

2nd Reviewer: _____ Review Date: 11/14/16

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
7	50000	41610	41669.6	0.59
9	50000	41074	41276.9	1.13
59	1E+05	78434	78945.1	1.22
66	2000	1596	1534.3	3.62
70	5000	2197	2363.6	6.11
75	5000	3967	3915.3	1.92
89	2E+05	140073	141137.5	0.66
105	1000	635	627.4	4.05
118	1000	953	899.6	5.79
137	20000	16651	16633.4	0.23
140	2E+05	156209	153829.0	1.42
205	2E+05	103518	106946.5	2.78
6	5000	4673	4770.6	2.73
70/140	2	1.407 %	1.538 %	7.43
156/140	2	1.387 %	1.402 %	2.57

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	HMI		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas		0.00
RF Power	1550	W	Carrier Gas	0.99	L/min	S/C Temp	2	℃	Plasma Gas		15.0
RF Matching	1.67	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas		0.9

Lenses Parameters

Extract 1	-10.0	V	Omega Bias	-85	V	Cell Entrance	-40	V	Deflect	15.4	V
Extract 2	-195.0	V	Omega Lens	9.4	V	Cell Exit	-58	V	Plate Bias	-50	V

Cell Parameters

Use Gas	false		H2 Flow	0.0	mL/min	OctP Bias	-8.0	V	Energy Discrimination		3.0
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	200	V			

Qpole Parameters

Mass Gain	152		Axis Gain	1.0049		QP Bias	-5.0	V			
Mass Offset	121		Axis Offset	-0.04							

Torch Axis Parameters

Torch H	-0.2	mm	Torch V	-0.4	mm						

EM Parameters

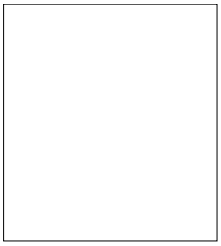
Discriminator	4.5	mV	Analog HV	1698	V	Pulse HV	1600	V			

Meters

IF/BK Press	2.14E+2	Pa	Inlet Temp	36.5	℃	Carrier Gas(BP)	3.31E+2	kPa			
Water RF/WC/IF	1.13	L/min	S/C Temp (L)	2.0	℃						

Current Signal

[HMI H2]



Mass	Range	Count	Avg. Count	RSD [%]
7	1000	0	0.0	0.00
9	2000	0	0.0	0.00
59	10000	0	0.0	0.00
63	500	0	0.0	0.00
70	1000	0	0.0	0.00
78	20	0	0.0	0.00
89	1E+05	0	0.0	0.00
115	1E+05	0	0.0	0.00
118	500	0	0.0	0.00
137	10000	0	0.0	0.00
140	1E+05	0	0.0	0.00
205	50000	0	0.0	0.00
238	1E+05	0	0.0	0.00
70/140	2	0.000 %	0.000 %	0.00
156/140	1	0.000 %	0.000 %	0.00

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	HMI		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas		0.14
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	℃	Plasma Gas		15.0
RF Matching	1.67	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas		0.9

Lenses Parameters

Extract 1	-10.0	V	Omega Bias	-85	V	Cell Entrance	-20	V	Deflect	1.6	V
Extract 2	-195.0	V	Omega Lens	9.4	V	Cell Exit	-64	V	Plate Bias	-60	V

Cell Parameters

Use Gas	true		H2 Flow	4.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	3.0
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	200	V		

Qpole Parameters

Mass Gain	152	Axis Gain	1.0049	QP Bias	-15.0	V
Mass Offset	121	Axis Offset	-0.04			

Torch Axis Parameters

Torch H	-0.2	mm	Torch V	-0.4	mm

EM Parameters

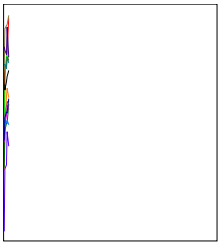
Discriminator	4.5	mV	Analog HV	1698	V	Pulse HV	1600	V

Meters

IF/BK Press	2.09E+2	Pa	Inlet Temp	36.1	℃	Carrier Gas(BP)	1.90E+2	kPa
Water RF/WC/IF	1.12	L/min	S/C Temp (L)	2.0	℃			

Current Signal

[HMI H2]



Mass	Range	Count	Avg. Count	RSD [%]
7	500	471	360.0	27.96
9	2000	1568	1364.3	24.40
59	10000	5885	5197.3	20.25
63	500	304	261.4	27.86
70	1000	575	468.5	20.96
78	50	20	15.2	52.92
89	1E+05	55451	51280.5	12.11
115	1E+05	57805	53762.3	8.75
118	500	360	341.6	4.32
137	10000	7666	7384.4	6.08
140	50000	47807	44105.2	10.05
205	50000	37635	37492.2	2.36
238	1E+05	49178	49919.7	1.92
70/140	2	1.203 %	1.052 %	12.35
156/140	1	0.778 %	0.820 %	6.06

Integration Time [sec] 0.10

Tune Parameters

Plasma Parameters

Plasma Mode	HMI		Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas		0.14
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	℃	Plasma Gas		15.0
RF Matching	1.67	V	Option Gas	0.0	%	Gas Switch	Dilution Gas		Auxiliary Gas		0.9

Lenses Parameters

Extract 1	-10.0	V	Omega Bias	-85	V	Cell Entrance	-20	V	Deflect	1.6	V
Extract 2	-195.0	V	Omega Lens	9.4	V	Cell Exit	-64	V	Plate Bias	-60	V

Cell Parameters

Use Gas	true		H2 Flow	4.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	3.0
He Flow	0.0	mL/min	3rd Gas Flow	0	%	OctP RF	200	V		

Qpole Parameters

Mass Gain	152		Axis Gain	1.0049		QP Bias	-15.0	V
Mass Offset	121		Axis Offset	-0.04				

Torch Axis Parameters

Torch H	-0.2	mm	Torch V	-0.4	mm

EM Parameters

Discriminator	4.5	mV	Analog HV	1698	V	Pulse HV	1600	V

Meters

IF/BK Press	2.14E+2	Pa	Inlet Temp	36.6	℃	Carrier Gas(BP)	2.10E+2	kPa
Water RF/WC/IF	1.13	L/min	S/C Temp (L)	2.0	℃			

US EPA Tune Check Sample Report

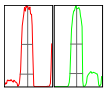
Batch Folder D:\MassHunter Data\Li111116.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3108	2.36	5.00	
9	11397	1.27	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3061	3032	3225	3104	3116
9	11177	11338	11431	11499	11538

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	468	7.00	6.9 - 7.1		0.815	0.900	
9	1708	8.95	8.9 - 9.1		0.789	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	1.6	V
Extract 2	-195.0	V	Cell Entrance	-20	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-64	V			

 # # Cell Parameters # #

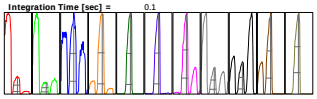
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	3277	6.87	5.00	F
25	474	6.83	5.00	F
26	578	6.82	5.00	F
59	17708	1.75	5.00	
103	48681	2.77	5.00	
115	5695	3.45	5.00	
205	47256	1.58	5.00	
206	15373	2.68	5.00	
207	13780	1.52	5.00	
208	32273	1.86	5.00	
238	82738	1.83	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	3468	3376	3464	3106	2972
25	528	473	453	474	445
26	609	593	600	579	511
59	17393	17424	17802	17780	18143
103	46816	47903	48879	49627	50179
115	5401	5585	5823	5817	5850
205	46194	46920	47289	48126	47750
206	14903	15089	15285	15703	15882
207	13632	13583	13687	13932	14067
208	31459	31954	32247	32833	32874
238	80631	82187	83802	82535	84535

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	505	24.000	23.9 - 24.1		0.782	0.900	
25	71	25.050	24.9 - 25.1		0.780	0.900	
26	91	26.000	25.9 - 26.1		0.784	0.900	
59	2935	59.050	58.9 - 59.1		0.736	0.900	
103	8891	103.050	102.9 - 103.1		0.708	0.900	
115	1029	115.050	114.9 - 115.1		0.725	0.900	
205	8936	205.000	204.9 - 205.1		0.700	0.900	
206	2902	206.000	205.9 - 206.1		0.693	0.900	
207	2437	207.000	206.9 - 207.1		0.681	0.900	
208	6183	208.000	207.9 - 208.1		0.690	0.900	
238	15505	237.950	237.9 - 238.1		0.711	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	4.6	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-66	V			

 # # Cell Parameters # #

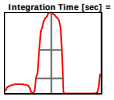
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	4.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	310203	3.65	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	328564	313075	306441	302200	300735

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	46089	7.000	6.9 - 7.1		0.835	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.99	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	15.4	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-85	V	Cell Exit	-58	V			

 # # Cell Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

US EPA Tune Check Sample Report

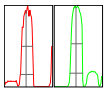
Batch Folder D:\MassHunter Data\Li111116.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3224	1.16	5.00	
9	11556	1.44	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3163	3239	3213	3247	3257
9	11315	11565	11555	11561	11784

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	486	6.90	6.9 - 7.1		0.804	0.900	
9	1718	8.90	8.9 - 9.1		0.789	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	1.6	V
Extract 2	-195.0	V	Cell Entrance	-20	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-64	V			

 # # Cell Parameters # #

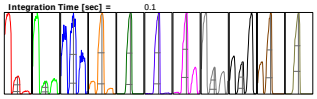
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	2462	0.90	5.00	
25	355	3.67	5.00	
26	447	3.07	5.00	
59	17599	2.04	5.00	
103	48431	1.91	5.00	
115	5604	4.37	5.00	
205	47111	1.73	5.00	
206	15368	1.66	5.00	
207	13831	1.94	5.00	
208	32111	1.81	5.00	
238	82230	1.16	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	2464	2427	2488	2469	2462
25	364	367	336	347	361
26	444	426	448	463	454
59	17026	17548	17697	17726	17998
103	47600	47334	48690	49099	49431
115	5278	5503	5548	5803	5888
205	46227	46592	47153	47209	48374
206	15068	15269	15233	15657	15612
207	13638	13589	13871	13792	14266
208	31308	31846	32115	32462	32825
238	81136	81893	81721	82893	83505

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	377	24.000	23.9 - 24.1		0.782	0.900	
25	57	25.000	24.9 - 25.1		0.778	0.900	
26	69	25.950	25.9 - 26.1		0.783	0.900	
59	2927	59.000	58.9 - 59.1		0.736	0.900	
103	8807	103.050	102.9 - 103.1		0.709	0.900	
115	1006	115.050	114.9 - 115.1		0.727	0.900	
205	8890	205.000	204.9 - 205.1		0.700	0.900	
206	2867	206.000	205.9 - 206.1		0.693	0.900	
207	2421	207.000	206.9 - 207.1		0.681	0.900	
208	6155	208.000	207.9 - 208.1		0.690	0.900	
238	15410	237.950	237.9 - 238.1		0.712	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	4.6	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-85	V	Cell Exit	-66	V			

 # # Cell Parameters # #

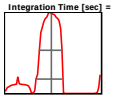
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	4.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	315045	3.77	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	334396	317649	310945	308032	304206

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	46984	7.000	6.9 - 7.1		0.833	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters

 # # Plasma Paramters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.99	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

 # # Lenses Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	-10.0	V	Omega Lens	9.4	V	Deflect	15.4	V
Extract 2	-195.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-85	V	Cell Exit	-58	V			

 # # Cell Parameters # #

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	200	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	001WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T15:57:20-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	002WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:01:43-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	003WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:05:46-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	004WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:09:33-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	005WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:13:20-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	006WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:17:06-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	007WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:20:53-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	008WASH.d
Data Path Name	D:\MassHunter Data\Li11
Acq Date Time	2016-11-11T16:24:40-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-4226905
Data File Name	010WASH.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T16:45:03-07:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name	ICIS-4242019
Data File Name	011CALB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T16:48:52-07:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	132644	0.00
Li	7	2	HMI He	6388	0.10
Li	7	3	No Gas	8154950	0.00
Be	9	1	HMI H2	0	#VALUE!
B	11	1	HMI H2	183850	0.00
Na	23	1	HMI H2	188088	0.00
Na	23	2	HMI He	7015	0.02
Mg	24	2	HMI He	807	2.08
Al	27	2	HMI He	33	187.35
K	39	2	HMI He	4727	0.31
Ca	44	2	HMI He	10	1000.00
Ti	47	2	HMI He	0	#VALUE!
V	51	2	HMI He	-79	206.92
Cr	52	2	HMI He	263	7.26
Mn	55	2	HMI He	40	216.51
Fe	57	2	HMI He	40	62.50
Co	59	2	HMI He	0	#VALUE!
Ni	60	2	HMI He	27	81.19
Cu	63	2	HMI He	1697	0.32
Zn	66	2	HMI He	330	4.00
As	75	2	HMI He	4	2209.25
Se	78	1	HMI H2	48	34.72
Sr	88	2	HMI He	13	324.76
Zr	90	2	HMI He	20	500.00
Nb	93	2	HMI He	110	41.32
Mo	95	2	HMI He	10	1000.00
Pd	105	2	HMI He	23	462.23
Ag	107	2	HMI He	27	292.73
Cd	111	2	HMI He	0	#VALUE!
Sn	120	2	HMI He	63	62.74
Sb	121	2	HMI He	7	2598.08
Ba	137	2	HMI He	13	1299.04
W	182	2	HMI He	323	4.91
Pt	195	2	HMI He	117	34.72
Tl	205	2	HMI He	173	19.50
Pb	208	2	HMI He	937	1.15
Th	232	2	HMI He	23	106.04
U	238	2	HMI He	27	292.73

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1160179	1.29
Sc (IS)	45	1	HMI H2	51895621	0.89
Sc (IS)	45	2	HMI He	430930	1.62
Sc (IS)	45	3	No Gas	158101278	1.57
Ge Internal Standard	72	1	HMI H2	25033284	0.55
Ge Internal Standard	72	2	HMI He	674189	1.26
In Internal Standard	115	2	HMI He	1572457	3.52
Ho-165	165	2	HMI He	13678393	1.07

Calibration Standard Report

Sample Table

Sample Name	IC-4242020
Data File Name	012CALS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T16:52:40-07:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	532104	0.00
Li	7	2	HMI He	26840	0.00
Li	7	3	No Gas	31827361	0.00
Be	9	1	HMI H2	36206	0.00
B	11	1	HMI H2	215504	0.00
Na	23	1	HMI H2	43532099	0.00
Na	23	2	HMI He	1299526	0.00
Mg	24	2	HMI He	518865	0.00
Al	27	2	HMI He	93565	0.00
K	39	1	HMI H2	55472311	0.00
K	39	2	HMI He	181486	0.00
Ca	40	1	HMI H2	77644492	0.00
Ca	44	2	HMI He	11774	0.02
Ti	47	2	HMI He	17	549.91
V	51	2	HMI He	82374	0.00
Cr	52	2	HMI He	108510	0.00
Mn	55	2	HMI He	27125	0.01
Fe	57	2	HMI He	185832	0.00
Co	59	2	HMI He	245666	0.00
Ni	60	2	HMI He	76454	0.00
Cu	63	2	HMI He	225314	0.00
Zn	66	2	HMI He	17536	0.02
As	75	2	HMI He	10535	0.03
Se	78	1	HMI H2	61087	0.00
Sr	88	2	HMI He	21030	0.00
Zr	90	2	HMI He	773	1.46
Nb	93	2	HMI He	643931	0.00
Mo	95	2	HMI He	86207	0.00
Pd	105	2	HMI He	167299	0.00
Ag	107	2	HMI He	350587	0.00
Cd	111	2	HMI He	27600	0.00
Sn	120	2	HMI He	62800	0.00
Sb	121	2	HMI He	53877	0.01
Ba	137	2	HMI He	14677	0.02
Nd	146	1	HMI H2	13393	0.03
Nd	146	2	HMI He	923	1.55
Sm	147	1	HMI H2	11374	0.03
Sm	147	2	HMI He	760	1.51
Sm	150	1	HMI H2	9810	0.03
Sm	150	2	HMI He	720	2.67
Gd	156	1	HMI H2	15454	0.01
Gd	156	2	HMI He	2437	0.16
Gd	157	1	HMI H2	11911	0.00
Gd	157	2	HMI He	2047	0.15
W	182	2	HMI He	690960	0.00
Pt	195	2	HMI He	744181	0.00
Tl	205	2	HMI He	890642	0.00
Pb	208	2	HMI He	1135475	0.00
Th	232	2	HMI He	1365715	0.00
U	238	2	HMI He	1613740	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1112124	0.58	1160179	95.86	60	120	
Sc (IS)	45	1	HMI H2	51559093	0.46	51895621	99.35	60	120	
Sc (IS)	45	2	HMI He	423880	0.42	430930	98.36	60	120	
Sc (IS)	45	3	No Gas	151590071	0.77	158101278	95.88	60	120	
Ge Internal Standard	72	1	HMI H2	24791303	0.08	25033284	99.03	60	120	
Ge Internal Standard	72	2	HMI He	655088	0.25	674189	97.17	60	120	
In Internal Standard	115	2	HMI He	1562443	1.47	1572457	99.36	60	120	
Ho-165	165	2	HMI He	13534750	0.44	13678393	98.95	60	120	

Sample List

Batch Folder D:\MassHunter Data\Li111116.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Sample Type	Sample Name	Comment	Vial#	Level
1	WASH	rinse-4226905		3	
2	CalBlk	ICIS-4242019		2101	1
3	CalStd	IC-4242020		2102	2
4	ICV	ICV-4242077		2103	
5	ICB	ICB-4242019		2104	
6	LLICV	ICVL-4242078		1102	
7	CRI	CRI-4242079		2105	
8	AFCRI	CRI4242080		2106	
9	ICSA	ICSA-4238198		2107	
10	ICSB	ICSAB-4238199		2108	
11	Sample	RINSE		2109	
12	LR	lra-4149046		2110	
13	Sample	RINSE		2111	
14	CCV	CCV-4242076		1107	
15	CCB	CCB-4242019		1307	
16	LLCCV	CCVL-4242078		1102	
17	Blank	mb 280-349784/1-a	349784 6020A DOD 5	2301	
18	LCS	lcs 280-349784/2-a	349784 6020A DOD 5	2302	
19	Sample	280-90288-p-1-a	349784 6020A DOD 5	2303	
20	Sample	280-90288-p-1-aSD@5	349784 6020A DOD 5	2304	
21	Sample	280-90288-p-1-b ms	349784 6020A DOD 5	2305	
22	Sample	280-90288-p-1-c msd	349784 6020A DOD 5	2306	
23	Sample	280-90288-p-1-aPDS	349784 6020A DOD 5	2307	
24	Sample	280-90288-e-3-a	349784 6020A DOD 5	2308	
25	Sample	280-90337-c-1-a	349784 6020A DOD 5	2309	
26	Sample	280-90337-c-2-a	349784 6020A DOD 5	2310	
27	CCV	CCV-4242076		1107	
28	CCB	CCB-4242019		1307	
29	LLCCV	CCVL-4242078		1102	
30	Sample	280-90409-a-4-a	349785 6020A DOD 5	2509	
31	CCV	CCV-4242076		1107	
32	CCB	CCB-4242019		1307	
33	LLCCV	CCVL-4242078		1102	
34	Blank	mb 280-350725/1-a	350725 6020A DOD5	3101	
35	LCS	lcs 280-350725/2-a	350725 6020A DOD5	3102	
36	Sample	280-90691-a-1-c	350725 6020A DOD5	3103	

Sample List

37	Sample	280-90691-a-3-c	350725 6020A DOD5	3104
38	Sample	280-90691-c-4-c	350725 6020A DOD5	3105
39	Sample	280-90691-a-7-c	350725 6020A DOD5	3106
40	Sample	280-90691-a-8-c	350725 6020A DOD5	3107
41	Sample	280-90691-c-11-c	350725 6020A DOD5	3108
42	Sample	280-90691-a-12-c	350725 6020A DOD5	3109
43	CCV	CCV-4242076		1107
44	CCB	CCB-4242019		1307
45	LLCCV	CCVL-4242078		1102
46	Sample	280-90691-a-13-c	350725 6020A DOD5	3110
47	Sample	280-90691-a-16-c	350725 6020A DOD5	3111
48	Sample	280-90691-d-18-c	350725 6020A DOD5	3112
49	Sample	280-90691-b-20-e	350725 6020A DOD5	3201
50	Sample	280-90691-a-21-e	350725 6020A DOD5	3202
51	Sample	280-90691-a-21-eSD@5	350725 6020A DOD5	3203
52	Sample	280-90691-a-21-f ms	350725 6020A DOD5	3204
53	Sample	280-90691-a-21-g msd	350725 6020A DOD5	3205
54	Sample	280-90691-a-21-e PDS	350725 6020A DOD5	3206
55	CCV	CCV-4242076		1107
56	CCB	CCB-4242019		1307
57	LLCCV	CCVL-4242078		1102
58	Blank	mb 280-350719/1-a	350719 6020A DOD5	3207
59	LCS	lcs 280-350719/2-a	350719 6020A DOD5	3208
60	Sample	280-90625-c-1-b	350719 6020A DOD5	3209
61	Sample	280-90625-c-1-bSD@5	350719 6020A DOD5	3210
62	Sample	280-90625-c-1-c ms	350719 6020A DOD5	3211
63	Sample	280-90625-c-1-d msd	350719 6020A DOD5	3212
64	Sample	280-90625-c-1-bPDS	350719 6020A DOD5	3301
65	Sample	280-90625-c-2-d	350719 6020A DOD5	3302
66	Sample	280-90625-a-3-b	350719 6020A DOD5	3303
67	CCV	CCV-4242076		1107
68	CCB	CCB-4242019		1307
69	LLCCV	CCVL-4242078		1102
70	Sample	280-90625-c-4-b	350719 6020A DOD5	3304
71	Sample	280-90625-a-6-b	350719 6020A DOD5	3305
72	Sample	280-90627-a-1-b	350719 6020A DOD5	3306
73	Sample	280-90627-c-2-b	350719 6020A DOD5	3307
74	Sample	280-90627-d-6-b	350719 6020A DOD5	3308
75	Sample	280-90675-f-1-c	350719 6020A DOD5	3309
76	Sample	280-90675-e-2-c	350719 6020A DOD5	3310
77	Sample	280-90675-d-3-c	350719 6020A DOD5	3311
78	Sample	280-90675-d-4-c	350719 6020A DOD5	3312
79	CCV	CCV-4242076		1107
80	CCB	CCB-4242019		1307
81	LLCCV	CCVL-4242078		1102
82	Sample	280-90675-d-5-c	350719 6020A DOD5	3401
83	Sample	280-90675-d-6-c	350719 6020A DOD5	3402
84	Sample	280-90675-e-7-b	350719 6020A DOD5	3403

Sample List

85	Sample	280-90675-e-8-b	350719 6020A DOD5	3404
86	Sample	280-90675-e-9-b	350719 6020A DOD5	3405
87	Sample	280-90693-b-1-b	350719 6020A DOD5	3406
88	Sample	280-90693-c-5-b	350719 6020A DOD5	3407
89	CCV	CCV-4242076		1107
90	CCB	CCB-4242019		1307
91	LLCCV	CCVL-4242078		1102
92	Blank	mb 280-350306/1-a	350706 6020	3408
93	LCS	lcs 280-350306/2-a	350706 6020	3409
94	Sample	280-90206-p-1-a	350706 6020	3410
95	Sample	280-90206-p-1-aSD@5	350706 6020	3411
96	Sample	280-90206-p-1-b ms	350706 6020	3412
97	Sample	280-90206-p-1-c msd	350706 6020	3501
98	Sample	280-90206-p-1-aPDS	350706 6020	3502
99	CCV	CCV-4242076		1107
100	CCB	CCB-4242019		1307
101	LLCCV	CCVL-4242078		1102
102	Sample	280-90206-p-2-a	350706 6020	3503
103	Sample	280-90206-p-3-a	350706 6020	3504
104	Sample	280-90206-d-4-b	350706 6020	3505
105	Sample	280-90206-d-6-b	350706 6020	3506
106	Sample	280-90206-a-7-b	350706 6020	3507
107	CCV	CCV-4242076		1107
108	CCB	CCB-4242019		1307
109	LLCCV	CCVL-4242078		1102
110	Sample			3508
111	Sample			3509
112	Sample			3510
113	Sample			3511
114	Sample			3512
115	Sample			4101
116	Sample	280-90337-c-3-a	349784 6020A DOD 5	2311
117	Sample	280-90337-c-5-a	349784 6020A DOD 5	2312
118	Sample	280-90337-a-6-a	349784 6020A DOD 5	2401
119	Sample	280-90337-a-7-a	349784 6020A DOD 5	2402
120	Sample	280-90350-c-2-a	349784 6020A DOD 5	2403
121	Sample	280-90351-e-1-a	349784 6020A DOD 5	2404
122	Sample	280-90351-e-2-a	349784 6020A DOD 5	2405
123	Sample	280-90351-e-3-a	349784 6020A DOD 5	2406
124	Sample	280-90351-e-4-a	349784 6020A DOD 5	2407
125	Sample	280-90368-n-1-a	349784 6020A DOD 5	2408
126	CCV	CCV-4242076		1107
127	CCB	CCB-4242019		1307
128	LLCCV	CCVL-4242078		1102
129	Blank	mb 280-349785/1-a	349785 6020A DOD 5	2409
130	LCS	lcs 280-349785/2-a	349785 6020A DOD 5	2410
131	Sample	280-90400-h-1-a	349785 6020A DOD 5	2411
132	Sample	280-90400-h-2-a	349785 6020A DOD 5	2412
133	Sample	280-90400-a-11-a	349785 6020A DOD 5	2501

Sample List

134	Sample	280-90400-a-11-aSD@5	349785 6020A DOD 5	2502	
135	Sample	280-90400-a-11-b ms	349785 6020A DOD 5	2503	
136	Sample	280-90400-a-11-c msd	349785 6020A DOD 5	2504	
137	Sample	280-90400-a-11-aPDS	349785 6020A DOD 5	2505	
138	CCV	CCV-4242076		1107	
139	CCB	CCB-4242019		1307	
140	LLCCV	CCVL-4242078		1102	
141	Sample	280-90409-e-1-a	349785 6020A DOD 5	2506	
142	Sample	280-90409-e-2-a	349785 6020A DOD 5	2507	
143	Sample	280-90409-a-3-a	349785 6020A DOD 5	2508	
144	Sample	280-90409-a-4-a	349785 6020A DOD 5	2509	
145	Sample	280-90415-e-1-a	349785 6020A DOD 5	2510	
146	Sample	280-90420-c-3-a	349785 6020A DOD 5	2511	
147	Sample	280-90420-c-4-a	349785 6020A DOD 5	2512	
148	Sample	280-90420-c-5-a	349785 6020A DOD 5	2201	
149	Sample	280-90420-c-7-a	349785 6020A DOD 5	2202	
150	Sample	280-90420-e-8-a	349785 6020A DOD 5	2203	
151	CCV	CCV-4242076		1107	
152	CCB	CCB-4242019		1307	
153	LLCCV	CCVL-4242078		1102	

Unknown Samples:

#	Sample Type	Sample Name	Comment	Vial#	Level

Blank Samples:

#	Sample Type	Sample Name	Comment	Vial#	Level

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-4242077
Data File Name	013_ICV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T16:56:26-07:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	405.775	ppb	2.731	288694	400	101.4	90	110	
Li	7	2	45	397.933	ppb	6.068	14313	400	99.5	90	110	
Li	7	3	45	400.361	ppb	1.066	17357768	400	100.1	90	110	
Be	9	1	6	42.829	ppb	4.055	15410	40	107.1	90	110	
B	11	1	6	-6.062	ppb	-126.615	172827	40	-15.2	90	110	>+\-10%
Na	23	1	45	4060.719	ppb	0.490	17454051	4000	101.5	90	110	>+\-10%
Na	23	2	45	3973.313	ppb	1.971	515003	4000	99.3	90	110	
Mg	24	2	45	4104.711	ppb	1.113	211211	4000	102.6	90	110	
Al	27	2	45	4038.136	ppb	1.380	37409	4000	101.0	90	110	
K	39	1	45	4076.512	ppb	1.268	27941247	4000	101.9	90	110	
K	39	2	45	4118.502	ppb	1.305	76679	4000	103.0	90	110	
Ca	40	1	45	4084.705	ppb	0.414	31200890	4000	102.1	90	110	
Ca	44	2	45	3849.341	ppb	3.826	4491	4000	96.2	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	40	0.0	90	110	>+\-10%
V	51	2	72	39.560	ppb	4.241	32585	40	98.9	90	110	
Cr	52	2	72	40.650	ppb	2.756	44309	40	101.6	90	110	
Mn	55	2	72	42.979	ppb	3.176	11694	40	107.4	90	110	
Fe	57	2	72	3970.138	ppb	2.608	73880	4000	99.3	90	110	
Co	59	2	72	40.558	ppb	2.176	99745	40	101.4	90	110	
Ni	60	2	72	41.077	ppb	2.616	31459	40	102.7	90	110	
Cu	63	2	72	40.794	ppb	1.615	93001	40	102.0	90	110	
Zn	66	2	72	40.338	ppb	3.725	7275	40	100.8	90	110	
As	75	2	72	41.303	ppb	1.788	4359	40	103.3	90	110	
Se	78	1	72	41.221	ppb	0.733	25019	40	103.1	90	110	
Sr	88	2	72	39.239	ppb	2.253	8269	40	98.1	90	110	
Zr	90	2	72	7.587	ppb	25.782	77	40	19.0	90	110	>+\-10%
Nb	93	2	72	76.904	ppb	1.417	247948	80	96.1	90	110	
Mo	95	2	115	39.420	ppb	2.831	33911	40	98.6	90	110	
Pd	105	2	115	40.615	ppb	0.770	67808	40	101.5	90	110	
Ag	107	2	115	36.163	ppb	1.592	126494	40	90.4	90	110	
Cd	111	2	115	42.020	ppb	4.458	11568	40	105.1	90	110	
Sn	120	2	115	39.844	ppb	0.574	24999	40	99.6	90	110	
Sb	121	2	115	37.195	ppb	0.511	19992	40	93.0	90	110	
Ba	137	2	115	41.277	ppb	5.414	6055	40	103.2	90	110	
W	182	2	165	39.816	ppb	0.797	274410	40	99.5	90	110	
Pt	195	2	165	39.111	ppb	0.630	290188	40	97.8	90	110	
Tl	205	2	165	40.068	ppb	0.426	355826	40	100.2	90	110	
Pb	208	2	165	40.829	ppb	1.162	462650	40	102.1	90	110	
Th	232	2	165	39.953	ppb	0.666	543909	40	99.9	90	110	
U	238	2	165	39.444	ppb	1.186	634444	40	98.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1105469	0.87	1160179	95.28	60	120	
Sc (IS)	45	1	HMI H2	50589189	0.19	51895621	97.48	60	120	
Sc (IS)	45	2	HMI He	419459	1.14	430930	97.34	60	120	
Sc (IS)	45	3	No Gas	150948481	0.99	158101278	95.48	60	120	
Ge Internal Standard	72	1	HMI H2	24605241	0.25	25033284	98.29	60	120	
Ge Internal Standard	72	2	HMI He	655891	0.93	674189	97.29	60	120	
In Internal Standard	115	2	HMI He	1558602	0.87	1572457	99.12	60	120	
Ho-165	165	2	HMI He	13490918	0.47	13678393	98.63	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-4242019
Data File Name	014_ICB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:00:14-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	-1.072	ppb	-301.3	7855951	10	
Be	9	1	0.028	ppb	2.0	10	0.5	
B	11	1	-50.815	ppb	-14.1	155856	0.5	
Na	23	1	-2.182	ppb	-9.5	173468	25	
Na	23	2	0.545	ppb	625.0	6922	25	
Mg	24	2	-6.580	ppb	-9.5	450	25	
Al	27	2	0.829	ppb	133.5	40	15	
K	39	1	23.085	ppb	97.1	9779823	50	
K	39	2	-0.345	ppb	-5787.3	4612	50	
Ca	40	1	1.533	ppb	35.9	148913	50	
Ca	44	2	14.437	ppb	89.5	27	25	
Ti	47	2	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	1.100	ppb	20.8	837	1	>RL
Cr	52	2	15.320	ppb	0.3	17002	1	>RL
Mn	55	2	2.148	ppb	16.4	627	0.5	>RL
Fe	57	2	198.820	ppb	8.7	3767	25	>RL
Co	59	2	0.032	ppb	13.5	80	0.5	
Ni	60	2	0.471	ppb	23.4	390	1	
Cu	63	2	0.921	ppb	12.2	3747	1	
Zn	66	2	0.752	ppb	89.4	453	5	
As	75	2	0.019	ppb	92.6	6	1	
Se	78	1	0.069	ppb	47.3	89	1	
Sr	88	2	-0.015	ppb	-313.5	10	0.5	
Zr	90	2	2.251	ppb	31.2	37	1	>RL
Nb	93	2	1.902	ppb	4.6	6288	2	
Mo	95	2	0.165	ppb	24.5	153	0.5	
Pd	105	2	0.047	ppb	68.8	103	1	
Ag	107	2	0.015	ppb	67.6	80	1	
Cd	111	2	0.012	ppb	173.2	3	0.5	
Sn	120	2	0.128	ppb	43.4	143	1	
Sb	121	2	0.425	ppb	2.6	237	0.6	
Ba	137	2	-0.093	ppb	0.0	0	0.5	
W	182	2	0.068	ppb	22.9	787	1	
Pt	195	2	0.018	ppb	45.8	247	1	
Tl	205	2	0.038	ppb	12.6	513	0.1	
Pb	208	2	0.005	ppb	175.4	983	0.5	
Th	232	2	0.166	ppb	0.5	2287	1	
U	238	2	0.017	ppb	20.1	297	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1109104	2.00	1160179	95.60	60	120	
Sc (IS)	45	1	HMI H2	50412738	1.43	51895621	97.14	60	120	
Sc (IS)	45	2	HMI He	420787	0.85	430930	97.65	60	120	
Sc (IS)	45	3	No Gas	152797818	1.20	158101278	96.65	60	120	
Ge Internal Standard	72	1	HMI H2	24697257	0.10	25033284	98.66	60	120	
Ge Internal Standard	72	2	HMI He	661419	1.37	674189	98.11	60	120	
In Internal Standard	115	2	HMI He	1572695	2.76	1572457	100.02	60	120	
Ho-165	165	2	HMI He	13508173	1.51	13678393	98.76	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-4242019
Data File Name	015_ICB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:04:07-07:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	-3.390	ppb	-64.2	7807519	10	
Be	9	1	0.045	ppb	124.9	17	0.5	
B	11	1	-80.548	ppb	-9.5	146230	0.5	
Na	23	1	-2.726	ppb	-19.4	171718	25	
Na	23	2	-1.329	ppb	-82.8	6791	25	
Mg	24	2	-2.515	ppb	-43.1	670	25	
Al	27	2	-2.077	ppb	-58.7	13	15	
K	39	1	21.699	ppb	49.4	9805789	50	
K	39	2	-29.683	ppb	-70.7	4164	50	
Ca	40	1	1.024	ppb	3.2	145552	50	
Ca	44	2	8.496	ppb	262.7	20	25	
Ti	47	2	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	0.153	ppb	151.4	51	1	
Cr	52	2	0.037	ppb	267.9	300	1	
Mn	55	2	-0.070	ppb	-103.6	20	0.5	
Fe	57	2	0.736	ppb	44.0	53	25	
Co	59	2	0.012	ppb	66.3	30	0.5	
Ni	60	2	0.030	ppb	83.3	50	1	
Cu	63	2	-0.060	ppb	-132.0	1537	1	
Zn	66	2	0.562	ppb	89.3	423	5	
As	75	2	0.031	ppb	148.1	7	1	
Se	78	1	0.021	ppb	227.4	60	1	
Sr	88	2	-0.015	ppb	-324.3	10	0.5	
Zr	90	2	1.346	ppb	334.0	30	1	>RL
Nb	93	2	0.729	ppb	5.0	2490	2	
Mo	95	2	0.035	ppb	58.1	40	0.5	
Pd	105	2	0.030	ppb	45.6	73	1	
Ag	107	2	0.009	ppb	118.9	57	1	
Cd	111	2	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	0.016	ppb	477.2	73	1	
Sb	121	2	0.081	ppb	60.3	50	0.6	
Ba	137	2	-0.048	ppb	-81.9	7	0.5	
W	182	2	0.023	ppb	9.7	480	1	
Pt	195	2	-0.001	ppb	-595.4	107	1	
Tl	205	2	0.012	ppb	65.3	280	0.1	
Pb	208	2	0.007	ppb	204.4	1003	0.5	
Th	232	2	0.074	ppb	11.6	1037	1	
U	238	2	0.007	ppb	76.1	140	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1124472	1.00	1160179	96.92	60	120	
Sc (IS)	45	1	HMI H2	50573886	0.11	51895621	97.45	60	120	
Sc (IS)	45	2	HMI He	427756	0.77	430930	99.26	60	120	
Sc (IS)	45	3	No Gas	152945924	1.02	158101278	96.74	60	120	
Ge Internal Standard	72	1	HMI H2	24634183	0.63	25033284	98.41	60	120	
Ge Internal Standard	72	2	HMI He	665116	0.62	674189	98.65	60	120	
In Internal Standard	115	2	HMI He	1564156	1.25	1572457	99.47	60	120	
Ho-165	165	2	HMI He	13553181	1.14	13678393	99.08	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-4242078
Data File Name	016LICV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:07:54-07:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	48.312	ppb	6.173	9059537	50	96.6	70	130	
Be	9	1	6	1.128	ppb	28.051	413	1	112.8	70	130	
Na	23	2	45	49.190	ppb	3.612	13185	50	98.4	70	130	
Mg	24	2	45	47.323	ppb	5.686	3227	50	94.6	70	130	
Al	27	2	45	32.751	ppb	16.666	337	30	109.2	70	130	
K	39	2	45	82.292	ppb	25.591	6071	100	82.3	70	130	
Ca	44	2	45	60.247	ppb	57.900	80	50	120.5	70	130	
V	51	2	72	5.101	ppb	10.067	4177	5	102.0	70	130	
Cr	52	2	72	2.095	ppb	2.958	2557	2	104.8	70	130	
Mn	55	2	72	0.865	ppb	16.493	277	1	86.5	70	130	
Fe	57	2	72	57.753	ppb	12.523	1127	50	115.5	70	130	
Co	59	2	72	1.017	ppb	4.665	2530	1	101.7	70	130	
Ni	60	2	72	1.948	ppb	7.076	1533	2	97.4	70	130	
Cu	63	2	72	1.878	ppb	10.013	5928	2	93.9	70	130	
Zn	66	2	72	9.559	ppb	8.028	1990	10	95.6	70	130	
As	75	2	72	5.197	ppb	11.302	558	5	103.9	70	130	
Se	78	1	72	5.038	ppb	3.378	3106	5	100.8	70	130	
Sr	88	2	72	0.958	ppb	24.196	217	1	95.8	70	130	
Zr	90	2	72	5.790	ppb	117.832	63	0.5	1158.1	70	130	>+/-30%
Nb	93	2	72	1.421	ppb	7.638	4738	2	71.1	70	130	
Mo	95	2	115	2.109	ppb	8.458	1874	2	105.5	70	130	
Pd	105	2	115	0.022	ppb	74.991	60	1	2.2	70	130	>+/-30%
Ag	107	2	115	5.088	ppb	2.408	18287	5	101.8	70	130	
Cd	111	2	115	1.142	ppb	29.980	323	1	114.2	70	130	
Sn	120	2	115	10.465	ppb	4.897	6788	10	104.6	70	130	
Sb	121	2	115	1.910	ppb	1.311	1060	2	95.5	70	130	
Ba	137	2	115	0.922	ppb	64.457	153	1	92.2	70	130	
W	182	2	165	5.090	ppb	1.563	35383	1	509.0	70	130	>+/-30%
Pt	195	2	165	0.010	ppb	67.348	190	1	1.0	70	130	>+/-30%
Tl	205	2	165	1.037	ppb	4.230	9380	1	103.7	70	130	
Pb	208	2	165	1.029	ppb	3.259	12569	1	102.9	70	130	
Th	232	2	165	2.288	ppb	3.246	31189	2	114.4	70	130	
U	238	2	165	1.027	ppb	7.166	16550	1	102.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1127424	1.06	1160179	97.18	60	120	
Sc (IS)	45	1	HMI H2	50683586	0.13	51895621	97.66	60	120	
Sc (IS)	45	2	HMI He	421495	0.97	430930	97.81	60	120	
Sc (IS)	45	3	No Gas	152947818	1.30	158101278	96.74	60	120	
Ge Internal Standard	72	1	HMI H2	24659174	0.99	25033284	98.51	60	120	
Ge Internal Standard	72	2	HMI He	663460	1.54	674189	98.41	60	120	
In Internal Standard	115	2	HMI He	1599785	2.02	1572457	101.74	60	120	
Ho-165	165	2	HMI He	13501757	1.03	13678393	98.71	60	120	

CRI Report

Sample Table

Sample Name	CRI-4242079
Data File Name	017RLST.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:11:41-07:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	9.533	ppb	51.676	132930	10	95.3	80	120	
Li	7	2	45	30.517	ppb	64.817	6885	10	305.2	80	120	>+\-20%
Li	7	3	45	10.580	ppb	32.870	8100744	10	105.8	80	120	
Be	9	1	6	1.198	ppb	25.919	433	1	119.8	80	120	
B	11	1	6	-105.581	ppb	-3.113	134808	1	-10558.1	80	120	>+\-20%
Na	23	1	45	145.987	ppb	0.840	803517	100	146.0	80	120	>+\-20%
Na	23	2	45	140.757	ppb	2.332	24991	100	140.8	80	120	>+\-20%
Mg	24	2	45	103.269	ppb	6.997	6118	100	103.3	80	120	
Al	27	2	45	114.770	ppb	11.824	1100	100	114.8	80	120	
K	39	2	45	101.967	ppb	6.838	6428	100	102.0	80	120	
Ca	40	1	45	142.224	ppb	0.858	1218271	100	142.2	80	120	>+\-20%
Ca	44	2	45	145.048	ppb	24.362	180	100	145.0	80	120	>+\-20%
Ti	47	2	45	0.000	ppb	#DIV/0!	0	1	0.0	80	120	>+\-20%
V	51	2	72	1.142	ppb	17.849	877	1	114.2	80	120	
Cr	52	2	72	2.233	ppb	4.547	2707	1	223.3	80	120	>+\-20%
Mn	55	2	72	1.608	ppb	9.646	480	1	160.8	80	120	>+\-20%
Fe	57	2	72	146.964	ppb	12.097	2804	100	147.0	80	120	>+\-20%
Co	59	2	72	1.087	ppb	7.974	2704	1	108.7	80	120	
Ni	60	2	72	1.512	ppb	2.299	1197	1	151.2	80	120	>+\-20%
Cu	63	2	72	4.832	ppb	6.981	12612	1	483.2	80	120	>+\-20%
Zn	66	2	72	4.520	ppb	28.601	1113	1	452.0	80	120	>+\-20%
As	75	2	72	1.153	ppb	18.322	127	1	115.3	80	120	
Se	78	1	72	1.037	ppb	4.718	669	1	103.7	80	120	
Sr	88	2	72	1.003	ppb	24.160	227	1	100.3	80	120	
Zr	90	2	72	8.792	ppb	17.486	87	1	879.2	80	120	>+\-20%
Nb	93	2	72	2.132	ppb	7.257	7058	2	106.6	80	120	
Mo	95	2	115	0.935	ppb	16.079	840	1	93.5	80	120	
Pd	105	2	115	1.077	ppb	2.452	1874	1	107.7	80	120	
Ag	107	2	115	1.041	ppb	5.125	3777	1	104.1	80	120	
Cd	111	2	115	1.034	ppb	9.134	293	1	103.4	80	120	
Sn	120	2	115	1.274	ppb	12.545	887	1	127.4	80	120	>+\-20%
Sb	121	2	115	1.091	ppb	12.714	610	1	109.1	80	120	
Ba	137	2	115	1.006	ppb	56.767	167	1	100.6	80	120	
W	182	2	165	1.069	ppb	0.107	7665	1	106.9	80	120	
Pt	195	2	165	1.033	ppb	7.145	7766	1	103.3	80	120	
Tl	205	2	165	1.093	ppb	5.334	9857	1	109.3	80	120	
Pb	208	2	165	1.127	ppb	4.799	13643	1	112.7	80	120	
Th	232	2	165	0.979	ppb	2.760	13326	1	97.9	80	120	
U	238	2	165	1.019	ppb	2.995	16389	1	101.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1112117	0.80	1160179	95.86	60	120	
Sc (IS)	45	1	HMI H2	50542956	0.47	51895621	97.39	60	120	
Sc (IS)	45	2	HMI He	422104	1.58	430930	97.95	60	120	
Sc (IS)	45	3	No Gas	152097738	0.71	158101278	96.20	60	120	
Ge Internal Standard	72	1	HMI H2	24374744	0.25	25033284	97.37	60	120	
Ge Internal Standard	72	2	HMI He	663485	0.77	674189	98.41	60	120	
In Internal Standard	115	2	HMI He	1605330	1.66	1572457	102.09	60	120	
Ho-165	165	2	HMI He	13467845	1.32	13678393	98.46	60	120	

CRI Report

Sample Table

Sample Name	CRI-4242079
Data File Name	018RLST.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:17:14-07:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	2.333	ppb	196.626	132651	10	23.3	80	120	>+\-20%
Li	7	2	45	8.107	ppb	226.161	6571	10	81.1	80	120	
Li	7	3	45	9.360	ppb	4.208	8066307	10	93.6	80	120	
Be	9	1	6	0.934	ppb	10.589	347	1	93.4	80	120	
B	11	1	6	-126.215	ppb	-1.813	130001	1	-12621.5	80	120	>+\-20%
Na	23	1	45	96.034	ppb	0.900	602773	100	96.0	80	120	
Na	23	2	45	90.468	ppb	5.522	18934	100	90.5	80	120	
Mg	24	2	45	88.523	ppb	3.415	5478	100	88.5	80	120	
Al	27	2	45	86.136	ppb	23.081	853	100	86.1	80	120	
K	39	2	45	74.703	ppb	5.857	6081	100	74.7	80	120	>+\-20%
Ca	40	1	45	99.989	ppb	0.463	914875	100	100.0	80	120	
Ca	44	2	45	89.070	ppb	42.253	117	100	89.1	80	120	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	1	0.0	80	120	>+\-20%
V	51	2	72	1.017	ppb	4.773	787	1	101.7	80	120	
Cr	52	2	72	0.974	ppb	20.605	1357	1	97.4	80	120	
Mn	55	2	72	1.045	ppb	16.077	333	1	104.5	80	120	
Fe	57	2	72	98.174	ppb	4.774	1927	100	98.2	80	120	
Co	59	2	72	1.031	ppb	2.965	2620	1	103.1	80	120	
Ni	60	2	72	0.792	ppb	32.078	653	1	79.2	80	120	>+\-20%
Cu	63	2	72	1.002	ppb	6.549	4024	1	100.2	80	120	
Zn	66	2	72	2.053	ppb	30.986	697	1	205.3	80	120	>+\-20%
As	75	2	72	1.193	ppb	9.079	134	1	119.3	80	120	
Se	78	1	72	0.996	ppb	9.011	656	1	99.6	80	120	
Sr	88	2	72	1.211	ppb	21.066	277	1	121.1	80	120	>+\-20%
Zr	90	2	72	-1.269	ppb	-176.207	10	1	-126.9	80	120	>+\-20%
Nb	93	2	72	1.825	ppb	3.688	6188	2	91.3	80	120	
Mo	95	2	115	0.873	ppb	37.478	797	1	87.3	80	120	
Pd	105	2	115	0.970	ppb	10.416	1720	1	97.0	80	120	
Ag	107	2	115	0.971	ppb	5.250	3591	1	97.1	80	120	
Cd	111	2	115	0.762	ppb	29.893	220	1	76.2	80	120	>+\-20%
Sn	120	2	115	1.014	ppb	25.590	730	1	101.4	80	120	
Sb	121	2	115	1.095	ppb	19.133	623	1	109.5	80	120	
Ba	137	2	115	0.992	ppb	20.585	167	1	99.2	80	120	
W	182	2	165	0.965	ppb	7.327	7122	1	96.5	80	120	
Pt	195	2	165	0.960	ppb	2.591	7399	1	96.0	80	120	
Tl	205	2	165	0.976	ppb	1.248	9030	1	97.6	80	120	
Pb	208	2	165	0.976	ppb	2.443	12229	1	97.6	80	120	
Th	232	2	165	0.895	ppb	3.173	12479	1	89.5	80	120	
U	238	2	165	0.965	ppb	1.602	15895	1	96.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1141002	0.66	1160179	98.35	60	120	
Sc (IS)	45	1	HMI H2	51528464	0.72	51895621	99.29	60	120	
Sc (IS)	45	2	HMI He	431586	0.29	430930	100.15	60	120	
Sc (IS)	45	3	No Gas	152000488	0.43	158101278	96.14	60	120	
Ge Internal Standard	72	1	HMI H2	24799572	0.77	25033284	99.07	60	120	
Ge Internal Standard	72	2	HMI He	677819	1.23	674189	100.54	60	120	
In Internal Standard	115	2	HMI He	1633964	0.67	1572457	103.91	60	120	
Ho-165	165	2	HMI He	13795588	0.87	13678393	100.86	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	019RLST.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:22:58-07:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	-6.256	ppb	-31.675	128734	10	-62.6	80	120	>+\-20%
Li	7	2	45	9.497	ppb	149.761	6675	10	95.0	80	120	
Li	7	3	45	-2.212	ppb	-144.227	7859392	10	-22.1	80	120	>+\-20%
Be	9	1	6	0.000	ppb	#DIV/0!	0	1	0.0	80	120	>+\-20%
B	11	1	6	-132.739	ppb	-2.832	123853	1	-13273.9	80	120	>+\-20%
Na	23	1	45	-7.192	ppb	-0.876	155039	100	-7.2	80	120	>+\-20%
Na	23	2	45	-3.448	ppb	-94.497	6645	100	-3.4	80	120	>+\-20%
Mg	24	2	45	-2.571	ppb	-32.485	680	100	-2.6	80	120	>+\-20%
Al	27	2	45	-0.712	ppb	-305.379	27	100	-0.7	80	120	>+\-20%
K	39	2	45	-9.832	ppb	-134.382	4611	100	-9.8	80	120	>+\-20%
Ca	40	1	45	-3.401	ppb	-3.477	113607	100	-3.4	80	120	>+\-20%
Ca	44	2	45	19.194	ppb	66.168	33	100	19.2	80	120	>+\-20%
Ti	47	2	45	0.000	ppb	#DIV/0!	0	1	0.0	80	120	>+\-20%
V	51	2	72	0.048	ppb	291.724	-38	1	4.8	80	120	>+\-20%
Cr	52	2	72	-0.028	ppb	-198.755	233	1	-2.8	80	120	>+\-20%
Mn	55	2	72	-0.083	ppb	-49.933	17	1	-8.3	80	120	>+\-20%
Fe	57	2	72	3.960	ppb	15.872	117	100	4.0	80	120	>+\-20%
Co	59	2	72	0.001	ppb	173.205	3	1	0.1	80	120	>+\-20%
Ni	60	2	72	2.110	ppb	3.300	1700	1	211.0	80	120	>+\-20%
Cu	63	2	72	-0.105	ppb	-59.348	1467	1	-10.5	80	120	>+\-20%
Zn	66	2	72	10.959	ppb	6.553	2290	1	1095.9	80	120	>+\-20%
As	75	2	72	0.072	ppb	25.081	12	1	7.2	80	120	>+\-20%
Se	78	1	72	-0.023	ppb	-100.400	33	1	-2.3	80	120	>+\-20%
Sr	88	2	72	-0.062	ppb	0.000	0	1	-6.2	80	120	>+\-20%
Zr	90	2	72	3.020	ppb	219.010	43	1	302.0	80	120	>+\-20%
Nb	93	2	72	0.071	ppb	24.430	347	2	3.5	80	120	>+\-20%
Mo	95	2	115	-0.012	ppb	0.000	0	1	-1.2	80	120	>+\-20%
Pd	105	2	115	0.015	ppb	0.391	50	1	1.5	80	120	>+\-20%
Ag	107	2	115	0.004	ppb	75.849	43	1	0.4	80	120	>+\-20%
Cd	111	2	115	1.081	ppb	7.220	313	1	108.1	80	120	
Sn	120	2	115	0.097	ppb	102.366	130	1	9.7	80	120	>+\-20%
Sb	121	2	115	-0.006	ppb	-171.782	3	1	-0.6	80	120	>+\-20%
Ba	137	2	115	-0.050	ppb	-149.343	7	1	-5.0	80	120	>+\-20%
W	182	2	165	0.005	ppb	44.306	363	1	0.5	80	120	>+\-20%
Pt	195	2	165	0.004	ppb	21.018	147	1	0.4	80	120	>+\-20%
Tl	205	2	165	0.001	ppb	152.012	190	1	0.1	80	120	>+\-20%
Pb	208	2	165	-0.014	ppb	-75.749	793	1	-1.4	80	120	>+\-20%
Th	232	2	165	0.014	ppb	32.895	227	1	1.4	80	120	>+\-20%
U	238	2	165	0.001	ppb	127.286	43	1	0.1	80	120	>+\-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1109509	0.89	1160179	95.63	60	120	
Sc (IS)	45	1	HMI H2	51338959	0.49	51895621	98.93	60	120	
Sc (IS)	45	2	HMI He	436332	0.79	430930	101.25	60	120	
Sc (IS)	45	3	No Gas	153402248	0.25	158101278	97.03	60	120	
Ge Internal Standard	72	1	HMI H2	24888207	1.03	25033284	99.42	60	120	
Ge Internal Standard	72	2	HMI He	679940	1.15	674189	100.85	60	120	
In Internal Standard	115	2	HMI He	1641029	0.20	1572457	104.36	60	120	
Ho-165	165	2	HMI He	13919843	0.19	13678393	101.77	60	120	

CRI Report

Sample Table

Sample Name	CRI4242080
Data File Name	020_CRI.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:26:48-07:00
Sample Type	AFCRI
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	0.209	ppb	30.287	77	0.2	104.3	80	120	
Na	23	2	45	13.524	ppb	21.671	8822	20	67.6	80	120	AFCRI Main CR1 Failed
Mg	24	2	45	18.083	ppb	6.269	1764	20	90.4	80	120	
Al	27	2	45	24.755	ppb	45.297	270	20	123.8	80	120	AFCRI Main CR1 Failed
K	39	2	45	8.291	ppb	341.169	4884	20	41.5	80	120	AFCRI Main CR1 Failed
Ca	44	2	45	33.538	ppb	44.898	50	20	167.7	80	120	AFCRI Main CR1 Failed
V	51	2	72	0.327	ppb	57.154	198	0.2	163.6	80	120	AFCRI Main CR1 Failed
Cr	52	2	72	0.279	ppb	26.812	573	0.2	139.6	80	120	AFCRI Main CR1 Failed
(Cr)	53	2	72	0.347	ppb	152.356	203	0.2	173.7	80	120	AFCRI Main CR1 Failed
Mn	55	2	72	0.181	ppb	34.996	90	0.2	90.3	80	120	
Fe	57	2	72	24.274	ppb	14.189	503	20	121.4	80	120	AFCRI Main CR1 Failed
Co	59	2	72	0.202	ppb	3.861	510	0.2	101.0	80	120	
Ni	60	2	72	0.166	ppb	23.059	157	0.2	82.8	80	120	
Cu	63	2	72	0.155	ppb	31.079	2050	0.2	77.4	80	120	AFCRI Main CR1 Failed
Zn	66	2	72	-0.750	ppb	-30.984	197	0.2	-374.9	80	120	AFCRI Main CR1 Failed
As	75	2	72	0.169	ppb	96.667	22	0.2	84.6	80	120	
Se	78	1	72	0.168	ppb	12.091	151	0.2	84.1	80	120	
(Se)	82	1	72	-2.801	ppb	-27.090	3127	0.2	-1400.3	80	120	AFCRI Main CR1 Failed
Nb	93	2	72	0.429	ppb	3.453	1530	0.4	107.4	80	120	
Mo	95	2	115	0.224	ppb	26.574	210	0.2	112.0	80	120	
Pd	105	2	115	0.213	ppb	4.301	393	0.2	106.7	80	120	
Ag	107	2	115	0.165	ppb	29.061	627	0.2	82.5	80	120	
Cd	111	2	115	0.128	ppb	55.081	37	0.2	63.8	80	120	AFCRI Main CR1 Failed
(Cd)	114	2	115	0.097	ppb	42.508	80	0.2	48.4	80	120	AFCRI Main CR1 Failed
Sn	120	2	115	0.182	ppb	10.772	183	0.2	91.0	80	120	
Sb	121	2	115	0.138	ppb	14.709	83	0.2	68.8	80	120	AFCRI Main CR1 Failed
Ba	137	2	115	0.235	ppb	45.939	50	0.2	117.3	80	120	
W	182	2	165	0.221	ppb	4.204	1864	0.2	110.4	80	120	
Pt	195	2	165	0.200	ppb	0.483	1617	0.2	99.8	80	120	
Tl	205	2	165	0.188	ppb	5.841	1864	0.2	94.0	80	120	
(Pb)	206	2	165	0.184	ppb	18.336	697	0.2	91.8	80	120	
(Pb)	207	2	165	0.209	ppb	9.011	700	0.2	104.3	80	120	
Pb	208	2	165	0.186	ppb	11.969	3067	0.2	93.0	80	120	
Th	232	2	165	0.184	ppb	3.652	2560	0.2	92.0	80	120	
U	238	2	165	0.202	ppb	5.976	3327	0.2	101.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1129980	0.76	1160179	97.40	60	120	
Sc (IS)	45	1	HMI H2	51589583	0.84	51895621	99.41	60	120	
Sc (IS)	45	2	HMI He	432063	2.22	430930	100.26	60	120	
Sc (IS)	45	3	No Gas	154102621	0.92	158101278	97.47	60	120	
Ge Internal Standard	72	1	HMI H2	24862257	0.17	25033284	99.32	60	120	
Ge Internal Standard	72	2	HMI He	673210	0.38	674189	99.85	60	120	
In Internal Standard	115	2	HMI He	1617763	1.64	1572457	102.88	60	120	
Ho-165	165	2	HMI He	13673494	1.57	13678393	99.96	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-4238198
Data File Name	021ICSA.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:30:35-07:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-8.941	ppb	-39.1	7158680	1	
Be	9	1	6	0.041	ppb	114.2	13	1	
B	11	1	6	-84.484	ppb	-6.4	127538	1	
Na	23	1	45	97248.525	ppb	0.5	392297447	100000	
K	39	1	45	100078.860	ppb	1.4	433480007	100000	>RL or LOD
Ca	40	1	45	100885.978	ppb	1.2	727475749	100000	>RL or LOD
Ti	47	2	45	143680.768	ppb	1.0	22942	1	>RL or LOD
V	51	2	72	0.181	ppb	38.1	69	1	
Cr	52	2	72	1.286	ppb	17.7	1570	1	>RL or LOD
Mn	55	2	72	1.199	ppb	15.7	347	1	>RL or LOD
Co	59	2	72	0.013	ppb	34.9	30	1	
Ni	60	2	72	0.113	ppb	63.4	107	1	
Cu	63	2	72	0.556	ppb	31.5	2757	1	
Zn	66	2	72	-0.669	ppb	-56.2	197	1	
As	75	2	72	0.035	ppb	176.3	7	1	
Se	78	1	72	0.007	ppb	779.8	48	1	
Sr	88	2	72	0.504	ppb	14.8	113	1	
Zr	90	2	72	3.913	ppb	38.2	47	1	>RL or LOD
Nb	93	2	72	0.078	ppb	31.2	340	1	
Mo	95	2	115	2064.986	ppb	1.3	1673250	2000	>RL or LOD
Pd	105	2	115	0.008	ppb	266.7	33	1	
Ag	107	2	115	0.017	ppb	80.2	80	1	
Cd	111	2	115	0.140	ppb	128.1	37	1	
Sn	120	2	115	0.108	ppb	88.7	123	1	
Sb	121	2	115	0.074	ppb	101.2	43	1	
Ba	137	2	115	0.028	ppb	393.0	17	1	
W	182	2	165	0.119	ppb	20.1	1120	1	
Pt	195	2	165	0.064	ppb	14.5	580	1	
Tl	205	2	165	0.007	ppb	87.1	227	1	
Pb	208	2	165	0.190	ppb	6.3	3027	1	
Th	232	2	165	0.091	ppb	20.6	1240	1	
U	238	2	165	0.001	ppb	182.9	43	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	991199	0.56	1160179	85.43	60	120	
Sc (IS)	45	1	HMI H2	47962399	0.86	51895621	92.42	60	120	
Sc (IS)	45	2	HMI He	406277	1.21	430930	94.28	60	120	
Sc (IS)	45	3	No Gas	142693511	0.61	158101278	90.25	60	120	
Ge Internal Standard	72	1	HMI H2	22912177	0.39	25033284	91.53	60	120	
Ge Internal Standard	72	2	HMI He	625010	1.71	674189	92.71	60	120	
In Internal Standard	115	2	HMI He	1468557	1.33	1572457	93.39	60	120	
Ho-165	165	2	HMI He	13277567	0.40	13678393	97.07	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-4238199
Data File Name	022ICSB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:34:24-07:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	914.204	ppb	0.383	463090	100	914.2	80	120	
Li	7	2	45	890.587	ppb	4.098	23379	100	890.6	80	120	
Li	7	3	45	944.964	ppb	0.404	28668143	100	945.0	80	120	
Be	9	1	6	106.644	ppb	0.857	33197	100	106.6	80	120	
B	11	1	6	-34.204	ppb	-5.339	140002	100	-34.2	80	120	>+\-20%
Na	23	1	45	105835.132	ppb	0.945	426963980	100	105835.1	80	120	
K	39	1	45	109890.463	ppb	0.424	475150086	100	109890.5	80	120	
Ca	40	1	45	110970.857	ppb	0.729	800295375	100	110970.9	80	120	
V	51	2	72	100.926	ppb	0.824	78594	100	100.9	80	120	
Cr	52	2	72	102.184	ppb	1.578	104804	100	102.2	80	120	
Mn	55	2	72	101.170	ppb	3.478	25933	100	101.2	80	120	
Co	59	2	72	99.947	ppb	0.834	232109	100	99.9	80	120	
Ni	60	2	72	96.867	ppb	2.256	70005	100	96.9	80	120	
Cu	63	2	72	98.856	ppb	1.198	210571	100	98.9	80	120	
Zn	66	2	72	98.667	ppb	2.571	16365	100	98.7	80	120	
As	75	2	72	103.672	ppb	2.832	10323	100	103.7	80	120	
Se	78	1	72	103.442	ppb	0.553	58180	100	103.4	80	120	
Sr	88	2	72	102.495	ppb	1.353	20376	100	102.5	80	120	
Zr	90	2	72	20.917	ppb	45.872	167	100	20.9	80	120	>+\-20%
Nb	93	2	72	184.689	ppb	1.012	562112	100	184.7	80	120	
Mo	95	2	115	2174.792	ppb	0.641	1743305	100	2174.8	80	120	
Pd	105	2	115	99.619	ppb	0.732	154972	100	99.6	80	120	
Ag	107	2	115	98.487	ppb	0.206	321057	100	98.5	80	120	
Cd	111	2	115	101.946	ppb	3.821	26161	100	101.9	80	120	
Sn	120	2	115	101.619	ppb	1.872	59331	100	101.6	80	120	
Sb	121	2	115	106.399	ppb	1.108	53291	100	106.4	80	120	
Ba	137	2	115	101.595	ppb	0.164	13866	100	101.6	80	120	
W	182	2	165	99.596	ppb	1.505	666462	100	99.6	80	120	
Pt	195	2	165	96.733	ppb	1.962	697135	100	96.7	80	120	
Tl	205	2	165	96.848	ppb	1.219	835409	100	96.8	80	120	
Pb	208	2	165	97.527	ppb	0.267	1072628	100	97.5	80	120	
Th	232	2	165	100.658	ppb	0.899	1331416	100	100.7	80	120	
U	238	2	165	99.357	ppb	1.297	1552780	100	99.4	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	956188	0.53	1160179	82.42	60	120	
Sc (IS)	45	1	HMI H2	47966994	0.27	51895621	92.43	60	120	
Sc (IS)	45	2	HMI He	403194	2.86	430930	93.56	60	120	
Sc (IS)	45	3	No Gas	142452755	1.10	158101278	90.10	60	120	
Ge Internal Standard	72	1	HMI H2	22826243	0.13	25033284	91.18	60	120	
Ge Internal Standard	72	2	HMI He	619333	1.84	674189	91.86	60	120	
In Internal Standard	115	2	HMI He	1452645	0.89	1572457	92.38	60	120	
Ho-165	165	2	HMI He	13109604	1.63	13678393	95.84	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	023SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:38:08-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.182	ppb	-10.182	-20.01	123170	500000	
Li	7	2	45	-8.929	ppb	-8.929	-315.88	6121	500000	
Li	7	3	45	-12.940	ppb	-12.940	-17.76	7424362	50000	
Be	9	1	6	0.096	ppb	0.096	34.83	33	2000	
B	11	1	6	-198.152	ppb	-198.152	-1.02	94232	2000	
Na	23	1	45	41.163	ppb	41.163	6.35	352308	2000	
Na	23	2	45	26.929	ppb	26.929	7.78	10417	400000	
Mg	24	2	45	4.901	ppb	4.901	81.88	1050	400000	
Al	27	2	45	22.794	ppb	22.794	26.48	247	400000	
K	39	1	45	52.552	ppb	52.552	33.79	9776805	400000	
K	39	2	45	24.657	ppb	24.657	27.89	5104	400000	
Ca	40	1	45	29.968	ppb	29.968	10.28	359437	400000	
Ca	44	2	45	36.534	ppb	36.534	79.31	53	400000	
Ti	47	2	45	40.477	ppb	40.477	173.21	7	4000	
V	51	2	72	-0.267	ppb	-0.267	-195.35	-297	2000	
Cr	52	2	72	6.752	ppb	6.752	4.16	7625	5000	
Mn	55	2	72	1.287	ppb	1.287	21.05	390	10000	
Fe	57	2	72	116.892	ppb	116.892	10.27	2227	400000	
Co	59	2	72	0.035	ppb	0.035	51.66	87	2000	
Ni	60	2	72	0.196	ppb	0.196	16.05	177	5000	
Cu	63	2	72	0.332	ppb	0.332	10.12	2410	5000	
Zn	66	2	72	0.984	ppb	0.984	49.57	493	5000	
As	75	2	72	0.050	ppb	0.050	153.98	9	2000	
Se	78	1	72	0.052	ppb	0.052	51.98	79	2000	
Sr	88	2	72	0.001	ppb	0.001	6353.97	13	4000	
Zr	90	2	72	2.706	ppb	2.706	48.82	40	1000	
Nb	93	2	72	1.393	ppb	1.393	5.76	4627	200	
Mo	95	2	115	1.146	ppb	1.146	9.41	987	2000	
Pd	105	2	115	0.071	ppb	0.071	32.87	140	100	
Ag	107	2	115	0.018	ppb	0.018	54.74	87	100	
Cd	111	2	115	0.024	ppb	0.024	86.61	7	2000	
Sn	120	2	115	0.068	ppb	0.068	106.50	103	2000	
Sb	121	2	115	0.044	ppb	0.044	71.80	30	1000	
Ba	137	2	115	-0.001	ppb	-0.001	-9463.27	13	5000	
W	182	2	165	0.040	ppb	0.040	28.84	590	100	
Pt	195	2	165	0.022	ppb	0.022	31.90	277	100	
Tl	205	2	165	0.051	ppb	0.051	5.37	617	2000	
Pb	208	2	165	-0.001	ppb	-0.001	-407.23	910	5000	
Th	232	2	165	0.068	ppb	0.068	11.99	937	2000	
U	238	2	165	0.018	ppb	0.018	23.24	313	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1064212	0.27	1160179	91.73	60	120	
Sc (IS)	45	1	HMI H2	49726139	0.45	51895621	95.82	60	120	
Sc (IS)	45	2	HMI He	425315	1.57	430930	98.70	60	120	
Sc (IS)	45	3	No Gas	149879374	0.33	158101278	94.80	60	120	
Ge Internal Standard	72	1	HMI H2	24528949	0.45	25033284	97.99	60	120	
Ge Internal Standard	72	2	HMI He	660322	0.94	674189	97.94	60	120	
In Internal Standard	115	2	HMI He	1541570	2.67	1572457	98.04	60	120	
Ho-165	165	2	HMI He	13385071	0.78	13678393	97.86	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	lra-4149046
Data File Name	024_LR.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:41:58-07:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	1962.005	ppb	0.730	680346	2000	98.1	90	110	
V	51	2	72	1979.289	ppb	0.936	1609305	2000	99.0	90	110	
Cr	52	2	72	4752.611	ppb	1.026	5074105	5000	95.1	90	110	
(Cr)	53	2	72	5011.069	ppb	0.580	648861	5000	100.2	90	110	
Mn	55	2	72	10102.281	ppb	1.072	2698449	10000	101.0	90	110	
Co	59	2	72	1937.504	ppb	0.533	4694021	2000	96.9	90	110	
Ni	60	2	72	4850.909	ppb	1.229	3656230	5000	97.0	90	110	
Cu	63	2	72	4720.163	ppb	1.236	10413307	5000	94.4	90	110	
Zn	66	2	72	5004.177	ppb	0.089	849887	5000	100.1	90	110	
As	75	2	72	1942.736	ppb	0.889	201779	2000	97.1	90	110	
Se	78	1	72	1989.626	ppb	0.772	1182128	2000	99.5	90	110	
(Se)	82	1	72	1975.763	ppb	1.106	504056	2000	98.8	90	110	
Mo	95	2	115	2056.367	ppb	1.358	1732403	2000	102.8	90	110	
Cd	111	2	115	1991.458	ppb	1.401	537147	2000	99.6	90	110	
(Cd)	114	2	115	2045.521	ppb	0.665	1462317	2000	102.3	90	110	
Sn	120	2	115	1848.976	ppb	0.895	1133724	2000	92.4	90	110	
Sb	121	2	115	977.316	ppb	0.604	514447	1000	97.7	90	110	
Ba	137	2	115	5177.688	ppb	1.100	742118	5000	103.6	90	110	
Tl	205	2	165	934.457	ppb	1.529	8200774	2000	46.7	90	110	LRS Main CR1 Failed
(Pb)	206	2	165	4788.035	ppb	0.443	12809073	5000	95.8	90	110	
(Pb)	207	2	165	4743.909	ppb	0.823	11755809	5000	94.9	90	110	
Pb	208	2	165	4754.203	ppb	0.352	53159105	5000	95.1	90	110	
Th	232	2	165	941.064	ppb	0.226	12665928	2000	47.1	90	110	LRS Main CR1 Failed
U	238	2	165	1837.230	ppb	0.749	29217206	2000	91.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1065184	0.74	1160179	91.81	60	120	
Sc (IS)	45	1	HMI H2	49007368	1.07	51895621	94.43	60	120	
Sc (IS)	45	2	HMI He	408309	1.15	430930	94.75	60	120	
Sc (IS)	45	3	No Gas	143113858	1.34	158101278	90.52	60	120	
Ge Internal Standard	72	1	HMI H2	24130469	0.25	25033284	96.39	60	120	
Ge Internal Standard	72	2	HMI He	646041	0.10	674189	95.82	60	120	
In Internal Standard	115	2	HMI He	1526903	1.33	1572457	97.10	60	120	
Ho-165	165	2	HMI He	13338488	0.15	13678393	97.52	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	025SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:45:45-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.503	ppb	-5.503	-49.96	123134	500000	
Li	7	2	45	-4.795	ppb	-4.795	-429.96	6055	500000	
Li	7	3	45	-9.469	ppb	-9.469	-15.30	7370727	50000	
Be	9	1	6	0.818	ppb	0.818	15.90	283	2000	
B	11	1	6	-202.954	ppb	-202.954	-2.10	92375	2000	
Na	23	1	45	-2.463	ppb	-2.463	-6.52	167430	2000	
Na	23	2	45	-0.088	ppb	-0.088	-1251.17	6745	400000	
Mg	24	2	45	-10.378	ppb	-10.378	-22.55	250	400000	
Al	27	2	45	0.894	ppb	0.894	128.89	40	400000	
K	39	1	45	8.717	ppb	8.717	327.64	9443013	400000	
K	39	2	45	17.248	ppb	17.248	112.62	4851	400000	
Ca	40	1	45	1.845	ppb	1.845	11.02	147051	400000	
Ca	44	2	45	20.728	ppb	20.728	66.34	33	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.488	ppb	0.488	74.73	321	2000	
Cr	52	2	72	0.621	ppb	0.621	9.12	917	5000	
Mn	55	2	72	1.165	ppb	1.165	23.55	350	10000	
Fe	57	2	72	4.808	ppb	4.808	29.25	127	400000	
Co	59	2	72	0.320	ppb	0.320	9.26	777	2000	
Ni	60	2	72	0.760	ppb	0.760	6.35	600	5000	
Cu	63	2	72	0.802	ppb	0.802	7.15	3404	5000	
Zn	66	2	72	1.546	ppb	1.546	58.72	580	5000	
As	75	2	72	0.272	ppb	0.272	62.89	32	2000	
Se	78	1	72	0.927	ppb	0.927	20.53	600	2000	
Sr	88	2	72	-0.029	ppb	-0.029	-189.55	7	4000	
Zr	90	2	72	2.806	ppb	2.806	1.41	40	1000	
Nb	93	2	72	0.156	ppb	0.156	31.10	600	200	
Mo	95	2	115	1.329	ppb	1.329	25.66	1133	2000	
Pd	105	2	115	0.000	ppb	0.000	3194.25	23	100	
Ag	107	2	115	-0.005	ppb	-0.005	-1.74	10	100	
Cd	111	2	115	0.233	ppb	0.233	19.05	63	2000	
Sn	120	2	115	1.319	ppb	1.319	4.54	877	2000	
Sb	121	2	115	3.267	ppb	3.267	20.07	1733	1000	
Ba	137	2	115	0.782	ppb	0.782	20.27	127	5000	
W	182	2	165	0.000	ppb	0.000	-10118.11	310	100	
Pt	195	2	165	0.015	ppb	0.015	28.08	220	100	
Tl	205	2	165	0.279	ppb	0.279	15.92	2574	2000	
Pb	208	2	165	0.890	ppb	0.890	18.17	10699	5000	
Th	232	2	165	1.596	ppb	1.596	8.16	21172	2000	
U	238	2	165	0.435	ppb	0.435	9.57	6832	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1063694	0.80	1160179	91.68	60	120	
Sc (IS)	45	1	HMI H2	48992819	0.09	51895621	94.41	60	120	
Sc (IS)	45	2	HMI He	414910	1.44	430930	96.28	60	120	
Sc (IS)	45	3	No Gas	147167921	1.03	158101278	93.08	60	120	
Ge Internal Standard	72	1	HMI H2	24286455	0.98	25033284	97.02	60	120	
Ge Internal Standard	72	2	HMI He	647761	0.74	674189	96.08	60	120	
In Internal Standard	115	2	HMI He	1538688	2.82	1572457	97.85	60	120	
Ho-165	165	2	HMI He	13137170	0.49	13678393	96.04	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	026_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:49:33-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	485.985	ppb	0.791	311741	500	97.2	90	110	
Li	7	2	45	448.692	ppb	11.028	15467	500	89.7	90	110	>+\-10%
Li	7	3	45	485.761	ppb	0.669	19016302	500	97.2	90	110	
Be	9	1	6	52.822	ppb	6.039	17996	50	105.6	90	110	
B	11	1	6	-148.600	ppb	-3.536	110956	50	-297.2	90	110	>+\-10%
Na	23	1	45	5069.313	ppb	0.775	21168963	5000	101.4	90	110	
Na	23	2	45	4808.140	ppb	0.755	626989	5000	96.2	90	110	
Mg	24	2	45	4982.202	ppb	0.345	258349	5000	99.6	90	110	
Al	27	2	45	4929.172	ppb	0.932	46036	5000	98.6	90	110	
K	39	1	45	5160.331	ppb	0.642	31921652	5000	103.2	90	110	
K	39	2	45	5078.043	ppb	2.337	94218	5000	101.6	90	110	
Ca	40	1	45	5159.480	ppb	0.539	38334513	5000	103.2	90	110	
Ca	44	2	45	5186.922	ppb	6.351	6101	5000	103.7	90	110	
Ti	47	2	45	80.969	ppb	86.614	13	50	161.9	90	110	>+\-10%
V	51	2	72	48.884	ppb	2.007	40260	50	97.8	90	110	
Cr	52	2	72	50.493	ppb	1.227	54962	50	101.0	90	110	
Mn	55	2	72	51.596	ppb	4.906	14026	50	103.2	90	110	
Fe	57	2	72	4916.229	ppb	1.481	91457	5000	98.3	90	110	
Co	59	2	72	49.964	ppb	0.844	122847	50	99.9	90	110	
Ni	60	2	72	49.418	ppb	2.742	37828	50	98.8	90	110	
Cu	63	2	72	49.848	ppb	0.437	113238	50	99.7	90	110	
Zn	66	2	72	49.771	ppb	2.582	8896	50	99.5	90	110	
As	75	2	72	51.803	ppb	2.462	5464	50	103.6	90	110	
Se	78	1	72	51.141	ppb	2.976	30496	50	102.3	90	110	
Sr	88	2	72	49.634	ppb	3.678	10454	50	99.3	90	110	
Zr	90	2	72	65.914	ppb	9.948	517	50	131.8	90	110	>+\-10%
Nb	93	2	72	99.235	ppb	1.109	319829	100	99.2	90	110	
Mo	95	2	115	50.680	ppb	3.170	43519	50	101.4	90	110	
Pd	105	2	115	50.990	ppb	1.434	84970	50	102.0	90	110	
Ag	107	2	115	49.487	ppb	1.558	172793	50	99.0	90	110	
Cd	111	2	115	50.787	ppb	1.958	13960	50	101.6	90	110	
Sn	120	2	115	50.353	ppb	2.000	31520	50	100.7	90	110	
Sb	121	2	115	52.990	ppb	1.995	28428	50	106.0	90	110	
Ba	137	2	115	51.663	ppb	5.955	7559	50	103.3	90	110	
W	182	2	165	50.824	ppb	0.853	347413	50	101.6	90	110	
Pt	195	2	165	50.256	ppb	2.153	369829	50	100.5	90	110	
Tl	205	2	165	50.040	ppb	0.468	440803	50	100.1	90	110	
Pb	208	2	165	50.884	ppb	0.845	571773	50	101.8	90	110	
Th	232	2	165	51.277	ppb	2.066	692394	50	102.6	90	110	
U	238	2	165	49.108	ppb	1.267	783561	50	98.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1046456	0.71	1160179	90.20	60	120	
Sc (IS)	45	1	HMI H2	49253003	0.29	51895621	94.91	60	120	
Sc (IS)	45	2	HMI He	422951	1.86	430930	98.15	60	120	
Sc (IS)	45	3	No Gas	147960141	0.76	158101278	93.59	60	120	
Ge Internal Standard	72	1	HMI H2	24184080	0.94	25033284	96.61	60	120	
Ge Internal Standard	72	2	HMI He	655639	0.37	674189	97.25	60	120	
In Internal Standard	115	2	HMI He	1555789	0.04	1572457	98.94	60	120	
Ho-165	165	2	HMI He	13384147	1.40	13678393	97.85	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	027_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:53:21-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-8.364	ppb	-47.7	7484429	10	
Be	9	1	6	0.085	ppb	58.0	30	0.5	
B	11	1	6	-217.000	ppb	-1.9	88453	0.5	
Na	23	1	45	-3.721	ppb	-3.2	163605	25	
Na	23	2	45	-2.098	ppb	-110.0	6642	25	
Mg	24	2	45	-6.714	ppb	-20.2	447	25	
Al	27	2	45	1.148	ppb	195.1	43	15	
K	39	1	45	22.564	ppb	65.7	9582521	50	
K	39	2	45	-11.865	ppb	-303.7	4447	50	
Ca	40	1	45	-3.845	ppb	-5.2	106019	50	
Ca	44	2	45	17.145	ppb	50.2	30	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.040	ppb	-407.2	-111	1	
Cr	52	2	72	0.200	ppb	40.5	477	1	
Mn	55	2	72	0.198	ppb	22.4	93	0.5	
Fe	57	2	72	-0.143	ppb	-417.6	37	25	
Co	59	2	72	0.072	ppb	25.3	180	0.5	
Ni	60	2	72	0.630	ppb	16.9	513	1	
Cu	63	2	72	0.085	ppb	73.7	1860	1	
Zn	66	2	72	-0.425	ppb	-148.9	250	5	
As	75	2	72	0.075	ppb	90.4	12	1	
Se	78	1	72	0.186	ppb	35.0	157	1	
Sr	88	2	72	0.001	ppb	4278.3	13	0.5	
Zr	90	2	72	-0.368	ppb	-544.6	17	1	
Nb	93	2	72	1.246	ppb	6.2	4164	2	
Mo	95	2	115	0.288	ppb	8.8	257	0.5	
Pd	105	2	115	0.069	ppb	19.6	137	1	
Ag	107	2	115	0.007	ppb	75.7	50	1	
Cd	111	2	115	0.049	ppb	44.1	13	0.5	
Sn	120	2	115	0.414	ppb	12.7	320	1	
Sb	121	2	115	0.550	ppb	17.5	300	0.6	
Ba	137	2	115	0.091	ppb	159.3	27	0.5	
W	182	2	165	0.059	ppb	11.3	723	1	
Pt	195	2	165	0.001	ppb	485.8	120	1	
Tl	205	2	165	0.095	ppb	29.2	1013	0.1	
Pb	208	2	165	0.204	ppb	15.1	3227	0.5	
Th	232	2	165	0.099	ppb	20.9	1363	1	
U	238	2	165	0.076	ppb	2.0	1253	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1080104	0.24	1160179	93.10	60	120	
Sc (IS)	45	1	HMI H2	49402464	0.27	51895621	95.20	60	120	
Sc (IS)	45	2	HMI He	424611	0.59	430930	98.53	60	120	
Sc (IS)	45	3	No Gas	148921314	0.65	158101278	94.19	60	120	
Ge Internal Standard	72	1	HMI H2	24208380	1.11	25033284	96.70	60	120	
Ge Internal Standard	72	2	HMI He	662466	0.93	674189	98.26	60	120	
In Internal Standard	115	2	HMI He	1548764	1.84	1572457	98.49	60	120	
Ho-165	165	2	HMI He	13472339	0.50	13678393	98.49	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	028LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T17:57:13-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	39.957	ppb	12.164	8759183	50	79.9	70	130	
Be	9	1	6	1.231	ppb	12.730	433	1	123.1	70	130	
Na	23	2	45	42.710	ppb	7.080	12525	50	85.4	70	130	
Mg	24	2	45	40.250	ppb	9.770	2904	50	80.5	70	130	
Al	27	2	45	31.383	ppb	47.844	330	30	104.6	70	130	
K	39	2	45	106.615	ppb	11.614	6591	100	106.6	70	130	
Ca	44	2	45	45.087	ppb	12.457	63	50	90.2	70	130	
V	51	2	72	4.924	ppb	1.613	4065	5	98.5	70	130	
Cr	52	2	72	2.073	ppb	5.103	2550	2	103.6	70	130	
Mn	55	2	72	1.087	ppb	14.202	340	1	108.7	70	130	
Fe	57	2	72	50.329	ppb	12.107	993	50	100.7	70	130	
Co	59	2	72	1.128	ppb	6.609	2827	1	112.8	70	130	
Ni	60	2	72	2.072	ppb	13.449	1643	2	103.6	70	130	
Cu	63	2	72	1.858	ppb	4.550	5925	2	92.9	70	130	
Zn	66	2	72	9.171	ppb	18.846	1940	10	91.7	70	130	
As	75	2	72	5.098	ppb	8.641	552	5	102.0	70	130	
Se	78	1	72	5.298	ppb	6.449	3250	5	106.0	70	130	
Sr	88	2	72	1.072	ppb	16.578	243	1	107.2	70	130	
Zr	90	2	72	5.694	ppb	59.302	63	0.5	1138.7	70	130	>+/-30%
Nb	93	2	72	1.490	ppb	10.074	5001	2	74.5	70	130	
Mo	95	2	115	2.147	ppb	7.828	1900	2	107.3	70	130	
Pd	105	2	115	0.028	ppb	38.729	70	1	2.8	70	130	>+/-30%
Ag	107	2	115	5.027	ppb	3.921	18014	5	100.5	70	130	
Cd	111	2	115	1.091	ppb	22.575	307	1	109.1	70	130	
Sn	120	2	115	10.535	ppb	3.141	6808	10	105.4	70	130	
Sb	121	2	115	2.587	ppb	8.761	1430	2	129.4	70	130	
Ba	137	2	115	1.290	ppb	34.500	207	1	129.0	70	130	
W	182	2	165	5.079	ppb	0.484	35219	1	507.9	70	130	>+/-30%
Pt	195	2	165	0.019	ppb	36.211	253	1	1.9	70	130	>+/-30%
Tl	205	2	165	1.063	ppb	4.495	9587	1	106.3	70	130	
Pb	208	2	165	1.179	ppb	3.146	14233	1	117.9	70	130	
Th	232	2	165	2.415	ppb	1.598	32842	2	120.8	70	130	
U	238	2	165	1.039	ppb	7.601	16710	1	103.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1080990	0.33	1160179	93.17	60	120	
Sc (IS)	45	1	HMI H2	50355879	1.01	51895621	97.03	60	120	
Sc (IS)	45	2	HMI He	427474	1.33	430930	99.20	60	120	
Sc (IS)	45	3	No Gas	151257708	1.18	158101278	95.67	60	120	
Ge Internal Standard	72	1	HMI H2	24557243	0.71	25033284	98.10	60	120	
Ge Internal Standard	72	2	HMI He	668663	1.26	674189	99.18	60	120	
In Internal Standard	115	2	HMI He	1594689	1.69	1572457	101.41	60	120	
Ho-165	165	2	HMI He	13467331	1.41	13678393	98.46	60	120	

Blank Report

Sample Table

Sample Name	mb 280-349784/1-a
Data File Name	029_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:01:02-07:00
Sample Type	Blank
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-11.128	ppb	-5.790927243	124935	0.5
Li	7	2	45	-8.586	ppb	-178.9795587	6158	0.5
Li	7	3	45	-12.569	ppb	-24.07221538	7598258	10
Be	9	1	6	0.019	ppb	86.60286927	7	0.5
B	11	1	6	-210.905	ppb	-0.794915268	90792	0.5
Na	23	1	45	20.459	ppb	4.284835358	270357	25
Na	23	2	45	21.501	ppb	12.04826998	9756	25
Mg	24	2	45	-8.361	ppb	-14.42288572	363	25
Al	27	2	45	2.493	ppb	102.4252408	57	15
K	39	1	45	-922.546	ppb	-1.274634803	5586347	50
K	39	2	45	17.781	ppb	65.21661951	5004	50
Ca	40	1	45	18.102	ppb	2.500664901	275452	50
Ca	44	2	45	55.757	ppb	66.50292295	77	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	0.134	ppb	281.6869294	32	1
Cr	52	2	72	3.391	ppb	13.25967158	4051	1
Mn	55	2	72	0.705	ppb	46.00643629	237	0.5
Fe	57	2	72	53.150	ppb	23.61736764	1057	25
Co	59	2	72	0.029	ppb	29.00315829	73	0.5
Ni	60	2	72	0.131	ppb	49.66346742	130	1
Cu	63	2	72	1.136	ppb	5.715700082	4321	1
Zn	66	2	72	1.388	ppb	14.53114618	577	5
As	75	2	72	0.042	ppb	64.27792242	8	1
Se	78	1	72	0.053	ppb	61.78129149	79	1
Sr	88	2	72	-0.015	ppb	-2.798316469	10	0.5
Zr	90	2	72	1.734	ppb	226.0298255	33	1
Nb	93	2	72	0.165	ppb	16.18423419	657	2
Mo	95	2	115	0.183	ppb	38.45456915	170	0.5
Pd	105	2	115	0.010	ppb	60.93015936	40	1
Ag	107	2	115	0.001	ppb	1270.740151	30	1
Cd	111	2	115	0.024	ppb	173.2050808	7	0.5
Sn	120	2	115	0.278	ppb	7.203855846	240	1
Sb	121	2	115	0.355	ppb	17.23596041	200	0.6
Ba	137	2	115	0.087	ppb	120.4987078	27	0.5
W	182	2	165	0.033	ppb	32.22114032	553	1
Pt	195	2	165	0.007	ppb	50.85819587	170	1
Tl	205	2	165	0.064	ppb	10.28329426	747	0.1
Pb	208	2	165	0.115	ppb	13.39289093	2247	0.5
Th	232	2	165	0.154	ppb	15.44620648	2147	1
U	238	2	165	0.024	ppb	20.43876622	413	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1080353	1.68	1160179	93.12	60	120	
Sc (IS)	45	1	HMI H2	50588814	0.76	51895621	97.48	60	120	
Sc (IS)	45	2	HMI He	427357	2.19	430930	99.17	60	120	
Sc (IS)	45	3	No Gas	153204211	0.39	158101278	96.90	60	120	
Ge Internal Standard	72	1	HMI H2	24482106	0.27	25033284	97.80	60	120	
Ge Internal Standard	72	2	HMI He	675426	0.93	674189	100.18	60	120	
In Internal Standard	115	2	HMI He	1580882	1.24	1572457	100.54	60	120	
Ho-165	165	2	HMI He	13657310	1.20	13678393	99.85	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-349784/2-a
Data File Name	030_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:04:51-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	349784 6020A DOD 5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	73.214	73.214	ppb	2.365	158880	400	18.3	80	120	>+/-20%
Li	7	2	45	66.664	66.664	ppb	36.209	7825	400	16.7	80	120	>+/-20%
Li	7	3	45	64.657	64.657	ppb	8.188	9553086	400	16.2	80	120	>+/-20%
Be	9	1	6	42.350	42.350	ppb	2.167	14793	40	105.9	80	120	
Na	23	2	45	8.951	8.951	ppb	25.196	8232	40	22.4	80	120	>+/-20%
Mg	24	2	45	-9.662	-9.662	ppb	-8.140	300	40	-24.2	80	120	>+/-20%
Al	27	2	45	432.711	432.711	ppb	4.180	4167	40	1081.8	80	120	>+/-20%
K	39	2	45	8.153	8.153	ppb	230.639	4898	40	20.4	80	120	>+/-20%
Ca	44	2	45	307.331	307.331	ppb	15.577	380	40	768.3	80	120	>+/-20%
V	51	2	72	39.609	39.609	ppb	3.459	33726	40	99.0	80	120	
Cr	52	2	72	43.712	43.712	ppb	2.261	49245	40	109.3	80	120	
Mn	55	2	72	40.982	40.982	ppb	3.514	11528	40	102.5	80	120	
Fe	57	2	72	429.188	429.188	ppb	6.894	8292	40	1073.0	80	120	>+/-20%
Co	59	2	72	41.517	41.517	ppb	0.652	105581	40	103.8	80	120	
Ni	60	2	72	40.971	40.971	ppb	0.343	32441	40	102.4	80	120	
Cu	63	2	72	40.950	40.950	ppb	0.994	96528	40	102.4	80	120	
Zn	66	2	72	43.966	43.966	ppb	2.049	8165	40	109.9	80	120	
As	75	2	72	41.817	41.817	ppb	0.357	4563	40	104.5	80	120	
Se	78	1	72	40.315	40.315	ppb	1.649	24524	40	100.8	80	120	
Nb	93	2	72	0.125	0.125	ppb	19.686	527	40	0.3	80	120	>+/-20%
Mo	95	2	115	44.057	44.057	ppb	2.724	37983	40	110.1	80	120	
Pd	105	2	115	0.020	0.020	ppb	18.486	57	40	0.1	80	120	>+/-20%
Ag	107	2	115	41.957	41.957	ppb	1.462	147091	40	104.9	80	120	
Cd	111	2	115	43.095	43.095	ppb	3.556	11891	40	107.7	80	120	
Sn	120	2	115	43.052	43.052	ppb	2.501	27062	40	107.6	80	120	
Sb	121	2	115	41.761	41.761	ppb	0.719	22499	40	104.4	80	120	
Ba	137	2	115	44.193	44.193	ppb	4.285	6492	40	110.5	80	120	
W	182	2	165	41.368	41.368	ppb	0.498	285473	40	103.4	80	120	
Pt	195	2	165	0.011	0.011	ppb	80.480	200	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.388	41.388	ppb	1.080	367999	40	103.5	80	120	
Pb	208	2	165	43.143	43.143	ppb	1.076	489452	40	107.9	80	120	
Th	232	2	165	42.205	42.205	ppb	0.787	575291	40	105.5	80	120	
U	238	2	165	41.660	41.660	ppb	1.257	670936	40	104.2	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1073124	1.36	1160179	92.50	60	120	
Sc (IS)	45	1	HMI H2	50849608	0.20	51895621	97.98	60	120	
Sc (IS)	45	2	HMI He	433117	1.40	430930	100.51	60	120	
Sc (IS)	45	3	No Gas	154520491	0.47	158101278	97.74	60	120	
Ge Internal Standard	72	1	HMI H2	24660820	0.95	25033284	98.51	60	120	
Ge Internal Standard	72	2	HMI He	678130	1.24	674189	100.58	60	120	
In Internal Standard	115	2	HMI He	1562250	1.90	1572457	99.35	60	120	
Ho-165	165	2	HMI He	13508702	1.20	13678393	98.76	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-a
Data File Name	031SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:08:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-15.034	ppb	-15.034	-19.60	123187	500000	
Li	7	2	45	-0.227	ppb	-0.227	-2839.53	6321	500000	
Li	7	3	45	-12.956	ppb	-12.956	-12.50	7408149	50000	
Be	9	1	6	0.048	ppb	0.048	34.27	17	2000	
B	11	1	6	-166.363	ppb	-166.363	-4.38	105763	2000	
Na	23	1	45	3479.685	ppb	3479.685	0.77	14956426	2000	
Na	23	2	45	3391.582	ppb	3391.582	0.55	447951	400000	
Mg	24	2	45	7860.926	ppb	7860.926	1.55	410450	400000	
Al	27	2	45	10.707	ppb	10.707	59.05	133	400000	
K	39	1	45	427.451	ppb	427.451	0.09	11603029	400000	
K	39	2	45	1430.003	ppb	1430.003	4.27	30112	400000	
Ca	40	1	45	24891.223	ppb	24891.223	0.54	189096804	400000	
Ca	44	2	45	23780.091	ppb	23780.091	1.38	28153	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.466	ppb	0.466	86.31	315	2000	
Cr	52	2	72	16.462	ppb	16.462	4.25	18484	5000	
Mn	55	2	72	4.360	ppb	4.360	11.31	1247	10000	
Fe	57	2	72	268.522	ppb	268.522	5.67	5138	400000	
Co	59	2	72	0.076	ppb	0.076	6.42	190	2000	
Ni	60	2	72	2.432	ppb	2.432	12.57	1927	5000	
Cu	63	2	72	1.829	ppb	1.829	4.36	5868	5000	
Zn	66	2	72	3.062	ppb	3.062	11.82	867	5000	
As	75	2	72	0.208	ppb	0.208	63.86	26	2000	
Se	78	1	72	0.419	ppb	0.419	12.25	300	2000	
Sr	88	2	72	66.560	ppb	66.560	5.15	14320	4000	
Zr	90	2	72	68.393	ppb	68.393	6.89	547	1000	
Nb	93	2	72	0.125	ppb	0.125	26.56	520	200	
Mo	95	2	115	0.325	ppb	0.325	12.00	293	2000	
Pd	105	2	115	0.000	ppb	0.000	10562.90	23	100	
Ag	107	2	115	0.007	ppb	0.007	22.91	53	100	
Cd	111	2	115	0.060	ppb	0.060	91.39	17	2000	
Sn	120	2	115	0.259	ppb	0.259	41.47	227	2000	
Sb	121	2	115	0.976	ppb	0.976	2.53	537	1000	
Ba	137	2	115	19.126	ppb	19.126	6.94	2840	5000	
W	182	2	165	0.103	ppb	0.103	22.64	1037	100	
Pt	195	2	165	0.009	ppb	0.009	38.00	180	100	
Tl	205	2	165	0.066	ppb	0.066	14.04	763	2000	
Pb	208	2	165	0.232	ppb	0.232	10.50	3574	5000	
Th	232	2	165	0.202	ppb	0.202	14.26	2797	2000	
U	238	2	165	0.031	ppb	0.031	14.35	537	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1060272	0.98	1160179	91.39	60	120	
Sc (IS)	45	1	HMI H2	50501323	0.50	51895621	97.31	60	120	
Sc (IS)	45	2	HMI He	426409	0.75	430930	98.95	60	120	
Sc (IS)	45	3	No Gas	149558081	0.32	158101278	94.60	60	120	
Ge Internal Standard	72	1	HMI H2	24520337	0.48	25033284	97.95	60	120	
Ge Internal Standard	72	2	HMI He	669699	1.22	674189	99.33	60	120	
In Internal Standard	115	2	HMI He	1575624	1.76	1572457	100.20	60	120	
Ho-165	165	2	HMI He	13610117	1.55	13678393	99.50	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-aSD@5
Data File Name	032SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:12:28-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.786	ppb	-6.786	-72.09	125550	500000	
Li	7	2	45	-8.064	ppb	-8.064	-233.60	6188	500000	
Li	7	3	45	-12.919	ppb	-12.919	-28.10	7343054	50000	
Be	9	1	6	0.048	ppb	0.048	69.65	17	2000	
B	11	1	6	-232.805	ppb	-232.805	-1.10	81700	2000	
Na	23	1	45	705.710	ppb	705.710	1.18	3157392	2000	
Na	23	2	45	658.665	ppb	658.665	0.37	93035	400000	
Mg	24	2	45	1532.323	ppb	1532.323	1.22	81046	400000	
Al	27	2	45	5.330	ppb	5.330	11.62	83	400000	
K	39	1	45	85.004	ppb	85.004	20.98	10005149	400000	
K	39	2	45	286.750	ppb	286.750	12.41	9826	400000	
Ca	40	1	45	4984.273	ppb	4984.273	1.63	37713297	400000	
Ca	44	2	45	4659.891	ppb	4659.891	4.39	5551	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.373	ppb	0.373	83.05	235	2000	
Cr	52	2	72	3.778	ppb	3.778	7.07	4461	5000	
Mn	55	2	72	0.792	ppb	0.792	14.72	260	10000	
Fe	57	2	72	35.447	ppb	35.447	23.02	717	400000	
Co	59	2	72	0.029	ppb	0.029	15.64	73	2000	
Ni	60	2	72	0.536	ppb	0.536	16.41	447	5000	
Cu	63	2	72	0.286	ppb	0.286	32.52	2347	5000	
Zn	66	2	72	0.422	ppb	0.422	55.85	403	5000	
As	75	2	72	0.127	ppb	0.127	56.93	18	2000	
Se	78	1	72	0.103	ppb	0.103	29.51	109	2000	
Sr	88	2	72	14.104	ppb	14.104	2.51	3054	4000	
Zr	90	2	72	8.253	ppb	8.253	65.11	83	1000	
Nb	93	2	72	0.059	ppb	0.059	90.50	303	200	
Mo	95	2	115	0.081	ppb	0.081	15.55	80	2000	
Pd	105	2	115	0.018	ppb	0.018	66.86	53	100	
Ag	107	2	115	0.009	ppb	0.009	29.94	60	100	
Cd	111	2	115	0.024	ppb	0.024	86.62	7	2000	
Sn	120	2	115	0.143	ppb	0.143	47.89	153	2000	
Sb	121	2	115	0.228	ppb	0.228	14.56	130	1000	
Ba	137	2	115	3.255	ppb	3.255	8.42	493	5000	
W	182	2	165	0.029	ppb	0.029	29.04	520	100	
Pt	195	2	165	0.007	ppb	0.007	79.28	170	100	
Tl	205	2	165	0.022	ppb	0.022	34.11	367	2000	
Pb	208	2	165	0.114	ppb	0.114	7.56	2210	5000	
Th	232	2	165	0.025	ppb	0.025	9.59	367	2000	
U	238	2	165	0.023	ppb	0.023	10.14	393	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1070647	1.16	1160179	92.28	60	120	
Sc (IS)	45	1	HMI H2	50156956	0.91	51895621	96.65	60	120	
Sc (IS)	45	2	HMI He	428452	0.26	430930	99.42	60	120	
Sc (IS)	45	3	No Gas	148233684	0.73	158101278	93.76	60	120	
Ge Internal Standard	72	1	HMI H2	24519040	0.20	25033284	97.95	60	120	
Ge Internal Standard	72	2	HMI He	672079	1.36	674189	99.69	60	120	
In Internal Standard	115	2	HMI He	1570560	1.60	1572457	99.88	60	120	
Ho-165	165	2	HMI He	13473119	1.44	13678393	98.50	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-b ms
Data File Name	033SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:16:16-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	71.075	ppb	71.075	1.23	154508	500000	
Li	7	2	45	56.527	ppb	56.527	13.92	7475	500000	
Li	7	3	45	68.660	ppb	68.660	4.19	9185419	50000	
Be	9	1	6	46.123	ppb	46.123	3.61	15700	2000	
B	11	1	6	-148.366	ppb	-148.366	-3.45	110966	2000	
Na	23	1	45	3693.405	ppb	3693.405	0.70	15616613	2000	
Na	23	2	45	3508.938	ppb	3508.938	2.57	461887	400000	
Mg	24	2	45	8229.108	ppb	8229.108	1.76	428486	400000	
Al	27	2	45	443.831	ppb	443.831	7.08	4194	400000	
K	39	1	45	542.882	ppb	542.882	0.75	11929624	400000	
K	39	2	45	1474.868	ppb	1474.868	1.67	30834	400000	
Ca	40	1	45	26346.744	ppb	26346.744	1.04	197027417	400000	
Ca	44	2	45	25555.822	ppb	25555.822	4.62	30166	400000	
Ti	47	2	45	139.089	ppb	139.089	88.55	23	4000	
V	51	2	72	41.719	ppb	41.719	2.70	35123	2000	
Cr	52	2	72	42.592	ppb	42.592	2.04	47444	5000	
Mn	55	2	72	41.823	ppb	41.823	1.45	11631	10000	
Fe	57	2	72	448.564	ppb	448.564	2.59	8569	400000	
Co	59	2	72	41.797	ppb	41.797	1.32	105069	2000	
Ni	60	2	72	42.538	ppb	42.538	0.88	33296	5000	
Cu	63	2	72	41.446	ppb	41.446	0.92	96555	5000	
Zn	66	2	72	42.352	ppb	42.352	0.90	7789	5000	
As	75	2	72	43.446	ppb	43.446	2.88	4686	2000	
Se	78	1	72	41.736	ppb	41.736	0.65	25061	2000	
Sr	88	2	72	112.891	ppb	112.891	3.27	24291	4000	
Zr	90	2	72	5546.922	ppb	5546.922	2.22	42817	1000	>LDR
Nb	93	2	72	0.053	ppb	0.053	7.75	283	200	
Mo	95	2	115	44.097	ppb	44.097	4.25	39095	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-79.23	10	100	
Ag	107	2	115	41.759	ppb	41.759	3.72	150541	100	
Cd	111	2	115	43.517	ppb	43.517	1.55	12355	2000	
Sn	120	2	115	41.413	ppb	41.413	0.80	26792	2000	
Sb	121	2	115	42.401	ppb	42.401	4.69	23484	1000	
Ba	137	2	115	63.717	ppb	63.717	1.31	9626	5000	
W	182	2	165	42.476	ppb	42.476	0.58	293275	100	
Pt	195	2	165	0.005	ppb	0.005	89.18	150	100	
Tl	205	2	165	42.824	ppb	42.824	2.01	380954	2000	
Pb	208	2	165	43.562	ppb	43.562	1.54	494450	5000	
Th	232	2	165	42.987	ppb	42.987	1.16	586269	2000	
U	238	2	165	42.595	ppb	42.595	1.34	686377	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1045741	0.65	1160179	90.14	60	120	
Sc (IS)	45	1	HMI H2	49714666	0.58	51895621	95.80	60	120	
Sc (IS)	45	2	HMI He	425322	2.03	430930	98.70	60	120	
Sc (IS)	45	3	No Gas	147061711	0.33	158101278	93.02	60	120	
Ge Internal Standard	72	1	HMI H2	24342418	0.39	25033284	97.24	60	120	
Ge Internal Standard	72	2	HMI He	670364	0.73	674189	99.43	60	120	
In Internal Standard	115	2	HMI He	1607449	3.11	1572457	102.23	60	120	
Ho-165	165	2	HMI He	13516484	1.19	13678393	98.82	60	120	

Sample Report

Sample Table

Sample Name	280-90288-p-1-c msd
Data File Name	034SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:20:06-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	71.742	ppb	71.742	5.40	155183	500000	
Li	7	2	45	56.891	ppb	56.891	11.66	7528	500000	
Li	7	3	45	65.180	ppb	65.180	6.06	9171913	50000	
Be	9	1	6	42.414	ppb	42.414	4.28	14513	2000	
B	11	1	6	-151.501	ppb	-151.501	-1.85	110373	2000	
Na	23	1	45	3592.186	ppb	3592.186	0.83	15234857	2000	
Na	23	2	45	3411.786	ppb	3411.786	1.56	452041	400000	
Mg	24	2	45	7984.551	ppb	7984.551	1.20	418283	400000	
Al	27	2	45	423.090	ppb	423.090	7.32	4024	400000	
K	39	1	45	493.697	ppb	493.697	6.48	11744661	400000	
K	39	2	45	1462.109	ppb	1462.109	3.24	30783	400000	
Ca	40	1	45	25801.879	ppb	25801.879	0.62	193479177	400000	
Ca	44	2	45	24443.884	ppb	24443.884	2.49	29031	400000	
Ti	47	2	45	138.485	ppb	138.485	23.28	23	4000	
V	51	2	72	41.944	ppb	41.944	0.85	35194	2000	
Cr	52	2	72	41.335	ppb	41.335	1.94	45900	5000	
Mn	55	2	72	43.078	ppb	43.078	4.04	11941	10000	
Fe	57	2	72	416.277	ppb	416.277	2.38	7929	400000	
Co	59	2	72	40.449	ppb	40.449	1.21	101344	2000	
Ni	60	2	72	41.842	ppb	41.842	3.01	32637	5000	
Cu	63	2	72	40.229	ppb	40.229	0.72	93456	5000	
Zn	66	2	72	41.255	ppb	41.255	4.67	7572	5000	
As	75	2	72	42.015	ppb	42.015	1.38	4517	2000	
Se	78	1	72	40.241	ppb	40.241	1.08	24281	2000	
Sr	88	2	72	111.065	ppb	111.065	1.64	23820	4000	
Zr	90	2	72	5401.339	ppb	5401.339	2.13	41554	1000	>LDR
Nb	93	2	72	0.065	ppb	0.065	14.43	323	200	
Mo	95	2	115	41.408	ppb	41.408	2.48	37244	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-134.89	13	100	
Ag	107	2	115	39.730	ppb	39.730	5.21	145182	100	
Cd	111	2	115	40.375	ppb	40.375	5.87	11614	2000	
Sn	120	2	115	40.081	ppb	40.081	4.39	26285	2000	
Sb	121	2	115	39.989	ppb	39.989	1.09	22492	1000	
Ba	137	2	115	61.424	ppb	61.424	4.33	9406	5000	
W	182	2	165	41.109	ppb	41.109	1.83	287732	100	
Pt	195	2	165	0.002	ppb	0.002	342.48	130	100	
Tl	205	2	165	41.080	ppb	41.080	1.54	370500	2000	
Pb	208	2	165	41.654	ppb	41.654	1.10	479368	5000	
Th	232	2	165	40.949	ppb	40.949	2.29	566122	2000	
U	238	2	165	40.285	ppb	40.285	1.72	658093	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1051062	0.43	1160179	90.59	60	120	
Sc (IS)	45	1	HMI H2	49849714	0.64	51895621	96.06	60	120	
Sc (IS)	45	2	HMI He	427855	1.74	430930	99.29	60	120	
Sc (IS)	45	3	No Gas	148156981	0.41	158101278	93.71	60	120	
Ge Internal Standard	72	1	HMI H2	24459822	0.72	25033284	97.71	60	120	
Ge Internal Standard	72	2	HMI He	668146	0.87	674189	99.10	60	120	
In Internal Standard	115	2	HMI He	1630775	4.63	1572457	103.71	60	120	
Ho-165	165	2	HMI He	13703136	1.30	13678393	100.18	60	120	

Sample Table

Sample Name	280-90288-p-1-aPDS
Data File Name	035SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:23:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.369	ppb	-14.369	-13.80	121785	500000	
Li	7	2	45	6.959	ppb	6.959	74.90	6421	500000	
Li	7	3	45	-14.496	ppb	-14.496	-12.78	7242728	50000	
Be	9	1	6	207.850	ppb	207.850	4.66	71130	2000	
B	11	1	6	-202.943	ppb	-202.943	-3.32	91324	2000	
Na	23	1	45	3392.172	ppb	3392.172	1.34	14387355	2000	
Na	23	2	45	3240.099	ppb	3240.099	0.75	425086	400000	
Mg	24	2	45	7588.677	ppb	7588.677	0.48	393355	400000	
Al	27	2	45	2156.022	ppb	2156.022	4.18	20165	400000	
K	39	1	45	396.736	ppb	396.736	7.69	11310727	400000	
K	39	2	45	1405.238	ppb	1405.238	1.62	29458	400000	
Ca	40	1	45	23919.677	ppb	23919.677	0.60	179264664	400000	
Ca	44	2	45	22851.437	ppb	22851.437	4.55	26851	400000	
Ti	47	2	45	902.603	ppb	902.603	24.50	150	4000	
V	51	2	72	200.944	ppb	200.944	1.11	168926	2000	
Cr	52	2	72	208.497	ppb	208.497	0.55	230503	5000	
Mn	55	2	72	200.052	ppb	200.052	2.58	55310	10000	
Fe	57	2	72	2157.893	ppb	2157.893	1.99	40938	400000	
Co	59	2	72	201.195	ppb	201.195	1.50	504187	2000	
Ni	60	2	72	198.970	ppb	198.970	0.59	155151	5000	
Cu	63	2	72	200.439	ppb	200.439	0.12	459011	5000	
Zn	66	2	72	207.817	ppb	207.817	3.68	36822	5000	
As	75	2	72	204.809	ppb	204.809	1.46	22007	2000	
Se	78	1	72	199.446	ppb	199.446	1.06	119332	2000	
Sr	88	2	72	68.273	ppb	68.273	1.63	14650	4000	
Zr	90	2	72	27571.872	ppb	27571.872	1.51	212083	1000	>LDR
Nb	93	2	72	0.966	ppb	0.966	12.12	3280	200	
Mo	95	2	115	209.055	ppb	209.055	2.15	182470	2000	
Pd	105	2	115	0.012	ppb	0.012	56.94	43	100	
Ag	107	2	115	41.035	ppb	41.035	2.04	145681	100	
Cd	111	2	115	209.233	ppb	209.233	1.99	58471	2000	
Sn	120	2	115	207.151	ppb	207.151	1.89	131636	2000	
Sb	121	2	115	207.543	ppb	207.543	2.75	113189	1000	
Ba	137	2	115	227.645	ppb	227.645	2.71	33812	5000	
W	182	2	165	204.812	ppb	204.812	2.06	1416583	100	
Pt	195	2	165	0.090	ppb	0.090	4.36	787	100	
Tl	205	2	165	208.290	ppb	208.290	0.33	1857406	2000	
Pb	208	2	165	206.640	ppb	206.640	0.66	2348397	5000	
Th	232	2	165	0.689	ppb	0.689	1.39	9443	2000	
U	238	2	165	199.831	ppb	199.831	0.35	3228831	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1051868	2.24	1160179	90.66	60	120	
Sc (IS)	45	1	HMI H2	49819629	0.96	51895621	96.00	60	120	
Sc (IS)	45	2	HMI He	423250	0.53	430930	98.22	60	120	
Sc (IS)	45	3	No Gas	146949568	1.22	158101278	92.95	60	120	
Ge Internal Standard	72	1	HMI H2	24290331	0.57	25033284	97.03	60	120	
Ge Internal Standard	72	2	HMI He	668254	0.27	674189	99.12	60	120	
In Internal Standard	115	2	HMI He	1581989	1.39	1572457	100.61	60	120	
Ho-165	165	2	HMI He	13552271	0.53	13678393	99.08	60	120	

Sample Report

Sample Table

Sample Name	280-90288-e-3-a
Data File Name	036SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:27:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.141	ppb	-17.141	-21.06	120131	500000	
Li	7	2	45	-19.219	ppb	-19.219	-74.99	5921	500000	
Li	7	3	45	-13.249	ppb	-13.249	-17.01	7304610	50000	
Be	9	1	6	0.049	ppb	0.049	92.66	17	2000	
B	11	1	6	-200.214	ppb	-200.214	-4.27	91833	2000	
Na	23	1	45	3604.547	ppb	3604.547	0.74	15204243	2000	
Na	23	2	45	3424.214	ppb	3424.214	1.46	451683	400000	
Mg	24	2	45	8084.480	ppb	8084.480	1.48	421606	400000	
Al	27	2	45	12.449	ppb	12.449	77.39	150	400000	
K	39	1	45	490.440	ppb	490.440	1.48	11667378	400000	
K	39	2	45	1436.177	ppb	1436.177	3.24	30189	400000	
Ca	40	1	45	26034.511	ppb	26034.511	0.76	194169844	400000	
Ca	44	2	45	24615.063	ppb	24615.063	1.28	29108	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.579	ppb	0.579	81.03	405	2000	
Cr	52	2	72	16.504	ppb	16.504	2.18	18417	5000	
Mn	55	2	72	3.151	ppb	3.151	9.54	907	10000	
Fe	57	2	72	209.435	ppb	209.435	2.32	3994	400000	
Co	59	2	72	0.084	ppb	0.084	24.42	210	2000	
Ni	60	2	72	2.422	ppb	2.422	10.04	1907	5000	
Cu	63	2	72	1.181	ppb	1.181	3.82	4361	5000	
Zn	66	2	72	1.983	ppb	1.983	40.95	673	5000	
As	75	2	72	0.245	ppb	0.245	43.70	30	2000	
Se	78	1	72	0.567	ppb	0.567	16.15	387	2000	
Sr	88	2	72	69.918	ppb	69.918	1.80	14947	4000	
Zr	90	2	72	12.234	ppb	12.234	44.33	113	1000	
Nb	93	2	72	0.040	ppb	0.040	53.12	240	200	
Mo	95	2	115	0.249	ppb	0.249	50.52	227	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-124.63	13	100	
Ag	107	2	115	0.012	ppb	0.012	38.28	70	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.221	ppb	0.221	49.07	203	2000	
Sb	121	2	115	0.577	ppb	0.577	41.63	320	1000	
Ba	137	2	115	18.613	ppb	18.613	11.27	2760	5000	
W	182	2	165	0.095	ppb	0.095	20.19	987	100	
Pt	195	2	165	0.003	ppb	0.003	219.87	137	100	
Tl	205	2	165	0.101	ppb	0.101	3.15	1077	2000	
Pb	208	2	165	0.065	ppb	0.065	23.73	1677	5000	
Th	232	2	165	0.016	ppb	0.016	15.26	247	2000	
U	238	2	165	0.057	ppb	0.057	24.27	960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1046048	2.07	1160179	90.16	60	120	
Sc (IS)	45	1	HMI H2	49579561	0.35	51895621	95.54	60	120	
Sc (IS)	45	2	HMI He	425916	0.92	430930	98.84	60	120	
Sc (IS)	45	3	No Gas	147616421	1.35	158101278	93.37	60	120	
Ge Internal Standard	72	1	HMI H2	24316080	0.90	25033284	97.14	60	120	
Ge Internal Standard	72	2	HMI He	665759	0.87	674189	98.75	60	120	
In Internal Standard	115	2	HMI He	1573021	1.67	1572457	100.04	60	120	
Ho-165	165	2	HMI He	13651403	0.93	13678393	99.80	60	120	

Sample Report

Sample Table

Sample Name	280-90337-c-1-a
Data File Name	037SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:31:25-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.907	ppb	7.907	11.43	126208	500000	
Li	7	2	45	20.395	ppb	20.395	38.38	6565	500000	
Li	7	3	45	2.322	ppb	2.322	116.13	7488766	50000	
Be	9	1	6	0.145	ppb	0.145	69.23	47	2000	
B	11	1	6	-228.471	ppb	-228.471	-1.92	77157	2000	
Na	23	1	45	1917.852	ppb	1917.852	0.50	7949141	2000	
Na	23	2	45	1806.636	ppb	1806.636	0.67	235363	400000	
Mg	24	2	45	21503.868	ppb	21503.868	1.28	1091368	400000	
Al	27	2	45	77.423	ppb	77.423	15.80	740	400000	
K	39	1	45	4739.135	ppb	4739.135	1.83	29456885	400000	
K	39	2	45	5678.573	ppb	5678.573	0.45	102854	400000	
Ca	40	1	45	217645.709	ppb	217645.709	0.48	1577727230	400000	
Ca	44	2	45	200619.833	ppb	200619.833	0.86	231086	400000	
Ti	47	2	45	101.541	ppb	101.541	91.48	17	4000	
V	51	2	72	0.368	ppb	0.368	12.33	223	2000	
Cr	52	2	72	0.382	ppb	0.382	22.68	660	5000	
Mn	55	2	72	743.549	ppb	743.549	2.25	198817	10000	
Fe	57	2	72	92.804	ppb	92.804	6.64	1740	400000	
Co	59	2	72	0.138	ppb	0.138	19.71	333	2000	
Ni	60	2	72	9.566	ppb	9.566	0.52	7242	5000	
Cu	63	2	72	1.964	ppb	1.964	7.37	5965	5000	
Zn	66	2	72	4.004	ppb	4.004	9.65	997	5000	
As	75	2	72	0.153	ppb	0.153	77.48	20	2000	
Se	78	1	72	0.138	ppb	0.138	30.26	125	2000	
Sr	88	2	72	186.173	ppb	186.173	1.98	38634	4000	
Zr	90	2	72	6.852	ppb	6.852	52.17	70	1000	
Nb	93	2	72	0.017	ppb	0.017	128.07	160	200	
Mo	95	2	115	0.058	ppb	0.058	1.42	60	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-71.89	7	100	
Ag	107	2	115	0.003	ppb	0.003	306.30	37	100	
Cd	111	2	115	0.073	ppb	0.073	51.04	20	2000	
Sn	120	2	115	0.135	ppb	0.135	49.96	147	2000	
Sb	121	2	115	0.150	ppb	0.150	20.08	87	1000	
Ba	137	2	115	12.519	ppb	12.519	1.89	1844	5000	
W	182	2	165	0.065	ppb	0.065	17.76	760	100	
Pt	195	2	165	0.004	ppb	0.004	209.16	140	100	
Tl	205	2	165	0.297	ppb	0.297	3.05	2780	2000	
Pb	208	2	165	0.192	ppb	0.192	6.59	3057	5000	
Th	232	2	165	0.016	ppb	0.016	28.48	240	2000	
U	238	2	165	0.495	ppb	0.495	2.75	7899	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	991284	1.00	1160179	85.44	60	120	
Sc (IS)	45	1	HMI H2	48218153	0.67	51895621	92.91	60	120	
Sc (IS)	45	2	HMI He	414957	1.06	430930	96.29	60	120	
Sc (IS)	45	3	No Gas	144147551	1.02	158101278	91.17	60	120	
Ge Internal Standard	72	1	HMI H2	23531664	0.53	25033284	94.00	60	120	
Ge Internal Standard	72	2	HMI He	646614	0.26	674189	95.91	60	120	
In Internal Standard	115	2	HMI He	1556920	1.17	1572457	99.01	60	120	
Ho-165	165	2	HMI He	13346109	0.57	13678393	97.57	60	120	

Sample Report

Sample Table

Sample Name	280-90337-c-2-a
Data File Name	038SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:35:15-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349784 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.810	ppb	10.810	40.67	126301	500000	
Li	7	2	45	26.279	ppb	26.279	60.56	6575	500000	
Li	7	3	45	-2.741	ppb	-2.741	-41.26	7124523	50000	
Be	9	1	6	0.143	ppb	0.143	56.29	47	2000	
B	11	1	6	-249.818	ppb	-249.818	-4.68	69069	2000	
Na	23	1	45	15048.716	ppb	15048.716	1.26	60696722	2000	>LDR
Na	23	2	45	14785.133	ppb	14785.133	1.33	1846751	400000	
Mg	24	2	45	56740.250	ppb	56740.250	1.08	2831049	400000	
Al	27	2	45	1171.722	ppb	1171.722	6.66	10580	400000	
K	39	1	45	1018.168	ppb	1018.168	3.93	13489232	400000	
K	39	2	45	2023.995	ppb	2023.995	1.29	38943	400000	
Ca	40	1	45	235831.966	ppb	235831.966	0.76	1696088081	400000	
Ca	44	2	45	223163.114	ppb	223163.114	1.45	252801	400000	
Ti	47	2	45	1350.949	ppb	1350.949	5.57	217	4000	
V	51	2	72	1.910	ppb	1.910	10.74	1449	2000	
Cr	52	2	72	1.763	ppb	1.763	2.96	2094	5000	
Mn	55	2	72	557.896	ppb	557.896	2.03	146225	10000	
Fe	57	2	72	2231.189	ppb	2231.189	1.82	40150	400000	
Co	59	2	72	3.416	ppb	3.416	2.21	8119	2000	
Ni	60	2	72	9.452	ppb	9.452	5.28	7012	5000	
Cu	63	2	72	1.899	ppb	1.899	7.03	5708	5000	
Zn	66	2	72	9.568	ppb	9.568	2.20	1904	5000	
As	75	2	72	1.234	ppb	1.234	3.14	129	2000	
Se	78	1	72	0.156	ppb	0.156	34.99	133	2000	
Sr	88	2	72	385.173	ppb	385.173	2.95	78350	4000	
Zr	90	2	72	75.177	ppb	75.177	37.53	567	1000	
Nb	93	2	72	0.040	ppb	0.040	36.54	227	200	
Mo	95	2	115	0.867	ppb	0.867	7.51	737	2000	
Pd	105	2	115	-0.009	ppb	-0.009	-37.89	7	100	
Ag	107	2	115	0.007	ppb	0.007	109.97	50	100	
Cd	111	2	115	0.050	ppb	0.050	115.33	13	2000	
Sn	120	2	115	0.200	ppb	0.200	27.08	183	2000	
Sb	121	2	115	0.141	ppb	0.141	48.09	80	1000	
Ba	137	2	115	37.050	ppb	37.050	2.00	5301	5000	
W	182	2	165	0.039	ppb	0.039	50.55	573	100	
Pt	195	2	165	-0.004	ppb	-0.004	-127.77	80	100	
Tl	205	2	165	0.091	ppb	0.091	30.97	950	2000	
Pb	208	2	165	0.788	ppb	0.788	1.76	9575	5000	
Th	232	2	165	0.367	ppb	0.367	1.40	4884	2000	
U	238	2	165	1.378	ppb	1.378	5.65	21592	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	984463	5.67	1160179	84.85	60	120	
Sc (IS)	45	1	HMI H2	47841113	0.71	51895621	92.19	60	120	
Sc (IS)	45	2	HMI He	408146	0.82	430930	94.71	60	120	
Sc (IS)	45	3	No Gas	139284421	0.25	158101278	88.10	60	120	
Ge Internal Standard	72	1	HMI H2	23120707	0.16	25033284	92.36	60	120	
Ge Internal Standard	72	2	HMI He	633806	1.07	674189	94.01	60	120	
In Internal Standard	115	2	HMI He	1520204	1.31	1572457	96.68	60	120	
Ho-165	165	2	HMI He	13131396	0.64	13678393	96.00	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	039_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:39:07-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	475.997	ppb	0.852	304676	500	95.2	90	110	
Li	7	2	45	466.211	ppb	7.016	15350	500	93.2	90	110	
Li	7	3	45	460.018	ppb	2.323	17322972	500	92.0	90	110	
Be	9	1	6	51.500	ppb	3.186	17322	50	103.0	90	110	
B	11	1	6	-232.096	ppb	-0.689	79109	50	-464.2	90	110	>+\-10%
Na	23	1	45	4980.242	ppb	0.990	20581573	5000	99.6	90	110	
Na	23	2	45	4827.912	ppb	0.905	610364	5000	96.6	90	110	
Mg	24	2	45	5052.174	ppb	0.600	253959	5000	101.0	90	110	
Al	27	2	45	5049.748	ppb	1.327	45721	5000	101.0	90	110	
K	39	1	45	5064.995	ppb	1.047	31175918	5000	101.3	90	110	
K	39	2	45	5226.848	ppb	0.911	93913	5000	104.5	90	110	
Ca	40	1	45	5188.470	ppb	0.413	38142892	5000	103.8	90	110	
Ca	44	2	45	5185.225	ppb	6.628	5911	5000	103.7	90	110	
Ti	47	2	45	20.598	ppb	173.205	3	50	41.2	90	110	>+\-10%
V	51	2	72	47.574	ppb	2.323	38977	50	95.1	90	110	
Cr	52	2	72	49.855	ppb	3.249	54002	50	99.7	90	110	
Mn	55	2	72	49.022	ppb	3.350	13262	50	98.0	90	110	
Fe	57	2	72	5007.373	ppb	2.063	92694	5000	100.1	90	110	
Co	59	2	72	49.890	ppb	0.736	122045	50	99.8	90	110	
Ni	60	2	72	49.467	ppb	2.475	37668	50	98.9	90	110	
Cu	63	2	72	49.523	ppb	0.793	111943	50	99.0	90	110	
Zn	66	2	72	48.532	ppb	1.297	8639	50	97.1	90	110	
As	75	2	72	50.159	ppb	1.856	5264	50	100.3	90	110	
Se	78	1	72	51.489	ppb	0.855	30174	50	103.0	90	110	
Sr	88	2	72	51.983	ppb	5.986	10887	50	104.0	90	110	
Zr	90	2	72	79.228	ppb	21.635	613	50	158.5	90	110	>+\-10%
Nb	93	2	72	98.355	ppb	1.284	315403	100	98.4	90	110	
Mo	95	2	115	50.286	ppb	2.445	42744	50	100.6	90	110	
Pd	105	2	115	51.926	ppb	3.278	85630	50	103.9	90	110	
Ag	107	2	115	49.658	ppb	2.387	171608	50	99.3	90	110	
Cd	111	2	115	49.842	ppb	3.616	13559	50	99.7	90	110	
Sn	120	2	115	51.010	ppb	5.900	31584	50	102.0	90	110	
Sb	121	2	115	51.476	ppb	2.998	27329	50	103.0	90	110	
Ba	137	2	115	50.835	ppb	3.722	7362	50	101.7	90	110	
W	182	2	165	51.297	ppb	1.036	347191	50	102.6	90	110	
Pt	195	2	165	50.460	ppb	1.294	367730	50	100.9	90	110	
Tl	205	2	165	50.613	ppb	1.375	441450	50	101.2	90	110	
Pb	208	2	165	51.320	ppb	1.740	570973	50	102.6	90	110	
Th	232	2	165	51.053	ppb	1.102	682684	50	102.1	90	110	
U	238	2	165	49.511	ppb	1.376	782268	50	99.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1033269	1.42	1160179	89.06	60	120	
Sc (IS)	45	1	HMI H2	48734539	0.59	51895621	93.91	60	120	
Sc (IS)	45	2	HMI He	410044	0.49	430930	95.15	60	120	
Sc (IS)	45	3	No Gas	139206895	0.30	158101278	88.05	60	120	
Ge Internal Standard	72	1	HMI H2	23764890	0.58	25033284	94.93	60	120	
Ge Internal Standard	72	2	HMI He	652367	1.33	674189	96.76	60	120	
In Internal Standard	115	2	HMI He	1540316	2.33	1572457	97.96	60	120	
Ho-165	165	2	HMI He	13253080	1.27	13678393	96.89	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	040_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:42:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-19.090	ppb	-10.1	6924323	10	
Be	9	1	6	0.058	ppb	132.2	20	0.5	
B	11	1	6	-296.063	ppb	-0.5	57022	0.5	
Na	23	1	45	-8.209	ppb	-3.2	144199	25	
Na	23	2	45	-7.039	ppb	-52.6	5971	25	
Mg	24	2	45	-8.536	ppb	-18.3	350	25	
Al	27	2	45	3.678	ppb	89.5	67	15	
K	39	1	45	-42.465	ppb	-50.7	9248658	50	
K	39	2	45	12.888	ppb	69.5	4861	50	
Ca	40	1	45	2.767	ppb	9.1	154311	50	
Ca	44	2	45	25.873	ppb	58.0	40	25	>RL
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.036	ppb	489.8	-47	1	
Cr	52	2	72	-0.012	ppb	-322.7	243	1	
Mn	55	2	72	0.041	ppb	153.2	50	0.5	
Fe	57	2	72	2.557	ppb	32.6	87	25	
Co	59	2	72	0.016	ppb	49.6	40	0.5	
Ni	60	2	72	0.409	ppb	24.9	340	1	
Cu	63	2	72	-0.109	ppb	-61.0	1410	1	
Zn	66	2	72	-0.650	ppb	-76.4	210	5	
As	75	2	72	0.070	ppb	136.0	11	1	
Se	78	1	72	0.019	ppb	251.8	57	1	
Sr	88	2	72	0.033	ppb	2.7	20	0.5	
Zr	90	2	72	0.956	ppb	284.7	27	1	
Nb	93	2	72	1.091	ppb	6.2	3631	2	
Mo	95	2	115	0.072	ppb	25.8	73	0.5	
Pd	105	2	115	0.053	ppb	37.8	113	1	
Ag	107	2	115	0.014	ppb	85.4	77	1	
Cd	111	2	115	0.012	ppb	173.2	3	0.5	
Sn	120	2	115	0.135	ppb	94.7	150	1	
Sb	121	2	115	0.117	ppb	83.4	70	0.6	
Ba	137	2	115	-0.026	ppb	-251.8	10	0.5	
W	182	2	165	0.041	ppb	40.3	597	1	
Pt	195	2	165	0.011	ppb	44.5	193	1	
Tl	205	2	165	0.033	ppb	10.5	460	0.1	
Pb	208	2	165	0.042	ppb	38.7	1390	0.5	
Th	232	2	165	0.068	ppb	6.3	943	1	
U	238	2	165	0.025	ppb	15.5	420	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1056202	1.02	1160179	91.04	60	120	
Sc (IS)	45	1	HMI H2	49140138	0.74	51895621	94.69	60	120	
Sc (IS)	45	2	HMI He	422256	0.96	430930	97.99	60	120	
Sc (IS)	45	3	No Gas	142586941	0.46	158101278	90.19	60	120	
Ge Internal Standard	72	1	HMI H2	23996849	0.28	25033284	95.86	60	120	
Ge Internal Standard	72	2	HMI He	657640	0.93	674189	97.55	60	120	
In Internal Standard	115	2	HMI He	1590506	1.35	1572457	101.15	60	120	
Ho-165	165	2	HMI He	13425732	0.26	13678393	98.15	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	041LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:46:44-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	29.478	ppb	10.992	8007449	50	59.0	70	130	>+/-30%
Be	9	1	6	1.058	ppb	13.577	360	1	105.8	70	130	
Na	23	2	45	37.525	ppb	10.545	11591	50	75.0	70	130	
Mg	24	2	45	39.363	ppb	10.163	2794	50	78.7	70	130	
Al	27	2	45	36.688	ppb	26.728	370	30	122.3	70	130	
K	39	2	45	93.616	ppb	15.529	6218	100	93.6	70	130	
Ca	44	2	45	80.851	ppb	25.637	103	50	161.7	70	130	>+/-30%
V	51	2	72	4.594	ppb	2.041	3741	5	91.9	70	130	
Cr	52	2	72	2.063	ppb	12.645	2507	2	103.2	70	130	
Mn	55	2	72	1.299	ppb	9.844	393	1	129.9	70	130	
Fe	57	2	72	57.513	ppb	10.397	1117	50	115.0	70	130	
Co	59	2	72	0.990	ppb	5.440	2454	1	99.0	70	130	
Ni	60	2	72	2.011	ppb	12.932	1573	2	100.5	70	130	
Cu	63	2	72	1.835	ppb	4.337	5798	2	91.7	70	130	
Zn	66	2	72	9.392	ppb	10.946	1954	10	93.9	70	130	
As	75	2	72	5.177	ppb	12.476	554	5	103.5	70	130	
Se	78	1	72	5.209	ppb	1.196	3127	5	104.2	70	130	
Sr	88	2	72	1.066	ppb	52.666	240	1	106.6	70	130	
Zr	90	2	72	12.353	ppb	42.709	113	0.5	2470.6	70	130	>+/-30%
Nb	93	2	72	1.348	ppb	8.607	4477	2	67.4	70	130	>+/-30%
Mo	95	2	115	2.155	ppb	3.758	1884	2	107.8	70	130	
Pd	105	2	115	0.024	ppb	94.015	63	1	2.4	70	130	>+/-30%
Ag	107	2	115	5.285	ppb	0.824	18711	5	105.7	70	130	
Cd	111	2	115	1.114	ppb	11.465	310	1	111.4	70	130	
Sn	120	2	115	10.356	ppb	7.860	6612	10	103.6	70	130	
Sb	121	2	115	2.076	ppb	5.937	1133	2	103.8	70	130	
Ba	137	2	115	1.035	ppb	16.196	167	1	103.5	70	130	
W	182	2	165	5.017	ppb	3.590	34591	1	501.7	70	130	>+/-30%
Pt	195	2	165	0.008	ppb	129.218	173	1	0.8	70	130	>+/-30%
Tl	205	2	165	1.057	ppb	4.001	9483	1	105.7	70	130	
Pb	208	2	165	1.092	ppb	3.504	13166	1	109.2	70	130	
Th	232	2	165	2.103	ppb	5.300	28424	2	105.1	70	130	
U	238	2	165	1.036	ppb	4.336	16566	1	103.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1043998	1.16	1160179	89.99	60	120	
Sc (IS)	45	1	HMI H2	48833946	0.74	51895621	94.10	60	120	
Sc (IS)	45	2	HMI He	417943	0.91	430930	96.99	60	120	
Sc (IS)	45	3	No Gas	142349768	1.80	158101278	90.04	60	120	
Ge Internal Standard	72	1	HMI H2	24020704	0.34	25033284	95.96	60	120	
Ge Internal Standard	72	2	HMI He	660403	1.55	674189	97.96	60	120	
In Internal Standard	115	2	HMI He	1575515	1.16	1572457	100.19	60	120	
Ho-165	165	2	HMI He	13389441	1.17	13678393	97.89	60	120	

Sample Report

Sample Table

Sample Name	280-90409-a-4-a
Data File Name	042SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:50:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	349785 6020A DOD 5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.523	ppb	7.523	31.57	129174	500000	
Li	7	2	45	23.305	ppb	23.305	101.35	6768	500000	
Li	7	3	45	7.491	ppb	7.491	16.34	7374070	50000	
Be	9	1	6	0.120	ppb	0.120	66.34	40	2000	
B	11	1	6	-262.889	ppb	-262.889	-1.44	67332	2000	
Na	23	1	45	1830.410	ppb	1830.410	0.81	7782353	2000	
Na	23	2	45	1722.937	ppb	1722.937	0.11	229591	400000	
Mg	24	2	45	4919.727	ppb	4919.727	0.69	255658	400000	
Al	27	2	45	495.414	ppb	495.414	9.48	4668	400000	
K	39	1	45	36.003	ppb	36.003	15.16	9642377	400000	
K	39	2	45	981.151	ppb	981.151	3.04	21997	400000	
Ca	40	1	45	9736.068	ppb	9736.068	0.41	72446639	400000	
Ca	44	2	45	9295.057	ppb	9295.057	2.30	10944	400000	
Ti	47	2	45	815.977	ppb	815.977	94.71	137	4000	
V	51	2	72	0.734	ppb	0.734	69.00	534	2000	
Cr	52	2	72	1.140	ppb	1.140	12.08	1503	5000	
Mn	55	2	72	9.939	ppb	9.939	3.98	2757	10000	
Fe	57	2	72	834.467	ppb	834.467	3.15	15694	400000	
Co	59	2	72	0.410	ppb	0.410	10.98	1017	2000	
Ni	60	2	72	7.901	ppb	7.901	3.11	6125	5000	
Cu	63	2	72	0.978	ppb	0.978	15.27	3874	5000	
Zn	66	2	72	10.643	ppb	10.643	22.40	2174	5000	
As	75	2	72	0.364	ppb	0.364	16.53	42	2000	
Se	78	1	72	0.066	ppb	0.066	79.06	85	2000	
Sr	88	2	72	28.059	ppb	28.059	10.21	5965	4000	
Zr	90	2	72	39.911	ppb	39.911	8.28	323	1000	
Nb	93	2	72	0.141	ppb	0.141	12.15	567	200	
Mo	95	2	115	0.148	ppb	0.148	17.31	140	2000	
Pd	105	2	115	0.008	ppb	0.008	113.50	37	100	
Ag	107	2	115	0.008	ppb	0.008	107.74	57	100	
Cd	111	2	115	0.061	ppb	0.061	91.92	17	2000	
Sn	120	2	115	0.190	ppb	0.190	34.80	183	2000	
Sb	121	2	115	0.166	ppb	0.166	64.99	97	1000	
Ba	137	2	115	14.591	ppb	14.591	10.17	2177	5000	
W	182	2	165	3.232	ppb	3.232	2.89	22370	100	
Pt	195	2	165	0.003	ppb	0.003	202.13	133	100	
Tl	205	2	165	0.044	ppb	0.044	21.67	560	2000	
Pb	208	2	165	0.698	ppb	0.698	4.14	8735	5000	
Th	232	2	165	0.345	ppb	0.345	5.89	4678	2000	
U	238	2	165	0.087	ppb	0.087	68.94	1426	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1024841	0.45	1160179	88.33	60	120	
Sc (IS)	45	1	HMI H2	49408631	0.43	51895621	95.21	60	120	
Sc (IS)	45	2	HMI He	423841	0.95	430930	98.35	60	120	
Sc (IS)	45	3	No Gas	139736748	0.44	158101278	88.38	60	120	
Ge Internal Standard	72	1	HMI H2	24145229	0.42	25033284	96.45	60	120	
Ge Internal Standard	72	2	HMI He	661531	0.97	674189	98.12	60	120	
In Internal Standard	115	2	HMI He	1581527	2.71	1572457	100.58	60	120	
Ho-165	165	2	HMI He	13372494	2.11	13678393	97.76	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	043_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:54:17-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	474.506	ppb	2.068	307257	500	94.9	90	110	
Li	7	2	45	463.031	ppb	7.129	15597	500	92.6	90	110	
Li	7	3	45	464.875	ppb	1.294	17701936	500	93.0	90	110	
Be	9	1	6	52.392	ppb	1.092	17425	50	104.8	90	110	
B	11	1	6	-243.737	ppb	-1.272	74025	50	-487.5	90	110	>+\-10%
Na	23	1	45	4990.442	ppb	1.263	20836071	5000	99.8	90	110	
Na	23	2	45	4783.719	ppb	0.832	617105	5000	95.7	90	110	
Mg	24	2	45	5023.815	ppb	0.592	257663	5000	100.5	90	110	
Al	27	2	45	5073.227	ppb	2.820	46861	5000	101.5	90	110	
K	39	1	45	5111.304	ppb	1.624	31698646	5000	102.2	90	110	
K	39	2	45	5155.076	ppb	1.659	94563	5000	103.1	90	110	
Ca	40	1	45	5114.542	ppb	0.518	37991327	5000	102.3	90	110	
Ca	44	2	45	5114.381	ppb	4.596	5948	5000	102.3	90	110	
Ti	47	2	45	40.512	ppb	173.205	7	50	81.0	90	110	>+\-10%
V	51	2	72	50.286	ppb	1.642	41756	50	100.6	90	110	
Cr	52	2	72	50.083	ppb	1.766	54969	50	100.2	90	110	
Mn	55	2	72	52.209	ppb	3.524	14306	50	104.4	90	110	
Fe	57	2	72	4915.894	ppb	1.702	92195	5000	98.3	90	110	
Co	59	2	72	49.325	ppb	1.231	122267	50	98.6	90	110	
Ni	60	2	72	48.854	ppb	2.710	37701	50	97.7	90	110	
Cu	63	2	72	49.201	ppb	0.997	112715	50	98.4	90	110	
Zn	66	2	72	51.847	ppb	2.733	9329	50	103.7	90	110	
As	75	2	72	50.557	ppb	0.081	5377	50	101.1	90	110	
Se	78	1	72	51.134	ppb	2.051	30348	50	102.3	90	110	
Sr	88	2	72	50.531	ppb	2.487	10730	50	101.1	90	110	
Zr	90	2	72	53.991	ppb	14.149	430	50	108.0	90	110	
Nb	93	2	72	98.219	ppb	0.436	319152	100	98.2	90	110	
Mo	95	2	115	49.875	ppb	2.028	43693	50	99.7	90	110	
Pd	105	2	115	50.116	ppb	0.232	85214	50	100.2	90	110	
Ag	107	2	115	49.391	ppb	1.163	175952	50	98.8	90	110	
Cd	111	2	115	49.856	ppb	4.495	13983	50	99.7	90	110	
Sn	120	2	115	49.251	ppb	2.461	31453	50	98.5	90	110	
Sb	121	2	115	50.374	ppb	1.189	27577	50	100.7	90	110	
Ba	137	2	115	52.814	ppb	6.345	7885	50	105.6	90	110	
W	182	2	165	50.852	ppb	0.641	348759	50	101.7	90	110	
Pt	195	2	165	50.292	ppb	1.076	371376	50	100.6	90	110	
Tl	205	2	165	50.542	ppb	0.368	446715	50	101.1	90	110	
Pb	208	2	165	51.193	ppb	0.437	577174	50	102.4	90	110	
Th	232	2	165	50.455	ppb	0.774	683691	50	100.9	90	110	
U	238	2	165	49.470	ppb	0.626	792053	50	98.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1021646	0.87	1160179	88.06	60	120	
Sc (IS)	45	1	HMI H2	49241244	0.95	51895621	94.89	60	120	
Sc (IS)	45	2	HMI He	418366	0.52	430930	97.08	60	120	
Sc (IS)	45	3	No Gas	141381441	0.91	158101278	89.42	60	120	
Ge Internal Standard	72	1	HMI H2	24068142	0.25	25033284	96.14	60	120	
Ge Internal Standard	72	2	HMI He	661032	0.70	674189	98.05	60	120	
In Internal Standard	115	2	HMI He	1587444	1.07	1572457	100.95	60	120	
Ho-165	165	2	HMI He	13428436	0.49	13678393	98.17	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	044_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T18:58:05-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-17.135	ppb	-20.6	6930986	10	
Be	9	1	6	0.059	ppb	50.1	20	0.5	
B	11	1	6	-307.837	ppb	-0.9	52392	0.5	
Na	23	1	45	-9.076	ppb	-4.5	140124	25	
Na	23	2	45	-7.416	ppb	-17.9	5868	25	
Mg	24	2	45	-8.032	ppb	-19.5	373	25	
Al	27	2	45	5.170	ppb	146.7	80	15	
K	39	1	45	3.036	ppb	65.3	9414038	50	
K	39	2	45	12.872	ppb	109.5	4818	50	
Ca	40	1	45	-2.988	ppb	-5.6	111404	50	
Ca	44	2	45	17.389	ppb	147.5	30	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.177	ppb	19.4	69	1	
Cr	52	2	72	0.037	ppb	112.5	297	1	
Mn	55	2	72	-0.045	ppb	-122.1	27	0.5	
Fe	57	2	72	3.446	ppb	8.1	103	25	
Co	59	2	72	0.024	ppb	49.3	60	0.5	
Ni	60	2	72	0.384	ppb	19.4	320	1	
Cu	63	2	72	-0.065	ppb	-37.5	1510	1	
Zn	66	2	72	-0.358	ppb	-16.9	260	5	
As	75	2	72	0.063	ppb	124.3	10	1	
Se	78	1	72	0.017	ppb	104.4	56	1	
Sr	88	2	72	-0.046	ppb	-61.0	3	0.5	
Zr	90	2	72	0.529	ppb	518.5	23	1	
Nb	93	2	72	1.155	ppb	6.0	3841	2	
Mo	95	2	115	0.054	ppb	61.0	57	0.5	
Pd	105	2	115	0.056	ppb	38.6	117	1	
Ag	107	2	115	0.008	ppb	142.5	53	1	
Cd	111	2	115	0.036	ppb	100.8	10	0.5	
Sn	120	2	115	0.091	ppb	47.7	120	1	
Sb	121	2	115	0.099	ppb	81.0	60	0.6	
Ba	137	2	115	0.021	ppb	506.4	17	0.5	
W	182	2	165	0.057	ppb	17.9	700	1	
Pt	195	2	165	0.010	ppb	46.8	190	1	
Tl	205	2	165	0.034	ppb	41.0	463	0.1	
Pb	208	2	165	0.023	ppb	50.4	1173	0.5	
Th	232	2	165	0.055	ppb	17.5	757	1	
U	238	2	165	0.019	ppb	10.8	320	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1051489	0.88	1160179	90.63	60	120	
Sc (IS)	45	1	HMI H2	48970151	0.33	51895621	94.36	60	120	
Sc (IS)	45	2	HMI He	418521	0.62	430930	97.12	60	120	
Sc (IS)	45	3	No Gas	141829595	1.14	158101278	89.71	60	120	
Ge Internal Standard	72	1	HMI H2	23986129	0.30	25033284	95.82	60	120	
Ge Internal Standard	72	2	HMI He	657789	1.23	674189	97.57	60	120	
In Internal Standard	115	2	HMI He	1562649	1.28	1572457	99.38	60	120	
Ho-165	165	2	HMI He	13328372	0.69	13678393	97.44	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	045LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:01:54-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	30.501	ppb	11.129	7975619	50	61.0	70	130	>+/-30%
Be	9	1	6	1.259	ppb	9.145	430	1	125.9	70	130	
Na	23	2	45	40.228	ppb	7.258	11928	50	80.5	70	130	
Mg	24	2	45	43.686	ppb	10.902	3014	50	87.4	70	130	
Al	27	2	45	27.623	ppb	23.280	287	30	92.1	70	130	
K	39	2	45	117.785	ppb	11.283	6638	100	117.8	70	130	
Ca	44	2	45	46.295	ppb	57.089	63	50	92.6	70	130	
V	51	2	72	4.124	ppb	6.396	3347	5	82.5	70	130	
Cr	52	2	72	1.886	ppb	8.312	2314	2	94.3	70	130	
Mn	55	2	72	0.945	ppb	10.735	297	1	94.5	70	130	
Fe	57	2	72	56.846	ppb	22.863	1103	50	113.7	70	130	
Co	59	2	72	1.061	ppb	9.170	2624	1	106.1	70	130	
Ni	60	2	72	1.815	ppb	5.256	1423	2	90.8	70	130	
Cu	63	2	72	1.980	ppb	12.124	6118	2	99.0	70	130	
Zn	66	2	72	10.659	ppb	3.291	2170	10	106.6	70	130	
As	75	2	72	4.991	ppb	9.797	533	5	99.8	70	130	
Se	78	1	72	5.168	ppb	3.549	3088	5	103.4	70	130	
Sr	88	2	72	1.010	ppb	28.590	227	1	101.0	70	130	
Zr	90	2	72	9.755	ppb	44.492	93	0.5	1951.0	70	130	>+/-30%
Nb	93	2	72	1.453	ppb	1.564	4818	2	72.7	70	130	
Mo	95	2	115	1.758	ppb	8.268	1553	2	87.9	70	130	
Pd	105	2	115	0.022	ppb	22.007	60	1	2.2	70	130	>+/-30%
Ag	107	2	115	4.845	ppb	3.290	17289	5	96.9	70	130	
Cd	111	2	115	0.965	ppb	15.356	270	1	96.5	70	130	
Sn	120	2	115	10.412	ppb	2.484	6702	10	104.1	70	130	
Sb	121	2	115	2.272	ppb	23.407	1250	2	113.6	70	130	
Ba	137	2	115	1.065	ppb	15.708	173	1	106.5	70	130	
W	182	2	165	4.983	ppb	0.342	34868	1	498.3	70	130	>+/-30%
Pt	195	2	165	0.001	ppb	364.021	127	1	0.1	70	130	>+/-30%
Tl	205	2	165	1.018	ppb	4.460	9273	1	101.8	70	130	
Pb	208	2	165	1.046	ppb	1.136	12839	1	104.6	70	130	
Th	232	2	165	2.120	ppb	1.353	29088	2	106.0	70	130	
U	238	2	165	0.988	ppb	1.182	16029	1	98.8	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1049645	0.89	1160179	90.47	60	120	
Sc (IS)	45	1	HMI H2	48783211	0.47	51895621	94.00	60	120	
Sc (IS)	45	2	HMI He	417794	0.28	430930	96.95	60	120	
Sc (IS)	45	3	No Gas	141371628	0.06	158101278	89.42	60	120	
Ge Internal Standard	72	1	HMI H2	23910121	0.37	25033284	95.51	60	120	
Ge Internal Standard	72	2	HMI He	659653	0.72	674189	97.84	60	120	
In Internal Standard	115	2	HMI He	1588593	3.90	1572457	101.03	60	120	
Ho-165	165	2	HMI He	13586741	0.49	13678393	99.33	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350725/1-a
Data File Name	046_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:05:41-07:00
Sample Type	Blank
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-17.442	ppb	-5.005879564	118983	0.5
Li	7	2	45	-19.614	ppb	-21.89353976	5844	0.5
Li	7	3	45	-22.302	ppb	-3.859010626	6851926	10
Be	9	1	6	0.030	ppb	100.6412412	10	0.5
B	11	1	6	-302.100	ppb	-0.496892453	53053	0.5
Na	23	1	45	-4.379	ppb	-18.14943431	160047	25
Na	23	2	45	-3.014	ppb	-139.3155481	6471	25
Mg	24	2	45	-12.225	ppb	-7.904039664	160	25
Al	27	2	45	1.557	ppb	280.5552518	47	15
K	39	1	45	-960.357	ppb	-1.039879098	5263541	50
K	39	2	45	4.387	ppb	175.1107493	4697	50
Ca	40	1	45	-1.413	ppb	-6.991066232	123462	50
Ca	44	2	45	20.267	ppb	50.17311144	33	25
Ti	47	2	45	19.868	ppb	173.2050808	3	0.5
V	51	2	72	0.175	ppb	60.82948541	68	1
Cr	52	2	72	0.903	ppb	2.701083739	1247	1
Mn	55	2	72	0.210	ppb	10.04184012	97	0.5
Fe	57	2	72	21.839	ppb	10.13427782	450	25
Co	59	2	72	0.011	ppb	77.22417999	27	0.5
Ni	60	2	72	0.729	ppb	3.844556542	590	1
Cu	63	2	72	-0.043	ppb	-239.1180832	1570	1
Zn	66	2	72	-0.408	ppb	-51.1580525	253	5
As	75	2	72	0.038	ppb	130.6894485	8	1
Se	78	1	72	-0.040	ppb	-39.09504752	23	1
Sr	88	2	72	0.063	ppb	343.2116752	27	0.5
Zr	90	2	72	0.508	ppb	400.0828973	23	1
Nb	93	2	72	0.146	ppb	10.79489189	583	2
Mo	95	2	115	0.007	ppb	91.71316038	17	0.5
Pd	105	2	115	0.007	ppb	305.3673028	37	1
Ag	107	2	115	-0.004	ppb	-110.0347829	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.136	ppb	50.84278029	153	1
Sb	121	2	115	0.054	ppb	66.00892576	37	0.6
Ba	137	2	115	-0.049	ppb	-77.05947586	7	0.5
W	182	2	165	0.020	ppb	79.99994177	457	1
Pt	195	2	165	0.004	ppb	196.152405	143	1
Tl	205	2	165	0.030	ppb	38.18926458	440	0.1
Pb	208	2	165	0.003	ppb	380.976694	963	0.5
Th	232	2	165	0.054	ppb	16.88937351	767	1
U	238	2	165	0.006	ppb	61.12761235	117	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1023072	0.96	1160179	88.18	60	120	
Sc (IS)	45	1	HMI H2	49153613	0.69	51895621	94.72	60	120	
Sc (IS)	45	2	HMI He	421058	1.84	430930	97.71	60	120	
Sc (IS)	45	3	No Gas	142589048	0.91	158101278	90.19	60	120	
Ge Internal Standard	72	1	HMI H2	24008885	0.68	25033284	95.91	60	120	
Ge Internal Standard	72	2	HMI He	662658	0.92	674189	98.29	60	120	
In Internal Standard	115	2	HMI He	1606600	2.59	1572457	102.17	60	120	
Ho-165	165	2	HMI He	13523574	0.66	13678393	98.87	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350725/2-a
Data File Name	047_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:09:29-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350725 6020A DOD5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	64.974	64.974	ppb	15.000	151606	400	16.2	80	120	>+/-20%
Li	7	2	45	61.523	61.523	ppb	43.952	7562	400	15.4	80	120	>+/-20%
Li	7	3	45	53.684	53.684	ppb	6.768	8549664	400	13.4	80	120	>+/-20%
Be	9	1	6	41.155	41.155	ppb	4.170	13829	40	102.9	80	120	
Na	23	2	45	30.379	30.379	ppb	6.669	10837	40	75.9	80	120	>+/-20%
Mg	24	2	45	-11.472	-11.472	ppb	-7.517	200	40	-28.7	80	120	>+/-20%
Al	27	2	45	405.639	405.639	ppb	3.697	3831	40	1014.1	80	120	>+/-20%
K	39	2	45	2.927	2.927	ppb	210.489	4707	40	7.3	80	120	>+/-20%
Ca	44	2	45	317.095	317.095	ppb	7.825	383	40	792.7	80	120	>+/-20%
V	51	2	72	39.405	39.405	ppb	2.170	33116	40	98.5	80	120	
Cr	52	2	72	40.147	40.147	ppb	0.244	44673	40	100.4	80	120	
Mn	55	2	72	39.679	39.679	ppb	5.049	11024	40	99.2	80	120	
Fe	57	2	72	400.940	400.940	ppb	2.460	7652	40	1002.3	80	120	>+/-20%
Co	59	2	72	40.245	40.245	ppb	1.230	101022	40	100.6	80	120	
Ni	60	2	72	38.789	38.789	ppb	4.101	30327	40	97.0	80	120	
Cu	63	2	72	39.372	39.372	ppb	1.055	91679	40	98.4	80	120	
Zn	66	2	72	40.016	40.016	ppb	7.450	7365	40	100.0	80	120	
As	75	2	72	40.511	40.511	ppb	3.783	4365	40	101.3	80	120	
Se	78	1	72	39.137	39.137	ppb	2.593	23370	40	97.8	80	120	
Nb	93	2	72	0.108	0.108	ppb	4.575	463	40	0.3	80	120	>+/-20%
Mo	95	2	115	41.188	41.188	ppb	2.477	36142	40	103.0	80	120	
Pd	105	2	115	-0.002	-0.002	ppb	-529.784	20	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.473	39.473	ppb	1.890	140853	40	98.7	80	120	
Cd	111	2	115	39.069	39.069	ppb	2.442	10977	40	97.7	80	120	
Sn	120	2	115	39.091	39.091	ppb	1.660	25029	40	97.7	80	120	
Sb	121	2	115	39.756	39.756	ppb	1.604	21801	40	99.4	80	120	
Ba	137	2	115	42.562	42.562	ppb	7.132	6368	40	106.4	80	120	
W	182	2	165	39.272	39.272	ppb	1.110	272266	40	98.2	80	120	
Pt	195	2	165	0.020	0.020	ppb	25.744	263	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.937	39.937	ppb	1.341	356779	40	99.8	80	120	
Pb	208	2	165	41.062	41.062	ppb	2.436	467974	40	102.7	80	120	
Th	232	2	165	39.856	39.856	ppb	1.708	545751	40	99.6	80	120	
U	238	2	165	39.419	39.419	ppb	1.671	637760	40	98.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1032586	1.85	1160179	89.00	60	120	
Sc (IS)	45	1	HMI H2	49537149	0.69	51895621	95.46	60	120	
Sc (IS)	45	2	HMI He	424246	0.87	430930	98.45	60	120	
Sc (IS)	45	3	No Gas	142287618	0.35	158101278	90.00	60	120	
Ge Internal Standard	72	1	HMI H2	24202797	0.66	25033284	96.68	60	120	
Ge Internal Standard	72	2	HMI He	669417	1.04	674189	99.29	60	120	
In Internal Standard	115	2	HMI He	1590344	2.24	1572457	101.14	60	120	
Ho-165	165	2	HMI He	13572041	1.63	13678393	99.22	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-1-c
Data File Name	048SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:13:16-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.484	ppb	-14.484	-28.62	118254	500000	
Li	7	2	45	-25.097	ppb	-25.097	-35.36	5688	500000	
Li	7	3	45	-19.696	ppb	-19.696	-12.82	6778494	50000	
Be	9	1	6	0.031	ppb	0.031	173.21	10	2000	
B	11	1	6	-295.506	ppb	-295.506	-0.36	54584	2000	
Na	23	1	45	16251.222	ppb	16251.222	1.47	66293136	2000	>LDR
Na	23	2	45	15483.315	ppb	15483.315	0.64	1978807	400000	
Mg	24	2	45	3897.853	ppb	3897.853	0.37	199752	400000	
Al	27	2	45	398.703	ppb	398.703	8.01	3707	400000	
K	39	1	45	1752.424	ppb	1752.424	1.04	16786951	400000	
K	39	2	45	2713.169	ppb	2713.169	1.76	51856	400000	
Ca	40	1	45	90871.576	ppb	90871.576	0.60	661202630	400000	
Ca	44	2	45	85162.788	ppb	85162.788	3.27	98726	400000	
Ti	47	2	45	851.176	ppb	851.176	68.44	140	4000	
V	51	2	72	2.633	ppb	2.633	23.96	2094	2000	
Cr	52	2	72	6.338	ppb	6.338	3.06	7129	5000	
Mn	55	2	72	88.241	ppb	88.241	2.30	23970	10000	
Fe	57	2	72	6143.729	ppb	6143.729	0.87	114348	400000	
Co	59	2	72	0.159	ppb	0.159	10.78	390	2000	
Ni	60	2	72	0.916	ppb	0.916	4.31	727	5000	
Cu	63	2	72	0.648	ppb	0.648	8.38	3104	5000	
Zn	66	2	72	7.850	ppb	7.850	13.99	1673	5000	
As	75	2	72	0.446	ppb	0.446	31.89	51	2000	
Se	78	1	72	0.094	ppb	0.094	51.61	100	2000	
Sr	88	2	72	192.026	ppb	192.026	3.54	40428	4000	
Zr	90	2	72	152.022	ppb	152.022	13.58	1167	1000	
Nb	93	2	72	0.186	ppb	0.186	8.77	707	200	
Mo	95	2	115	0.313	ppb	0.313	17.69	277	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-30.18	3	100	
Ag	107	2	115	0.001	ppb	0.001	783.26	30	100	
Cd	111	2	115	0.305	ppb	0.305	48.81	83	2000	
Sn	120	2	115	0.115	ppb	0.115	56.02	133	2000	
Sb	121	2	115	0.382	ppb	0.382	47.25	210	1000	
Ba	137	2	115	73.762	ppb	73.762	2.29	10714	5000	
W	182	2	165	0.099	ppb	0.099	8.82	983	100	
Pt	195	2	165	0.004	ppb	0.004	189.80	140	100	
Tl	205	2	165	0.044	ppb	0.044	28.96	553	2000	
Pb	208	2	165	0.439	ppb	0.439	7.03	5784	5000	
Th	232	2	165	0.609	ppb	0.609	10.54	8156	2000	
U	238	2	165	0.384	ppb	0.384	10.38	6095	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1007362	0.85	1160179	86.83	60	120	
Sc (IS)	45	1	HMI H2	48394844	0.34	51895621	93.25	60	120	
Sc (IS)	45	2	HMI He	417653	0.49	430930	96.92	60	120	
Sc (IS)	45	3	No Gas	139870495	1.09	158101278	88.47	60	120	
Ge Internal Standard	72	1	HMI H2	23616970	0.93	25033284	94.34	60	120	
Ge Internal Standard	72	2	HMI He	656036	0.99	674189	97.31	60	120	
In Internal Standard	115	2	HMI He	1545480	0.48	1572457	98.28	60	120	
Ho-165	165	2	HMI He	13247563	0.67	13678393	96.85	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-3-c
Data File Name	049SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:17:03-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.839	ppb	-22.839	-10.54	113890	500000	
Li	7	2	45	-26.733	ppb	-26.733	-71.71	5558	500000	
Li	7	3	45	-24.042	ppb	-24.042	-12.23	6560731	50000	
Be	9	1	6	0.062	ppb	0.062	99.63	20	2000	
B	11	1	6	-122.777	ppb	-122.777	-4.43	113106	2000	
Na	23	1	45	59993.402	ppb	59993.402	0.63	241663656	2000	>LDR
Na	23	2	45	55939.845	ppb	55939.845	0.41	7010216	400000	
Mg	24	2	45	4189.439	ppb	4189.439	0.53	210986	400000	
Al	27	2	45	125.664	ppb	125.664	4.97	1170	400000	
K	39	1	45	22368.908	ppb	22368.908	0.41	103862898	400000	
K	39	2	45	23378.335	ppb	23378.335	0.45	404915	400000	
Ca	40	1	45	26822.821	ppb	26822.821	0.42	193177870	400000	
Ca	44	2	45	26421.110	ppb	26421.110	1.33	30116	400000	
Ti	47	2	45	103.574	ppb	103.574	91.76	17	4000	
V	51	2	72	3.788	ppb	3.788	7.37	3012	2000	
Cr	52	2	72	2.853	ppb	2.853	12.51	3307	5000	
Mn	55	2	72	178.104	ppb	178.104	1.41	47731	10000	
Fe	57	2	72	21936.885	ppb	21936.885	1.13	402942	400000	
Co	59	2	72	0.248	ppb	0.248	19.44	603	2000	
Ni	60	2	72	0.929	ppb	0.929	17.84	727	5000	
Cu	63	2	72	0.597	ppb	0.597	10.90	2950	5000	
Zn	66	2	72	11.620	ppb	11.620	7.76	2294	5000	
As	75	2	72	9.217	ppb	9.217	2.79	963	2000	
Se	78	1	72	0.289	ppb	0.289	16.99	211	2000	
Sr	88	2	72	233.017	ppb	233.017	1.60	48425	4000	
Zr	90	2	72	183.998	ppb	183.998	6.63	1390	1000	
Nb	93	2	72	0.103	ppb	0.103	15.40	433	200	
Mo	95	2	115	4.549	ppb	4.549	5.87	3854	2000	
Pd	105	2	115	-0.001	ppb	-0.001	-474.67	20	100	
Ag	107	2	115	0.002	ppb	0.002	361.25	33	100	
Cd	111	2	115	0.493	ppb	0.493	23.30	133	2000	
Sn	120	2	115	0.166	ppb	0.166	59.02	163	2000	
Sb	121	2	115	0.134	ppb	0.134	44.31	77	1000	
Ba	137	2	115	36.898	ppb	36.898	9.54	5314	5000	
W	182	2	165	0.519	ppb	0.519	5.83	3804	100	
Pt	195	2	165	0.022	ppb	0.022	11.20	270	100	
Tl	205	2	165	0.018	ppb	0.018	75.04	327	2000	
Pb	208	2	165	0.177	ppb	0.177	7.40	2860	5000	
Th	232	2	165	0.171	ppb	0.171	14.60	2287	2000	
U	238	2	165	0.103	ppb	0.103	8.42	1653	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	982250	1.32	1160179	84.66	60	120	
Sc (IS)	45	1	HMI H2	47878383	0.56	51895621	92.26	60	120	
Sc (IS)	45	2	HMI He	410552	0.45	430930	95.27	60	120	
Sc (IS)	45	3	No Gas	137324385	0.71	158101278	86.86	60	120	
Ge Internal Standard	72	1	HMI H2	23315425	0.10	25033284	93.14	60	120	
Ge Internal Standard	72	2	HMI He	647626	0.88	674189	96.06	60	120	
In Internal Standard	115	2	HMI He	1531432	1.13	1572457	97.39	60	120	
Ho-165	165	2	HMI He	13182292	1.70	13678393	96.37	60	120	

Sample Report

Sample Table

Sample Name	280-90691-c-4-c
Data File Name	050SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:20:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-23.078	ppb	-23.078	-9.76	112363	500000	
Li	7	2	45	-21.200	ppb	-21.200	-14.40	5684	500000	
Li	7	3	45	-25.111	ppb	-25.111	-8.45	6468202	50000	
Be	9	1	6	0.052	ppb	0.052	70.07	17	2000	
B	11	1	6	-254.482	ppb	-254.482	-2.29	67544	2000	
Na	23	1	45	25762.151	ppb	25762.151	0.79	102560112	2000	>LDR
Na	23	2	45	24157.266	ppb	24157.266	0.98	3039847	400000	
Mg	24	2	45	15007.426	ppb	15007.426	0.80	755987	400000	
Al	27	2	45	241.940	ppb	241.940	12.34	2230	400000	
K	39	1	45	4291.768	ppb	4291.768	0.87	27010793	400000	
K	39	2	45	5177.054	ppb	5177.054	2.80	93443	400000	
Ca	40	1	45	65382.949	ppb	65382.949	1.50	464746393	400000	
Ca	44	2	45	62840.305	ppb	62840.305	0.84	71827	400000	
Ti	47	2	45	411.994	ppb	411.994	82.56	67	4000	
V	51	2	72	3.394	ppb	3.394	11.09	2668	2000	
Cr	52	2	72	3.025	ppb	3.025	3.42	3464	5000	
Mn	55	2	72	204.754	ppb	204.754	2.59	54457	10000	
Fe	57	2	72	26577.427	ppb	26577.427	1.41	484523	400000	
Co	59	2	72	0.504	ppb	0.504	8.40	1217	2000	
Ni	60	2	72	0.873	ppb	0.873	4.34	680	5000	
Cu	63	2	72	0.472	ppb	0.472	36.81	2654	5000	
Zn	66	2	72	7.628	ppb	7.628	4.71	1603	5000	
As	75	2	72	18.973	ppb	18.973	3.09	1964	2000	
Se	78	1	72	0.165	ppb	0.165	9.61	139	2000	
Sr	88	2	72	339.814	ppb	339.814	1.14	70088	4000	
Zr	90	2	72	153.950	ppb	153.950	12.84	1157	1000	
Nb	93	2	72	0.055	ppb	0.055	17.41	277	200	
Mo	95	2	115	2.007	ppb	2.007	6.68	1713	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-105.49	17	100	
Ag	107	2	115	-0.004	ppb	-0.004	-89.03	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.132	ppb	0.132	29.30	143	2000	
Sb	121	2	115	0.221	ppb	0.221	12.20	123	1000	
Ba	137	2	115	24.805	ppb	24.805	5.78	3594	5000	
W	182	2	165	0.112	ppb	0.112	18.63	1070	100	
Pt	195	2	165	0.005	ppb	0.005	78.77	150	100	
Tl	205	2	165	0.006	ppb	0.006	87.02	217	2000	
Pb	208	2	165	1.555	ppb	1.555	1.68	18142	5000	
Th	232	2	165	0.091	ppb	0.091	19.13	1233	2000	
U	238	2	165	0.476	ppb	0.476	5.54	7529	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	983927	1.33	1160179	84.81	60	120	
Sc (IS)	45	1	HMI H2	47276149	0.94	51895621	91.10	60	120	
Sc (IS)	45	2	HMI He	411742	0.34	430930	95.55	60	120	
Sc (IS)	45	3	No Gas	135864941	0.67	158101278	85.94	60	120	
Ge Internal Standard	72	1	HMI H2	23228983	0.60	25033284	92.79	60	120	
Ge Internal Standard	72	2	HMI He	642837	1.49	674189	95.35	60	120	
In Internal Standard	115	2	HMI He	1538057	0.79	1572457	97.81	60	120	
Ho-165	165	2	HMI He	13220311	0.57	13678393	96.65	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-7-c
Data File Name	051SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:24:35-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-20.273	ppb	-20.273	-5.49	115432	500000	
Li	7	2	45	-26.696	ppb	-26.696	-20.58	5641	500000	
Li	7	3	45	-23.709	ppb	-23.709	-17.61	6734490	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-267.419	ppb	-267.419	-0.61	63927	2000	
Na	23	1	45	4076.537	ppb	4076.537	1.54	16664736	2000	
Na	23	2	45	3915.057	ppb	3915.057	1.00	504200	400000	
Mg	24	2	45	3738.656	ppb	3738.656	0.92	191162	400000	
Al	27	2	45	475.611	ppb	475.611	2.71	4404	400000	
K	39	1	45	1068.335	ppb	1068.335	3.29	13781395	400000	
K	39	2	45	2094.101	ppb	2094.101	2.56	40971	400000	
Ca	40	1	45	25589.847	ppb	25589.847	0.59	185237117	400000	
Ca	44	2	45	24544.556	ppb	24544.556	1.09	28393	400000	
Ti	47	2	45	1058.625	ppb	1058.625	51.73	173	4000	
V	51	2	72	2.255	ppb	2.255	6.60	1790	2000	
Cr	52	2	72	1.517	ppb	1.517	3.95	1907	5000	
Mn	55	2	72	2.577	ppb	2.577	15.92	740	10000	
Fe	57	2	72	434.222	ppb	434.222	0.75	8149	400000	
Co	59	2	72	0.228	ppb	0.228	11.49	563	2000	
Ni	60	2	72	0.382	ppb	0.382	27.16	320	5000	
Cu	63	2	72	0.813	ppb	0.813	11.31	3484	5000	
Zn	66	2	72	12.983	ppb	12.983	10.53	2567	5000	
As	75	2	72	0.447	ppb	0.447	45.17	51	2000	
Se	78	1	72	1.476	ppb	1.476	10.33	901	2000	
Sr	88	2	72	91.330	ppb	91.330	5.12	19298	4000	
Zr	90	2	72	115.503	ppb	115.503	14.93	893	1000	
Nb	93	2	72	0.062	ppb	0.062	31.47	307	200	
Mo	95	2	115	3.596	ppb	3.596	8.77	3084	2000	
Pd	105	2	115	0.001	ppb	0.001	1844.39	23	100	
Ag	107	2	115	0.002	ppb	0.002	226.39	33	100	
Cd	111	2	115	0.037	ppb	0.037	101.42	10	2000	
Sn	120	2	115	0.151	ppb	0.151	57.06	157	2000	
Sb	121	2	115	0.176	ppb	0.176	20.05	100	1000	
Ba	137	2	115	4.898	ppb	4.898	16.01	727	5000	
W	182	2	165	0.086	ppb	0.086	17.16	903	100	
Pt	195	2	165	0.011	ppb	0.011	16.95	197	100	
Tl	205	2	165	0.030	ppb	0.030	12.90	430	2000	
Pb	208	2	165	0.353	ppb	0.353	1.00	4874	5000	
Th	232	2	165	0.184	ppb	0.184	14.28	2501	2000	
U	238	2	165	0.174	ppb	0.174	7.98	2804	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	997381	0.69	1160179	85.97	60	120	
Sc (IS)	45	1	HMI H2	48122431	1.26	51895621	92.73	60	120	
Sc (IS)	45	2	HMI He	416634	0.48	430930	96.68	60	120	
Sc (IS)	45	3	No Gas	140803971	0.69	158101278	89.06	60	120	
Ge Internal Standard	72	1	HMI H2	23558242	0.49	25033284	94.11	60	120	
Ge Internal Standard	72	2	HMI He	658547	1.87	674189	97.68	60	120	
In Internal Standard	115	2	HMI He	1550990	2.14	1572457	98.63	60	120	
Ho-165	165	2	HMI He	13384014	1.12	13678393	97.85	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-8-c
Data File Name	052SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:28:21-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-15.470	ppb	-15.470	-3.52	115778	500000	
Li	7	2	45	-23.972	ppb	-23.972	-55.23	5701	500000	
Li	7	3	45	-26.387	ppb	-26.387	-7.16	6513711	50000	
Be	9	1	6	0.092	ppb	0.092	66.29	30	2000	
B	11	1	6	-301.094	ppb	-301.094	-0.53	51910	2000	
Na	23	1	45	11196.167	ppb	11196.167	1.08	44907826	2000	>LDR
Na	23	2	45	10651.763	ppb	10651.763	1.99	1361419	400000	
Mg	24	2	45	5853.592	ppb	5853.592	1.32	299152	400000	
Al	27	2	45	167.825	ppb	167.825	4.95	1577	400000	
K	39	1	45	1289.504	ppb	1289.504	3.03	14541104	400000	
K	39	2	45	2267.033	ppb	2267.033	1.91	44035	400000	
Ca	40	1	45	11384.627	ppb	11384.627	0.71	81466797	400000	
Ca	44	2	45	10691.421	ppb	10691.421	1.94	12385	400000	
Ti	47	2	45	285.746	ppb	285.746	45.67	47	4000	
V	51	2	72	3.156	ppb	3.156	7.05	2530	2000	
Cr	52	2	72	2.516	ppb	2.516	4.04	2984	5000	
Mn	55	2	72	207.662	ppb	207.662	2.69	56376	10000	
Fe	57	2	72	29381.636	ppb	29381.636	0.70	546787	400000	
Co	59	2	72	1.586	ppb	1.586	5.99	3904	2000	
Ni	60	2	72	3.176	ppb	3.176	2.96	2457	5000	
Cu	63	2	72	0.660	ppb	0.660	16.60	3130	5000	
Zn	66	2	72	24.961	ppb	24.961	3.77	4624	5000	
As	75	2	72	3.448	ppb	3.448	8.17	367	2000	
Se	78	1	72	0.321	ppb	0.321	22.17	232	2000	
Sr	88	2	72	36.152	ppb	36.152	7.02	7622	4000	
Zr	90	2	72	435.888	ppb	435.888	5.42	3310	1000	
Nb	93	2	72	0.149	ppb	0.149	8.48	587	200	
Mo	95	2	115	25.080	ppb	25.080	4.44	21464	2000	
Pd	105	2	115	0.004	ppb	0.004	353.94	30	100	
Ag	107	2	115	0.008	ppb	0.008	58.39	53	100	
Cd	111	2	115	4.732	ppb	4.732	4.89	1297	2000	
Sn	120	2	115	0.092	ppb	0.092	72.90	120	2000	
Sb	121	2	115	0.220	ppb	0.220	39.70	123	1000	
Ba	137	2	115	42.136	ppb	42.136	6.26	6145	5000	
W	182	2	165	0.094	ppb	0.094	1.61	957	100	
Pt	195	2	165	-0.003	ppb	-0.003	-208.30	93	100	
Tl	205	2	165	0.237	ppb	0.237	7.74	2250	2000	
Pb	208	2	165	0.378	ppb	0.378	4.24	5134	5000	
Th	232	2	165	0.236	ppb	0.236	4.22	3197	2000	
U	238	2	165	1.223	ppb	1.223	2.95	19466	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	994306	1.02	1160179	85.70	60	120	
Sc (IS)	45	1	HMI H2	47529288	0.85	51895621	91.59	60	120	
Sc (IS)	45	2	HMI He	417112	1.74	430930	96.79	60	120	
Sc (IS)	45	3	No Gas	137403888	0.98	158101278	86.91	60	120	
Ge Internal Standard	72	1	HMI H2	23601219	0.36	25033284	94.28	60	120	
Ge Internal Standard	72	2	HMI He	656103	0.72	674189	97.32	60	120	
In Internal Standard	115	2	HMI He	1550828	1.33	1572457	98.62	60	120	
Ho-165	165	2	HMI He	13337602	0.57	13678393	97.51	60	120	

Sample Report

Sample Table

Sample Name	280-90691-c-11-c
Data File Name	053SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:32:07-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.499	ppb	-25.499	-6.67	110566	500000	
Li	7	2	45	-16.413	ppb	-16.413	-16.47	5698	500000	
Li	7	3	45	-30.515	ppb	-30.515	-4.65	6181389	50000	
Be	9	1	6	0.075	ppb	0.075	90.18	23	2000	
B	11	1	6	-183.755	ppb	-183.755	-4.44	89599	2000	
Na	23	1	45	22008.696	ppb	22008.696	0.46	86927042	2000	>LDR
Na	23	2	45	20911.090	ppb	20911.090	1.14	2594817	400000	
Mg	24	2	45	26884.324	ppb	26884.324	0.43	1334406	400000	
Al	27	2	45	220.602	ppb	220.602	6.60	2007	400000	
K	39	1	45	3054.591	ppb	3054.591	0.83	21661581	400000	
K	39	2	45	4024.338	ppb	4024.338	0.21	72596	400000	
Ca	40	1	45	95565.941	ppb	95565.941	0.56	673710537	400000	
Ca	44	2	45	91900.104	ppb	91900.104	1.84	103539	400000	
Ti	47	2	45	417.976	ppb	417.976	22.96	67	4000	
V	51	2	72	2.837	ppb	2.837	25.47	2205	2000	
Cr	52	2	72	3.608	ppb	3.608	7.88	4057	5000	
Mn	55	2	72	306.883	ppb	306.883	0.77	81107	10000	
Fe	57	2	72	46610.122	ppb	46610.122	1.05	844636	400000	
Co	59	2	72	0.825	ppb	0.825	13.35	1977	2000	
Ni	60	2	72	2.502	ppb	2.502	9.69	1890	5000	
Cu	63	2	72	1.710	ppb	1.710	4.77	5338	5000	
Zn	66	2	72	8.090	ppb	8.090	18.67	1670	5000	
As	75	2	72	38.717	ppb	38.717	2.34	3981	2000	
Se	78	1	72	0.338	ppb	0.338	25.07	235	2000	
Sr	88	2	72	365.204	ppb	365.204	2.63	74869	4000	
Zr	90	2	72	90.780	ppb	90.780	15.34	687	1000	
Nb	93	2	72	0.062	ppb	0.062	26.35	300	200	
Mo	95	2	115	95.291	ppb	95.291	1.35	79814	2000	
Pd	105	2	115	0.009	ppb	0.009	78.19	37	100	
Ag	107	2	115	-0.002	ppb	-0.002	-335.79	20	100	
Cd	111	2	115	0.050	ppb	0.050	173.21	13	2000	
Sn	120	2	115	0.114	ppb	0.114	67.23	130	2000	
Sb	121	2	115	0.218	ppb	0.218	17.68	120	1000	
Ba	137	2	115	43.762	ppb	43.762	1.90	6248	5000	
W	182	2	165	0.245	ppb	0.245	8.12	1940	100	
Pt	195	2	165	0.000	ppb	0.000	-6924.11	110	100	
Tl	205	2	165	0.021	ppb	0.021	48.96	350	2000	
Pb	208	2	165	0.560	ppb	0.560	5.45	7004	5000	
Th	232	2	165	0.067	ppb	0.067	2.26	900	2000	
U	238	2	165	1.916	ppb	1.916	0.64	29800	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	957193	2.56	1160179	82.50	60	120	
Sc (IS)	45	1	HMI H2	46889614	0.95	51895621	90.35	60	120	
Sc (IS)	45	2	HMI He	405877	0.07	430930	94.19	60	120	
Sc (IS)	45	3	No Gas	132214378	0.50	158101278	83.63	60	120	
Ge Internal Standard	72	1	HMI H2	22913065	0.53	25033284	91.53	60	120	
Ge Internal Standard	72	2	HMI He	638912	0.58	674189	94.77	60	120	
In Internal Standard	115	2	HMI He	1517761	0.59	1572457	96.52	60	120	
Ho-165	165	2	HMI He	13033037	0.48	13678393	95.28	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-12-c
Data File Name	054SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:35:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-28.933	ppb	-28.933	-11.83	109604	500000	
Li	7	2	45	-36.015	ppb	-36.015	-24.45	5424	500000	
Li	7	3	45	-35.587	ppb	-35.587	-5.27	6207316	50000	
Be	9	1	6	0.043	ppb	0.043	86.66	13	2000	
B	11	1	6	-294.212	ppb	-294.212	-2.42	52067	2000	
Na	23	1	45	12620.579	ppb	12620.579	0.60	50051664	2000	>LDR
Na	23	2	45	12119.385	ppb	12119.385	0.83	1538713	400000	
Mg	24	2	45	6259.118	ppb	6259.118	0.37	317882	400000	
Al	27	2	45	37.255	ppb	37.255	31.20	373	400000	
K	39	1	45	5469.508	ppb	5469.508	0.76	31754578	400000	
K	39	2	45	6239.783	ppb	6239.783	1.38	112446	400000	
Ca	40	1	45	142812.003	ppb	142812.003	0.12	1009388705	400000	
Ca	44	2	45	136383.266	ppb	136383.266	0.41	156927	400000	
Ti	47	2	45	40.900	ppb	40.900	173.21	7	4000	
V	51	2	72	0.370	ppb	0.370	54.90	227	2000	
Cr	52	2	72	0.359	ppb	0.359	27.94	640	5000	
Mn	55	2	72	168.583	ppb	168.583	1.22	45358	10000	
Fe	57	2	72	11314.133	ppb	11314.133	1.69	208638	400000	
Co	59	2	72	0.071	ppb	0.071	7.44	173	2000	
Ni	60	2	72	0.269	ppb	0.269	22.45	230	5000	
Cu	63	2	72	-0.038	ppb	-0.038	-138.21	1553	5000	
Zn	66	2	72	10.988	ppb	10.988	22.11	2197	5000	
As	75	2	72	0.495	ppb	0.495	31.79	56	2000	
Se	78	1	72	0.034	ppb	0.034	52.90	63	2000	
Sr	88	2	72	496.778	ppb	496.778	0.99	103637	4000	
Zr	90	2	72	44.601	ppb	44.601	22.24	353	1000	
Nb	93	2	72	0.011	ppb	0.011	152.91	140	200	
Mo	95	2	115	0.454	ppb	0.454	5.29	403	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-30.37	3	100	
Ag	107	2	115	-0.001	ppb	-0.001	-620.85	23	100	
Cd	111	2	115	0.265	ppb	0.265	20.57	73	2000	
Sn	120	2	115	0.148	ppb	0.148	47.97	157	2000	
Sb	121	2	115	0.013	ppb	0.013	166.12	13	1000	
Ba	137	2	115	274.188	ppb	274.188	2.04	40356	5000	
W	182	2	165	0.004	ppb	0.004	82.65	340	100	
Pt	195	2	165	0.000	ppb	0.000	2968.31	113	100	
Tl	205	2	165	0.012	ppb	0.012	28.02	273	2000	
Pb	208	2	165	0.089	ppb	0.089	17.69	1887	5000	
Th	232	2	165	0.024	ppb	0.024	25.54	337	2000	
U	238	2	165	0.061	ppb	0.061	9.07	983	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	953532	2.15	1160179	82.19	60	120	
Sc (IS)	45	1	HMI H2	47012371	0.02	51895621	90.59	60	120	
Sc (IS)	45	2	HMI He	414525	1.05	430930	96.19	60	120	
Sc (IS)	45	3	No Gas	135095441	0.59	158101278	85.45	60	120	
Ge Internal Standard	72	1	HMI H2	22757358	0.10	25033284	90.91	60	120	
Ge Internal Standard	72	2	HMI He	650143	1.07	674189	96.43	60	120	
In Internal Standard	115	2	HMI He	1567694	1.34	1572457	99.70	60	120	
Ho-165	165	2	HMI He	13162414	0.98	13678393	96.23	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	055_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:39:43-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	460.877	ppb	2.358	294208	500	92.2	90	110	
Li	7	2	45	422.569	ppb	4.952	14506	500	84.5	90	110	>+\-10%
Li	7	3	45	439.801	ppb	1.982	16024741	500	88.0	90	110	>+\-10%
Be	9	1	6	49.624	ppb	2.164	16114	50	99.2	90	110	
B	11	1	6	-283.500	ppb	-0.543	58279	50	-567.0	90	110	>+\-10%
Na	23	1	45	4949.453	ppb	1.211	20130348	5000	99.0	90	110	
Na	23	2	45	4750.629	ppb	1.686	601556	5000	95.0	90	110	
Mg	24	2	45	4950.435	ppb	1.568	249219	5000	99.0	90	110	
Al	27	2	45	5002.426	ppb	0.079	45364	5000	100.0	90	110	
K	39	1	45	5135.534	ppb	0.968	30979689	5000	102.7	90	110	
K	39	2	45	5080.971	ppb	0.726	91558	5000	101.6	90	110	
Ca	40	1	45	5173.004	ppb	0.683	37427834	5000	103.5	90	110	
Ca	44	2	45	5150.815	ppb	6.305	5885	5000	103.0	90	110	
Ti	47	2	45	20.553	ppb	173.205	3	50	41.1	90	110	>+\-10%
V	51	2	72	48.972	ppb	0.455	40055	50	97.9	90	110	
Cr	52	2	72	48.334	ppb	1.906	52254	50	96.7	90	110	
Mn	55	2	72	50.195	ppb	2.401	13552	50	100.4	90	110	
Fe	57	2	72	4991.517	ppb	0.837	92212	5000	99.8	90	110	
Co	59	2	72	49.022	ppb	0.388	119693	50	98.0	90	110	
Ni	60	2	72	48.376	ppb	2.265	36769	50	96.8	90	110	
Cu	63	2	72	49.468	ppb	0.715	111609	50	98.9	90	110	
Zn	66	2	72	49.509	ppb	7.313	8793	50	99.0	90	110	
As	75	2	72	51.433	ppb	1.704	5387	50	102.9	90	110	
Se	78	1	72	50.235	ppb	0.595	29247	50	100.5	90	110	
Sr	88	2	72	52.715	ppb	5.209	11027	50	105.4	90	110	
Zr	90	2	72	106.032	ppb	17.530	813	50	212.1	90	110	>+\-10%
Nb	93	2	72	98.291	ppb	1.101	314597	100	98.3	90	110	
Mo	95	2	115	50.537	ppb	2.097	43165	50	101.1	90	110	
Pd	105	2	115	50.735	ppb	2.150	84049	50	101.5	90	110	
Ag	107	2	115	49.504	ppb	1.401	171850	50	99.0	90	110	
Cd	111	2	115	50.452	ppb	3.391	13789	50	100.9	90	110	
Sn	120	2	115	51.750	ppb	0.757	32208	50	103.5	90	110	
Sb	121	2	115	53.053	ppb	3.555	28288	50	106.1	90	110	
Ba	137	2	115	53.012	ppb	3.722	7712	50	106.0	90	110	
W	182	2	165	50.492	ppb	0.935	340725	50	101.0	90	110	
Pt	195	2	165	49.729	ppb	1.193	361311	50	99.5	90	110	
Tl	205	2	165	50.484	ppb	1.137	439009	50	101.0	90	110	
Pb	208	2	165	51.181	ppb	1.827	567683	50	102.4	90	110	
Th	232	2	165	50.923	ppb	1.916	678853	50	101.8	90	110	
U	238	2	165	49.481	ppb	1.586	779420	50	99.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	997568	0.80	1160179	85.98	60	120	
Sc (IS)	45	1	HMI H2	47962871	0.73	51895621	92.42	60	120	
Sc (IS)	45	2	HMI He	410690	1.47	430930	95.30	60	120	
Sc (IS)	45	3	No Gas	132184661	1.27	158101278	83.61	60	120	
Ge Internal Standard	72	1	HMI H2	23610044	0.36	25033284	94.31	60	120	
Ge Internal Standard	72	2	HMI He	651093	0.76	674189	96.57	60	120	
In Internal Standard	115	2	HMI He	1547078	2.18	1572457	98.39	60	120	
Ho-165	165	2	HMI He	13213738	1.97	13678393	96.60	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	056_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:43:29-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-23.280	ppb	-15.0	6393007	10	
Be	9	1	6	0.030	ppb	173.2	10	0.5	
B	11	1	6	-344.466	ppb	-0.7	37472	0.5	
Na	23	1	45	-5.692	ppb	-2.4	149134	25	
Na	23	2	45	-7.045	ppb	-59.4	5838	25	
Mg	24	2	45	-9.383	ppb	-1.7	300	25	
Al	27	2	45	0.540	ppb	422.9	37	15	
K	39	1	45	29.620	ppb	41.6	9224427	50	
K	39	2	45	5.357	ppb	383.1	4624	50	
Ca	40	1	45	0.536	ppb	92.1	132960	50	
Ca	44	2	45	9.157	ppb	165.5	20	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.121	ppb	170.6	22	1	
Cr	52	2	72	-0.018	ppb	-417.7	237	1	
Mn	55	2	72	-0.057	ppb	-37.8	23	0.5	
Fe	57	2	72	4.359	ppb	11.2	120	25	
Co	59	2	72	0.011	ppb	77.3	27	0.5	
Ni	60	2	72	0.363	ppb	49.4	303	1	
Cu	63	2	72	-0.101	ppb	-51.2	1423	1	
Zn	66	2	72	-0.780	ppb	-35.9	187	5	
As	75	2	72	0.100	ppb	82.7	14	1	
Se	78	1	72	0.011	ppb	208.7	52	1	
Sr	88	2	72	0.034	ppb	142.8	20	0.5	
Zr	90	2	72	4.516	ppb	94.7	53	1	>RL
Nb	93	2	72	1.132	ppb	1.5	3754	2	
Mo	95	2	115	0.031	ppb	41.6	37	0.5	
Pd	105	2	115	0.041	ppb	76.3	90	1	
Ag	107	2	115	0.011	ppb	41.0	67	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.162	ppb	64.4	163	1	
Sb	121	2	115	0.112	ppb	62.0	67	0.6	
Ba	137	2	115	-0.048	ppb	-160.5	7	0.5	
W	182	2	165	0.049	ppb	25.6	643	1	
Pt	195	2	165	0.011	ppb	34.7	190	1	
Tl	205	2	165	0.033	ppb	34.1	457	0.1	
Pb	208	2	165	0.016	ppb	35.0	1090	0.5	
Th	232	2	165	0.067	ppb	14.1	923	1	
U	238	2	165	0.022	ppb	3.2	380	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1015714	1.83	1160179	87.55	60	120	
Sc (IS)	45	1	HMI H2	47405591	0.76	51895621	91.35	60	120	
Sc (IS)	45	2	HMI He	412988	0.62	430930	95.84	60	120	
Sc (IS)	45	3	No Gas	133469988	0.62	158101278	84.42	60	120	
Ge Internal Standard	72	1	HMI H2	23663410	0.73	25033284	94.53	60	120	
Ge Internal Standard	72	2	HMI He	655657	0.79	674189	97.25	60	120	
In Internal Standard	115	2	HMI He	1557328	2.03	1572457	99.04	60	120	
Ho-165	165	2	HMI He	13296417	0.66	13678393	97.21	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	057LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:47:16-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	24.049	ppb	12.327	7328640	50	48.1	70	130	>+/-30%
Be	9	1	6	1.008	ppb	14.633	333	1	100.8	70	130	
Na	23	2	45	37.999	ppb	9.100	11661	50	76.0	70	130	
Mg	24	2	45	41.384	ppb	8.977	2900	50	82.8	70	130	
Al	27	2	45	37.733	ppb	31.177	380	30	125.8	70	130	
K	39	2	45	96.583	ppb	4.992	6278	100	96.6	70	130	
Ca	44	2	45	92.074	ppb	9.848	117	50	184.1	70	130	>+/-30%
V	51	2	72	4.679	ppb	8.083	3780	5	93.6	70	130	
Cr	52	2	72	1.909	ppb	4.585	2320	2	95.4	70	130	
Mn	55	2	72	0.929	ppb	18.110	290	1	92.9	70	130	
Fe	57	2	72	52.292	ppb	9.450	1010	50	104.6	70	130	
Co	59	2	72	1.055	ppb	3.238	2590	1	105.5	70	130	
Ni	60	2	72	2.198	ppb	11.775	1703	2	109.9	70	130	
Cu	63	2	72	1.848	ppb	6.623	5778	2	92.4	70	130	
Zn	66	2	72	10.102	ppb	12.271	2057	10	101.0	70	130	
As	75	2	72	5.400	ppb	6.985	572	5	108.0	70	130	
Se	78	1	72	5.091	ppb	3.723	3019	5	101.8	70	130	
Sr	88	2	72	1.336	ppb	29.286	293	1	133.6	70	130	>+/-30%
Zr	90	2	72	24.860	ppb	7.106	207	0.5	4972.0	70	130	>+/-30%
Nb	93	2	72	1.313	ppb	11.872	4327	2	65.6	70	130	>+/-30%
Mo	95	2	115	2.162	ppb	12.234	1874	2	108.1	70	130	
Pd	105	2	115	-0.002	ppb	-1032.560	20	1	-0.2	70	130	>+/-30%
Ag	107	2	115	4.967	ppb	3.369	17443	5	99.3	70	130	
Cd	111	2	115	1.087	ppb	5.543	300	1	108.7	70	130	
Sn	120	2	115	10.287	ppb	3.876	6518	10	102.9	70	130	
Sb	121	2	115	2.228	ppb	11.421	1207	2	111.4	70	130	
Ba	137	2	115	0.975	ppb	29.125	157	1	97.5	70	130	
W	182	2	165	4.945	ppb	2.325	33910	1	494.5	70	130	>+/-30%
Pt	195	2	165	-0.001	ppb	-585.254	107	1	-0.1	70	130	>+/-30%
Tl	205	2	165	1.030	ppb	3.177	9193	1	103.0	70	130	
Pb	208	2	165	1.044	ppb	2.092	12562	1	104.4	70	130	
Th	232	2	165	2.090	ppb	0.415	28100	2	104.5	70	130	
U	238	2	165	1.003	ppb	2.284	15949	1	100.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1014742	1.42	1160179	87.46	60	120	
Sc (IS)	45	1	HMI H2	48492078	0.63	51895621	93.44	60	120	
Sc (IS)	45	2	HMI He	418416	1.34	430930	97.10	60	120	
Sc (IS)	45	3	No Gas	132304661	0.87	158101278	83.68	60	120	
Ge Internal Standard	72	1	HMI H2	23729995	1.13	25033284	94.79	60	120	
Ge Internal Standard	72	2	HMI He	654630	0.98	674189	97.10	60	120	
In Internal Standard	115	2	HMI He	1562597	0.39	1572457	99.37	60	120	
Ho-165	165	2	HMI He	13312444	0.71	13678393	97.32	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-13-c
Data File Name	058SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:51:03-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.548	ppb	-19.548	-15.16	115690	500000	
Li	7	2	45	-17.830	ppb	-17.830	-10.91	5834	500000	
Li	7	3	45	-27.306	ppb	-27.306	-18.44	6294404	50000	
Be	9	1	6	0.031	ppb	0.031	100.21	10	2000	
B	11	1	6	-323.012	ppb	-323.012	-1.34	44204	2000	
Na	23	1	45	12049.916	ppb	12049.916	0.20	48921619	2000	>LDR
Na	23	2	45	11573.789	ppb	11573.789	0.56	1480911	400000	
Mg	24	2	45	4292.564	ppb	4292.564	1.45	219888	400000	
Al	27	2	45	195.557	ppb	195.557	6.47	1834	400000	
K	39	1	45	1129.315	ppb	1129.315	0.86	14041427	400000	
K	39	2	45	2040.943	ppb	2040.943	0.47	40145	400000	
Ca	40	1	45	1316.574	ppb	1316.574	0.20	9654630	400000	
Ca	44	2	45	1539.996	ppb	1539.996	11.72	1793	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.931	ppb	0.931	29.10	696	2000	
Cr	52	2	72	4.576	ppb	4.576	5.38	5254	5000	
Mn	55	2	72	57.653	ppb	57.653	1.80	15787	10000	
Fe	57	2	72	4762.214	ppb	4762.214	2.24	89259	400000	
Co	59	2	72	1.903	ppb	1.903	5.84	4714	2000	
Ni	60	2	72	5.534	ppb	5.534	5.74	4291	5000	
Cu	63	2	72	0.393	ppb	0.393	13.68	2550	5000	
Zn	66	2	72	52.141	ppb	52.141	7.92	9373	5000	
As	75	2	72	1.521	ppb	1.521	11.08	165	2000	
Se	78	1	72	0.064	ppb	0.064	68.37	83	2000	
Sr	88	2	72	40.451	ppb	40.451	3.39	8586	4000	
Zr	90	2	72	43.412	ppb	43.412	39.64	350	1000	
Nb	93	2	72	0.123	ppb	0.123	5.90	507	200	
Mo	95	2	115	0.100	ppb	0.100	17.89	97	2000	
Pd	105	2	115	0.014	ppb	0.014	267.57	47	100	
Ag	107	2	115	0.008	ppb	0.008	115.96	53	100	
Cd	111	2	115	4.710	ppb	4.710	8.66	1303	2000	
Sn	120	2	115	0.112	ppb	0.112	72.15	133	2000	
Sb	121	2	115	0.074	ppb	0.074	71.23	47	1000	
Ba	137	2	115	58.783	ppb	58.783	2.99	8656	5000	
W	182	2	165	0.029	ppb	0.029	43.60	520	100	
Pt	195	2	165	0.011	ppb	0.011	123.04	197	100	
Tl	205	2	165	1.584	ppb	1.584	2.10	14200	2000	
Pb	208	2	165	0.209	ppb	0.209	11.02	3284	5000	
Th	232	2	165	0.065	ppb	0.065	4.38	903	2000	
U	238	2	165	0.298	ppb	0.298	3.29	4804	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	993963	0.38	1160179	85.67	60	120	
Sc (IS)	45	1	HMI H2	48119806	0.80	51895621	92.72	60	120	
Sc (IS)	45	2	HMI He	417673	1.14	430930	96.92	60	120	
Sc (IS)	45	3	No Gas	133191831	0.45	158101278	84.24	60	120	
Ge Internal Standard	72	1	HMI H2	23594570	0.36	25033284	94.25	60	120	
Ge Internal Standard	72	2	HMI He	660639	0.58	674189	97.99	60	120	
In Internal Standard	115	2	HMI He	1566230	0.45	1572457	99.60	60	120	
Ho-165	165	2	HMI He	13464865	0.37	13678393	98.44	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-16-c
Data File Name	059SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:54:50-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-23.356	ppb	-23.356	-23.69	115009	500000	
Li	7	2	45	-33.425	ppb	-33.425	-12.27	5578	500000	
Li	7	3	45	-28.026	ppb	-28.026	-5.35	6438261	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-341.682	ppb	-341.682	-0.86	38471	2000	
Na	23	1	45	-6.557	ppb	-6.557	-9.98	148835	2000	
Na	23	2	45	-7.170	ppb	-7.170	-41.51	5951	400000	
Mg	24	2	45	-13.192	ppb	-13.192	-6.45	110	400000	
Al	27	2	45	-1.339	ppb	-1.339	-79.95	20	400000	
K	39	1	45	-1001.245	ppb	-1001.245	-1.22	5010962	400000	
K	39	2	45	0.484	ppb	0.484	3077.91	4641	400000	
Ca	40	1	45	-1.318	ppb	-1.318	-18.41	122334	400000	
Ca	44	2	45	28.655	ppb	28.655	45.55	43	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.070	ppb	0.070	85.75	-19	2000	
Cr	52	2	72	0.108	ppb	0.108	71.19	377	5000	
Mn	55	2	72	-0.045	ppb	-0.045	-123.97	27	10000	
Fe	57	2	72	6.434	ppb	6.434	55.04	160	400000	
Co	59	2	72	0.012	ppb	0.012	88.29	30	2000	
Ni	60	2	72	0.035	ppb	0.035	111.69	53	5000	
Cu	63	2	72	-0.036	ppb	-0.036	-155.69	1587	5000	
Zn	66	2	72	2.809	ppb	2.809	7.29	813	5000	
As	75	2	72	0.087	ppb	0.087	32.99	13	2000	
Se	78	1	72	-0.021	ppb	-0.021	-116.92	33	2000	
Sr	88	2	72	0.001	ppb	0.001	3768.15	13	4000	
Zr	90	2	72	3.112	ppb	3.112	62.71	43	1000	
Nb	93	2	72	0.073	ppb	0.073	8.33	347	200	
Mo	95	2	115	0.000	ppb	0.000	-3212.94	10	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-35.91	7	100	
Ag	107	2	115	0.004	ppb	0.004	268.30	40	100	
Cd	111	2	115	0.024	ppb	0.024	173.21	7	2000	
Sn	120	2	115	0.063	ppb	0.063	126.29	103	2000	
Sb	121	2	115	0.013	ppb	0.013	84.44	13	1000	
Ba	137	2	115	-0.026	ppb	-0.026	-457.99	10	5000	
W	182	2	165	0.020	ppb	0.020	28.41	460	100	
Pt	195	2	165	0.001	ppb	0.001	176.47	123	100	
Tl	205	2	165	0.013	ppb	0.013	66.64	287	2000	
Pb	208	2	165	0.020	ppb	0.020	39.62	1157	5000	
Th	232	2	165	0.019	ppb	0.019	13.74	287	2000	
U	238	2	165	0.001	ppb	0.001	108.87	37	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1015763	1.53	1160179	87.55	60	120	
Sc (IS)	45	1	HMI H2	48432878	0.83	51895621	93.33	60	120	
Sc (IS)	45	2	HMI He	422113	0.37	430930	97.95	60	120	
Sc (IS)	45	3	No Gas	136558598	0.79	158101278	86.37	60	120	
Ge Internal Standard	72	1	HMI H2	23752649	0.80	25033284	94.88	60	120	
Ge Internal Standard	72	2	HMI He	662523	0.91	674189	98.27	60	120	
In Internal Standard	115	2	HMI He	1577132	0.69	1572457	100.30	60	120	
Ho-165	165	2	HMI He	13518342	0.50	13678393	98.83	60	120	

Sample Report

Sample Table

Sample Name	280-90691-d-18-c
Data File Name	060SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T19:58:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.981	ppb	-18.981	-24.37	116630	500000	
Li	7	2	45	-19.855	ppb	-19.855	-147.43	5898	500000	
Li	7	3	45	-22.787	ppb	-22.787	-9.63	6590799	50000	
Be	9	1	6	0.092	ppb	0.092	87.93	30	2000	
B	11	1	6	-332.666	ppb	-332.666	-0.55	41264	2000	
Na	23	1	45	7110.329	ppb	7110.329	1.06	29121018	2000	
Na	23	2	45	6713.787	ppb	6713.787	0.20	877237	400000	
Mg	24	2	45	1713.821	ppb	1713.821	0.47	89836	400000	
Al	27	2	45	499.358	ppb	499.358	8.47	4714	400000	
K	39	1	45	1998.802	ppb	1998.802	0.85	17851667	400000	
K	39	2	45	2885.203	ppb	2885.203	0.42	55830	400000	
Ca	40	1	45	4380.250	ppb	4380.250	0.79	32015860	400000	
Ca	44	2	45	4226.893	ppb	4226.893	4.15	4998	400000	
Ti	47	2	45	437.613	ppb	437.613	51.15	73	4000	
V	51	2	72	3.055	ppb	3.055	5.74	2491	2000	
Cr	52	2	72	7.351	ppb	7.351	2.81	8376	5000	
Mn	55	2	72	79.644	ppb	79.644	3.43	22037	10000	
Fe	57	2	72	1158.627	ppb	1158.627	5.28	21991	400000	
Co	59	2	72	1.859	ppb	1.859	3.78	4657	2000	
Ni	60	2	72	8.012	ppb	8.012	2.30	6271	5000	
Cu	63	2	72	2.616	ppb	2.616	3.03	7649	5000	
Zn	66	2	72	35.253	ppb	35.253	6.02	6515	5000	
As	75	2	72	0.512	ppb	0.512	38.01	59	2000	
Se	78	1	72	0.043	ppb	0.043	119.96	71	2000	
Sr	88	2	72	41.817	ppb	41.817	3.47	8976	4000	
Zr	90	2	72	95.895	ppb	95.895	10.68	757	1000	
Nb	93	2	72	0.111	ppb	0.111	34.17	473	200	
Mo	95	2	115	0.283	ppb	0.283	16.57	263	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-33.68	7	100	
Ag	107	2	115	-0.004	ppb	-0.004	-39.16	13	100	
Cd	111	2	115	4.152	ppb	4.152	7.58	1190	2000	
Sn	120	2	115	0.120	ppb	0.120	72.02	143	2000	
Sb	121	2	115	0.102	ppb	0.102	64.22	63	1000	
Ba	137	2	115	80.793	ppb	80.793	6.03	12315	5000	
W	182	2	165	0.017	ppb	0.017	19.92	443	100	
Pt	195	2	165	-0.001	ppb	-0.001	-139.61	107	100	
Tl	205	2	165	0.173	ppb	0.173	8.96	1734	2000	
Pb	208	2	165	0.408	ppb	0.408	3.01	5617	5000	
Th	232	2	165	0.198	ppb	0.198	1.41	2764	2000	
U	238	2	165	0.270	ppb	0.270	8.55	4431	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1004877	0.98	1160179	86.61	60	120	
Sc (IS)	45	1	HMI H2	48423174	0.50	51895621	93.31	60	120	
Sc (IS)	45	2	HMI He	425094	0.92	430930	98.65	60	120	
Sc (IS)	45	3	No Gas	137376958	0.38	158101278	86.89	60	120	
Ge Internal Standard	72	1	HMI H2	23751056	0.51	25033284	94.88	60	120	
Ge Internal Standard	72	2	HMI He	668082	0.64	674189	99.09	60	120	
In Internal Standard	115	2	HMI He	1623419	2.43	1572457	103.24	60	120	
Ho-165	165	2	HMI He	13689993	1.62	13678393	100.08	60	120	

Sample Report

Sample Table

Sample Name	280-90691-b-20-e
Data File Name	061SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:02:23-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-13.099	ppb	-13.099	-22.84	118239	500000	
Li	7	2	45	-20.274	ppb	-20.274	-128.03	5841	500000	
Li	7	3	45	-23.775	ppb	-23.775	-14.46	6526480	50000	
Be	9	1	6	0.295	ppb	0.295	60.24	97	2000	
B	11	1	6	-321.672	ppb	-321.672	-0.72	44992	2000	
Na	23	1	45	4849.336	ppb	4849.336	1.18	19814968	2000	
Na	23	2	45	4571.303	ppb	4571.303	0.85	594963	400000	
Mg	24	2	45	2109.788	ppb	2109.788	0.67	109582	400000	
Al	27	2	45	3399.377	ppb	3399.377	2.41	31675	400000	
K	39	1	45	3472.546	ppb	3472.546	2.22	24034781	400000	
K	39	2	45	4420.151	ppb	4420.151	1.74	82417	400000	
Ca	40	1	45	5267.611	ppb	5267.611	1.27	38277629	400000	
Ca	44	2	45	5245.797	ppb	5245.797	3.79	6151	400000	
Ti	47	2	45	2679.275	ppb	2679.275	24.74	443	4000	
V	51	2	72	28.504	ppb	28.504	5.72	23822	2000	
Cr	52	2	72	66.482	ppb	66.482	1.44	73468	5000	
Mn	55	2	72	54.183	ppb	54.183	4.52	14963	10000	
Fe	57	2	72	25736.615	ppb	25736.615	0.15	486399	400000	
Co	59	2	72	1.580	ppb	1.580	6.45	3947	2000	
Ni	60	2	72	5.535	ppb	5.535	8.89	4327	5000	
Cu	63	2	72	1.211	ppb	1.211	8.98	4431	5000	
Zn	66	2	72	18.258	ppb	18.258	4.85	3524	5000	
As	75	2	72	6.385	ppb	6.385	8.91	688	2000	
Se	78	1	72	0.173	ppb	0.173	6.29	147	2000	
Sr	88	2	72	28.152	ppb	28.152	0.22	6031	4000	
Zr	90	2	72	288.253	ppb	288.253	4.00	2230	1000	
Nb	93	2	72	0.358	ppb	0.358	9.79	1280	200	
Mo	95	2	115	0.429	ppb	0.429	19.85	387	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-347.54	20	100	
Ag	107	2	115	0.006	ppb	0.006	116.09	50	100	
Cd	111	2	115	0.154	ppb	0.154	56.65	43	2000	
Sn	120	2	115	0.411	ppb	0.411	25.37	327	2000	
Sb	121	2	115	0.359	ppb	0.359	14.73	203	1000	
Ba	137	2	115	7.216	ppb	7.216	9.61	1090	5000	
W	182	2	165	0.043	ppb	0.043	33.14	613	100	
Pt	195	2	165	0.002	ppb	0.002	47.45	127	100	
Tl	205	2	165	0.030	ppb	0.030	20.27	440	2000	
Pb	208	2	165	1.876	ppb	1.876	1.43	22194	5000	
Th	232	2	165	1.329	ppb	1.329	3.30	18158	2000	
U	238	2	165	0.404	ppb	0.404	6.27	6545	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1001094	1.29	1160179	86.29	60	120	
Sc (IS)	45	1	HMI H2	48178458	1.34	51895621	92.84	60	120	
Sc (IS)	45	2	HMI He	421899	1.27	430930	97.90	60	120	
Sc (IS)	45	3	No Gas	136483405	0.39	158101278	86.33	60	120	
Ge Internal Standard	72	1	HMI H2	23747564	0.53	25033284	94.86	60	120	
Ge Internal Standard	72	2	HMI He	666321	0.79	674189	98.83	60	120	
In Internal Standard	115	2	HMI He	1588074	1.71	1572457	100.99	60	120	
Ho-165	165	2	HMI He	13527376	0.29	13678393	98.90	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-21-e
Data File Name	062SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:08:27-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.430	ppb	-19.430	-13.88	116774	500000	
Li	7	2	45	-30.791	ppb	-30.791	-58.47	5664	500000	
Li	7	3	45	-22.677	ppb	-22.677	-9.23	6431631	50000	
Be	9	1	6	0.053	ppb	0.053	125.21	17	2000	
B	11	1	6	-331.912	ppb	-331.912	-0.25	40338	2000	
Na	23	1	45	5792.991	ppb	5792.991	1.16	23820812	2000	
Na	23	2	45	5484.706	ppb	5484.706	0.81	717447	400000	
Mg	24	2	45	3549.703	ppb	3549.703	1.40	185085	400000	
Al	27	2	45	259.117	ppb	259.117	8.04	2460	400000	
K	39	1	45	4095.718	ppb	4095.718	0.75	26898450	400000	
K	39	2	45	4950.760	ppb	4950.760	1.32	92395	400000	
Ca	40	1	45	75677.336	ppb	75677.336	0.71	552451898	400000	
Ca	44	2	45	72111.254	ppb	72111.254	2.30	85023	400000	
Ti	47	2	45	518.859	ppb	518.859	12.67	87	4000	
V	51	2	72	1.575	ppb	1.575	23.10	1247	2000	
Cr	52	2	72	1.730	ppb	1.730	5.37	2174	5000	
Mn	55	2	72	37.169	ppb	37.169	1.77	10320	10000	
Fe	57	2	72	1353.433	ppb	1353.433	2.72	25719	400000	
Co	59	2	72	0.140	ppb	0.140	25.47	350	2000	
Ni	60	2	72	1.243	ppb	1.243	14.45	997	5000	
Cu	63	2	72	0.356	ppb	0.356	25.16	2497	5000	
Zn	66	2	72	8.681	ppb	8.681	10.57	1854	5000	
As	75	2	72	0.462	ppb	0.462	25.82	54	2000	
Se	78	1	72	0.032	ppb	0.032	168.73	64	2000	
Sr	88	2	72	298.195	ppb	298.195	0.81	64015	4000	
Zr	90	2	72	115.200	ppb	115.200	9.59	907	1000	
Nb	93	2	72	0.008	ppb	0.008	89.60	137	200	
Mo	95	2	115	0.488	ppb	0.488	13.79	443	2000	
Pd	105	2	115	0.004	ppb	0.004	257.90	30	100	
Ag	107	2	115	0.002	ppb	0.002	364.85	33	100	
Cd	111	2	115	0.305	ppb	0.305	36.01	87	2000	
Sn	120	2	115	0.039	ppb	0.039	104.28	90	2000	
Sb	121	2	115	0.078	ppb	0.078	40.45	50	1000	
Ba	137	2	115	151.212	ppb	151.212	1.78	22846	5000	
W	182	2	165	0.459	ppb	0.459	2.15	3514	100	
Pt	195	2	165	0.002	ppb	0.002	230.27	133	100	
Tl	205	2	165	0.025	ppb	0.025	54.59	393	2000	
Pb	208	2	165	0.386	ppb	0.386	1.33	5344	5000	
Th	232	2	165	0.134	ppb	0.134	3.13	1867	2000	
U	238	2	165	0.147	ppb	0.147	2.45	2410	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	975946	0.50	1160179	84.12	60	120	
Sc (IS)	45	1	HMI H2	48553368	1.04	51895621	93.56	60	120	
Sc (IS)	45	2	HMI He	424828	1.32	430930	98.58	60	120	
Sc (IS)	45	3	No Gas	134015195	1.11	158101278	84.77	60	120	
Ge Internal Standard	72	1	HMI H2	23709240	0.62	25033284	94.71	60	120	
Ge Internal Standard	72	2	HMI He	668988	0.19	674189	99.23	60	120	
In Internal Standard	115	2	HMI He	1608622	0.85	1572457	102.30	60	120	
Ho-165	165	2	HMI He	13629967	1.45	13678393	99.65	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-21-eSD@5
Data File Name	063SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:12:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-20.212	ppb	-20.212	-37.69	116633	500000	
Li	7	2	45	-4.811	ppb	-4.811	-281.31	6105	500000	
Li	7	3	45	-24.113	ppb	-24.113	-9.23	6340313	50000	
Be	9	1	6	0.020	ppb	0.020	173.21	7	2000	
B	11	1	6	-354.958	ppb	-354.958	-0.48	33805	2000	
Na	23	1	45	1159.396	ppb	1159.396	0.83	4914953	2000	
Na	23	2	45	1092.860	ppb	1092.860	0.33	146122	400000	
Mg	24	2	45	705.368	ppb	705.368	3.00	36821	400000	
Al	27	2	45	52.183	ppb	52.183	11.77	513	400000	
K	39	1	45	748.245	ppb	748.245	1.03	12548762	400000	
K	39	2	45	964.309	ppb	964.309	1.75	21403	400000	
Ca	40	1	45	15137.667	ppb	15137.667	0.86	110761778	400000	
Ca	44	2	45	14653.538	ppb	14653.538	4.11	17009	400000	
Ti	47	2	45	20.138	ppb	20.138	173.21	3	4000	
V	51	2	72	0.310	ppb	0.310	40.83	181	2000	
Cr	52	2	72	1.890	ppb	1.890	6.88	2324	5000	
Mn	55	2	72	7.668	ppb	7.668	12.72	2137	10000	
Fe	57	2	72	284.430	ppb	284.430	2.33	5374	400000	
Co	59	2	72	0.036	ppb	0.036	40.11	90	2000	
Ni	60	2	72	0.333	ppb	0.333	7.86	283	5000	
Cu	63	2	72	0.033	ppb	0.033	343.26	1740	5000	
Zn	66	2	72	0.823	ppb	0.823	11.11	467	5000	
As	75	2	72	0.124	ppb	0.124	37.35	17	2000	
Se	78	1	72	-0.010	ppb	-0.010	-411.30	40	2000	
Sr	88	2	72	54.452	ppb	54.452	7.40	11564	4000	
Zr	90	2	72	27.238	ppb	27.238	20.07	227	1000	
Nb	93	2	72	0.002	ppb	0.002	363.87	113	200	
Mo	95	2	115	0.079	ppb	0.079	65.15	80	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-159.33	13	100	
Ag	107	2	115	-0.001	ppb	-0.001	-559.60	23	100	
Cd	111	2	115	0.104	ppb	0.104	54.52	30	2000	
Sn	120	2	115	0.053	ppb	0.053	140.56	100	2000	
Sb	121	2	115	0.036	ppb	0.036	58.79	27	1000	
Ba	137	2	115	28.077	ppb	28.077	6.75	4257	5000	
W	182	2	165	0.076	ppb	0.076	12.76	837	100	
Pt	195	2	165	0.002	ppb	0.002	272.02	127	100	
Tl	205	2	165	-0.004	ppb	-0.004	-83.63	133	2000	
Pb	208	2	165	0.091	ppb	0.091	19.37	1930	5000	
Th	232	2	165	0.028	ppb	0.028	13.16	407	2000	
U	238	2	165	0.026	ppb	0.026	19.95	433	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1018556	2.35	1160179	87.79	60	120	
Sc (IS)	45	1	HMI H2	48617468	0.33	51895621	93.68	60	120	
Sc (IS)	45	2	HMI He	418027	0.68	430930	97.01	60	120	
Sc (IS)	45	3	No Gas	132741681	0.69	158101278	83.96	60	120	
Ge Internal Standard	72	1	HMI H2	23990517	0.16	25033284	95.83	60	120	
Ge Internal Standard	72	2	HMI He	661378	0.55	674189	98.10	60	120	
In Internal Standard	115	2	HMI He	1610517	2.98	1572457	102.42	60	120	
Ho-165	165	2	HMI He	13359856	0.85	13678393	97.67	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-21-f ms
Data File Name	064SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:16:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	63.150	ppb	63.150	8.13	144224	500000	
Li	7	2	45	32.074	ppb	32.074	6.68	6822	500000	
Li	7	3	45	53.268	ppb	53.268	6.56	7932863	50000	
Be	9	1	6	40.823	ppb	40.823	4.07	13132	2000	
B	11	1	6	-309.837	ppb	-309.837	-1.86	48544	2000	
Na	23	1	45	5563.242	ppb	5563.242	0.89	22314652	2000	
Na	23	2	45	5196.599	ppb	5196.599	0.97	666347	400000	
Mg	24	2	45	3357.042	ppb	3357.042	0.07	171563	400000	
Al	27	2	45	677.515	ppb	677.515	8.36	6251	400000	
K	39	1	45	3831.228	ppb	3831.228	1.80	25121889	400000	
K	39	2	45	4744.815	ppb	4744.815	0.69	86962	400000	
Ca	40	1	45	72018.701	ppb	72018.701	0.39	512690126	400000	
Ca	44	2	45	68743.642	ppb	68743.642	0.81	79425	400000	
Ti	47	2	45	488.482	ppb	488.482	20.74	80	4000	
V	51	2	72	40.590	ppb	40.590	4.27	33331	2000	
Cr	52	2	72	42.070	ppb	42.070	2.41	45723	5000	
Mn	55	2	72	75.876	ppb	75.876	2.18	20556	10000	
Fe	57	2	72	1679.955	ppb	1679.955	2.22	31201	400000	
Co	59	2	72	38.775	ppb	38.775	1.35	95103	2000	
Ni	60	2	72	39.258	ppb	39.258	1.14	29979	5000	
Cu	63	2	72	39.130	ppb	39.130	2.31	89026	5000	
Zn	66	2	72	48.792	ppb	48.792	3.11	8706	5000	
As	75	2	72	40.815	ppb	40.815	2.40	4295	2000	
Se	78	1	72	38.592	ppb	38.592	2.46	22127	2000	
Sr	88	2	72	311.815	ppb	311.815	2.12	65441	4000	
Zr	90	2	72	4792.625	ppb	4792.625	3.31	36095	1000	
Nb	93	2	72	0.037	ppb	0.037	67.22	227	200	
Mo	95	2	115	41.426	ppb	41.426	4.91	35604	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-161.85	13	100	
Ag	107	2	115	39.130	ppb	39.130	1.74	136768	100	
Cd	111	2	115	41.160	ppb	41.160	2.51	11328	2000	
Sn	120	2	115	36.853	ppb	36.853	3.59	23103	2000	
Sb	121	2	115	41.579	ppb	41.579	1.03	22329	1000	
Ba	137	2	115	182.318	ppb	182.318	2.39	26665	5000	
W	182	2	165	38.860	ppb	38.860	0.36	265748	100	
Pt	195	2	165	0.006	ppb	0.006	85.84	157	100	
Tl	205	2	165	39.674	ppb	39.674	1.66	349518	2000	
Pb	208	2	165	40.474	ppb	40.474	1.35	455003	5000	
Th	232	2	165	39.886	ppb	39.886	0.87	538738	2000	
U	238	2	165	39.638	ppb	39.638	0.85	632563	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	988452	1.29	1160179	85.20	60	120	
Sc (IS)	45	1	HMI H2	47345928	0.79	51895621	91.23	60	120	
Sc (IS)	45	2	HMI He	416236	0.98	430930	96.59	60	120	
Sc (IS)	45	3	No Gas	132173001	0.82	158101278	83.60	60	120	
Ge Internal Standard	72	1	HMI H2	23239061	0.39	25033284	92.83	60	120	
Ge Internal Standard	72	2	HMI He	654010	0.57	674189	97.01	60	120	
In Internal Standard	115	2	HMI He	1557468	1.74	1572457	99.05	60	120	
Ho-165	165	2	HMI He	13385413	1.39	13678393	97.86	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-21-g msd
Data File Name	065SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:19:47-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.556	ppb	57.556	5.69	143199	500000	
Li	7	2	45	46.841	ppb	46.841	61.72	7165	500000	
Li	7	3	45	47.346	ppb	47.346	3.69	7893513	50000	
Be	9	1	6	43.235	ppb	43.235	2.28	13499	2000	
B	11	1	6	-301.342	ppb	-301.342	-0.75	49985	2000	
Na	23	1	45	5656.249	ppb	5656.249	0.63	22848949	2000	
Na	23	2	45	5334.080	ppb	5334.080	1.33	687289	400000	
Mg	24	2	45	3440.900	ppb	3440.900	0.45	176751	400000	
Al	27	2	45	741.130	ppb	741.130	7.46	6868	400000	
K	39	1	45	3921.385	ppb	3921.385	1.57	25683550	400000	
K	39	2	45	4832.989	ppb	4832.989	1.10	88941	400000	
Ca	40	1	45	73730.571	ppb	73730.571	0.15	528654152	400000	
Ca	44	2	45	70661.711	ppb	70661.711	2.34	82063	400000	
Ti	47	2	45	507.188	ppb	507.188	25.55	83	4000	
V	51	2	72	41.073	ppb	41.073	3.07	33879	2000	
Cr	52	2	72	41.889	ppb	41.889	1.74	45729	5000	
Mn	55	2	72	76.067	ppb	76.067	2.25	20699	10000	
Fe	57	2	72	1708.528	ppb	1708.528	2.21	31869	400000	
Co	59	2	72	39.584	ppb	39.584	0.83	97509	2000	
Ni	60	2	72	38.291	ppb	38.291	3.29	29372	5000	
Cu	63	2	72	39.138	ppb	39.138	0.93	89435	5000	
Zn	66	2	72	48.035	ppb	48.035	3.65	8612	5000	
As	75	2	72	41.342	ppb	41.342	4.23	4370	2000	
Se	78	1	72	39.536	ppb	39.536	1.83	22895	2000	
Sr	88	2	72	320.138	ppb	320.138	2.69	67484	4000	
Zr	90	2	72	5078.586	ppb	5078.586	1.30	38417	1000	>LDR
Nb	93	2	72	0.041	ppb	0.041	59.33	240	200	
Mo	95	2	115	42.158	ppb	42.158	2.65	36560	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-121.80	13	100	
Ag	107	2	115	38.665	ppb	38.665	2.56	136344	100	
Cd	111	2	115	41.092	ppb	41.092	0.74	11408	2000	
Sn	120	2	115	36.628	ppb	36.628	3.45	23170	2000	
Sb	121	2	115	41.059	ppb	41.059	4.55	22242	1000	
Ba	137	2	115	187.428	ppb	187.428	2.02	27657	5000	
W	182	2	165	39.853	ppb	39.853	0.09	270098	100	
Pt	195	2	165	-0.005	ppb	-0.005	-90.47	77	100	
Tl	205	2	165	40.142	ppb	40.142	0.90	350535	2000	
Pb	208	2	165	41.441	ppb	41.441	1.82	461742	5000	
Th	232	2	165	41.020	ppb	41.020	1.58	549082	2000	
U	238	2	165	40.396	ppb	40.396	1.80	638890	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	958995	0.59	1160179	82.66	60	120	
Sc (IS)	45	1	HMI H2	47685978	0.36	51895621	91.89	60	120	
Sc (IS)	45	2	HMI He	418411	2.05	430930	97.09	60	120	
Sc (IS)	45	3	No Gas	133601821	1.47	158101278	84.50	60	120	
Ge Internal Standard	72	1	HMI H2	23474623	0.40	25033284	93.77	60	120	
Ge Internal Standard	72	2	HMI He	656879	0.42	674189	97.43	60	120	
In Internal Standard	115	2	HMI He	1571354	1.11	1572457	99.93	60	120	
Ho-165	165	2	HMI He	13266271	0.85	13678393	96.99	60	120	

Sample Report

Sample Table

Sample Name	280-90691-a-21-e PDS
Data File Name	066SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:23:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350725 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.319	ppb	-18.319	-4.76	115965	500000	
Li	7	2	45	-25.449	ppb	-25.449	-86.77	5661	500000	
Li	7	3	45	-24.273	ppb	-24.273	-2.46	6367943	50000	
Be	9	1	6	206.155	ppb	206.155	1.18	66308	2000	
B	11	1	6	-343.203	ppb	-343.203	-0.80	36897	2000	
Na	23	1	45	5620.024	ppb	5620.024	0.57	22872697	2000	
Na	23	2	45	5333.532	ppb	5333.532	1.02	683620	400000	
Mg	24	2	45	3440.673	ppb	3440.673	0.90	175782	400000	
Al	27	2	45	2325.889	ppb	2325.889	0.66	21390	400000	
K	39	1	45	3872.387	ppb	3872.387	0.55	25667545	400000	
K	39	2	45	4798.177	ppb	4798.177	0.41	87876	400000	
Ca	40	1	45	73187.875	ppb	73187.875	1.12	528672699	400000	
Ca	44	2	45	70064.256	ppb	70064.256	2.48	80956	400000	
Ti	47	2	45	916.309	ppb	916.309	12.23	150	4000	
V	51	2	72	197.277	ppb	197.277	1.63	163770	2000	
Cr	52	2	72	198.923	ppb	198.923	1.23	217155	5000	
Mn	55	2	72	234.622	ppb	234.622	2.26	64039	10000	
Fe	57	2	72	3261.405	ppb	3261.405	0.84	61075	400000	
Co	59	2	72	193.640	ppb	193.640	0.79	479171	2000	
Ni	60	2	72	191.777	ppb	191.777	1.34	147653	5000	
Cu	63	2	72	193.541	ppb	193.541	0.45	437710	5000	
Zn	66	2	72	209.939	ppb	209.939	1.78	36732	5000	
As	75	2	72	201.968	ppb	201.968	0.34	21430	2000	
Se	78	1	72	196.735	ppb	196.735	1.59	115493	2000	
Sr	88	2	72	278.472	ppb	278.472	0.82	58964	4000	
Zr	90	2	72	27781.603	ppb	27781.603	1.62	210997	1000	>LDR
Nb	93	2	72	0.742	ppb	0.742	12.52	2514	200	
Mo	95	2	115	200.410	ppb	200.410	0.30	175640	2000	
Pd	105	2	115	0.018	ppb	0.018	68.59	53	100	
Ag	107	2	115	39.649	ppb	39.649	1.72	141325	100	
Cd	111	2	115	201.118	ppb	201.118	2.53	56428	2000	
Sn	120	2	115	198.709	ppb	198.709	0.23	126787	2000	
Sb	121	2	115	204.642	ppb	204.642	1.05	112051	1000	
Ba	137	2	115	356.123	ppb	356.123	1.85	53105	5000	
W	182	2	165	198.500	ppb	198.500	1.23	1362083	100	
Pt	195	2	165	0.078	ppb	0.078	4.92	693	100	
Tl	205	2	165	201.060	ppb	201.060	1.47	1778612	2000	
Pb	208	2	165	201.996	ppb	201.996	1.64	2277305	5000	
Th	232	2	165	0.738	ppb	0.738	7.74	10024	2000	
U	238	2	165	196.406	ppb	196.406	2.03	3147969	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	988030	0.61	1160179	85.16	60	120	
Sc (IS)	45	1	HMI H2	48042018	0.55	51895621	92.57	60	120	
Sc (IS)	45	2	HMI He	416177	1.12	430930	96.58	60	120	
Sc (IS)	45	3	No Gas	133386521	1.35	158101278	84.37	60	120	
Ge Internal Standard	72	1	HMI H2	23834435	0.56	25033284	95.21	60	120	
Ge Internal Standard	72	2	HMI He	659887	1.37	674189	97.88	60	120	
In Internal Standard	115	2	HMI He	1588149	0.24	1572457	101.00	60	120	
Ho-165	165	2	HMI He	13445881	1.50	13678393	98.30	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	067_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:27:21-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	454.348	ppb	2.560	290499	500	90.9	90	110	
Li	7	2	45	414.216	ppb	3.395	14409	500	82.8	90	110	>+\-10%
Li	7	3	45	432.276	ppb	0.748	15838145	500	86.5	90	110	>+\-10%
Be	9	1	6	53.044	ppb	6.521	17008	50	106.1	90	110	
B	11	1	6	-318.815	ppb	-1.110	45293	50	-637.6	90	110	>+\-10%
Na	23	1	45	4911.523	ppb	0.712	19890116	5000	98.2	90	110	
Na	23	2	45	4650.962	ppb	2.094	591859	5000	93.0	90	110	
Mg	24	2	45	4930.379	ppb	1.525	249400	5000	98.6	90	110	
Al	27	2	45	4964.667	ppb	2.756	45227	5000	99.3	90	110	
K	39	1	45	5149.242	ppb	0.751	30901607	5000	103.0	90	110	
K	39	2	45	5093.310	ppb	1.484	92201	5000	101.9	90	110	
Ca	40	1	45	5126.790	ppb	0.644	36930429	5000	102.5	90	110	
Ca	44	2	45	5289.135	ppb	3.770	6068	5000	105.8	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	48.463	ppb	5.328	39971	50	96.9	90	110	
Cr	52	2	72	48.413	ppb	1.315	52782	50	96.8	90	110	
Mn	55	2	72	47.410	ppb	1.685	12908	50	94.8	90	110	
Fe	57	2	72	4877.438	ppb	1.959	90861	5000	97.5	90	110	
Co	59	2	72	48.752	ppb	2.998	120035	50	97.5	90	110	
Ni	60	2	72	47.763	ppb	1.667	36608	50	95.5	90	110	
Cu	63	2	72	48.563	ppb	1.591	110516	50	97.1	90	110	
Zn	66	2	72	51.689	ppb	3.837	9239	50	103.4	90	110	
As	75	2	72	49.759	ppb	0.283	5256	50	99.5	90	110	
Se	78	1	72	50.930	ppb	0.913	29449	50	101.9	90	110	
Sr	88	2	72	52.683	ppb	3.089	11111	50	105.4	90	110	
Zr	90	2	72	40.677	ppb	8.366	327	50	81.4	90	110	>+\-10%
Nb	93	2	72	97.092	ppb	0.460	313334	100	97.1	90	110	
Mo	95	2	115	48.029	ppb	1.259	41848	50	96.1	90	110	
Pd	105	2	115	49.258	ppb	0.885	83292	50	98.5	90	110	
Ag	107	2	115	47.949	ppb	0.567	169891	50	95.9	90	110	
Cd	111	2	115	52.237	ppb	1.967	14573	50	104.5	90	110	
Sn	120	2	115	49.317	ppb	1.492	31326	50	98.6	90	110	
Sb	121	2	115	50.964	ppb	2.568	27737	50	101.9	90	110	
Ba	137	2	115	49.816	ppb	5.427	7392	50	99.6	90	110	
W	182	2	165	50.273	ppb	0.958	338084	50	100.5	90	110	
Pt	195	2	165	49.811	ppb	0.865	360670	50	99.6	90	110	
Tl	205	2	165	50.271	ppb	0.518	435668	50	100.5	90	110	
Pb	208	2	165	51.030	ppb	0.782	564137	50	102.1	90	110	
Th	232	2	165	50.424	ppb	0.649	669952	50	100.8	90	110	
U	238	2	165	49.114	ppb	0.909	771024	50	98.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	985772	2.07	1160179	84.97	60	120	
Sc (IS)	45	1	HMI H2	47751454	0.37	51895621	92.01	60	120	
Sc (IS)	45	2	HMI He	412619	1.03	430930	95.75	60	120	
Sc (IS)	45	3	No Gas	131928315	0.47	158101278	83.45	60	120	
Ge Internal Standard	72	1	HMI H2	23448893	0.44	25033284	93.67	60	120	
Ge Internal Standard	72	2	HMI He	656526	0.47	674189	97.38	60	120	
In Internal Standard	115	2	HMI He	1578818	1.83	1572457	100.40	60	120	
Ho-165	165	2	HMI He	13167141	0.58	13678393	96.26	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	068_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:31:08-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-28.857	ppb	-3.2	6293690	10	
Be	9	1	6	0.020	ppb	173.2	7	0.5	
B	11	1	6	-361.414	ppb	-0.9	30750	0.5	
Na	23	1	45	-10.433	ppb	-2.4	131042	25	
Na	23	2	45	-9.769	ppb	-21.4	5474	25	
Mg	24	2	45	-10.555	ppb	-2.4	240	25	
Al	27	2	45	3.101	ppb	57.6	60	15	
K	39	1	45	9.362	ppb	378.8	9195349	50	
K	39	2	45	14.034	ppb	77.5	4758	50	
Ca	40	1	45	-2.660	ppb	-10.4	110868	50	
Ca	44	2	45	20.726	ppb	47.0	33	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.153	ppb	65.6	48	1	
Cr	52	2	72	-0.064	ppb	-40.0	187	1	
Mn	55	2	72	-0.081	ppb	-26.7	17	0.5	
Fe	57	2	72	3.460	ppb	7.6	103	25	
Co	59	2	72	0.034	ppb	49.5	83	0.5	
Ni	60	2	72	0.123	ppb	73.8	120	1	
Cu	63	2	72	-0.051	ppb	-112.0	1537	1	
Zn	66	2	72	-0.763	ppb	-45.7	190	5	
As	75	2	72	0.107	ppb	86.3	15	1	
Se	78	1	72	0.027	ppb	75.5	61	1	
Sr	88	2	72	-0.030	ppb	-179.7	7	0.5	
Zr	90	2	72	2.695	ppb	168.8	40	1	>RL
Nb	93	2	72	0.966	ppb	1.9	3220	2	
Mo	95	2	115	0.046	ppb	101.6	50	0.5	
Pd	105	2	115	0.038	ppb	37.2	87	1	
Ag	107	2	115	0.009	ppb	161.1	57	1	
Cd	111	2	115	0.048	ppb	86.6	13	0.5	
Sn	120	2	115	0.050	ppb	330.7	93	1	
Sb	121	2	115	0.124	ppb	46.3	73	0.6	
Ba	137	2	115	-0.024	ppb	-491.4	10	0.5	
W	182	2	165	0.054	ppb	39.2	683	1	
Pt	195	2	165	0.013	ppb	55.4	207	1	
Tl	205	2	165	0.054	ppb	14.1	643	0.1	
Pb	208	2	165	0.023	ppb	72.6	1180	0.5	
Th	232	2	165	0.056	ppb	17.3	780	1	
U	238	2	165	0.024	ppb	1.5	407	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	995139	2.49	1160179	85.77	60	120	
Sc (IS)	45	1	HMI H2	47698266	1.05	51895621	91.91	60	120	
Sc (IS)	45	2	HMI He	411704	1.85	430930	95.54	60	120	
Sc (IS)	45	3	No Gas	133865651	0.40	158101278	84.67	60	120	
Ge Internal Standard	72	1	HMI H2	23700675	0.52	25033284	94.68	60	120	
Ge Internal Standard	72	2	HMI He	656090	1.43	674189	97.32	60	120	
In Internal Standard	115	2	HMI He	1570925	1.82	1572457	99.90	60	120	
Ho-165	165	2	HMI He	13390316	0.03	13678393	97.89	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	069LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:34:55-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	16.097	ppb	30.468	7242763	50	32.2	70	130	>+/-30%
Be	9	1	6	1.133	ppb	18.205	370	1	113.3	70	130	
Na	23	2	45	36.508	ppb	10.491	11404	50	73.0	70	130	
Mg	24	2	45	40.581	ppb	4.061	2844	50	81.2	70	130	
Al	27	2	45	39.477	ppb	29.110	393	30	131.6	70	130	>+/-30%
K	39	2	45	101.482	ppb	13.031	6325	100	101.5	70	130	
Ca	44	2	45	66.775	ppb	9.143	87	50	133.6	70	130	>+/-30%
V	51	2	72	4.772	ppb	11.691	3880	5	95.4	70	130	
Cr	52	2	72	1.933	ppb	4.753	2360	2	96.6	70	130	
Mn	55	2	72	1.056	ppb	9.687	327	1	105.6	70	130	
Fe	57	2	72	57.324	ppb	13.583	1110	50	114.6	70	130	
Co	59	2	72	1.019	ppb	5.582	2517	1	101.9	70	130	
Ni	60	2	72	2.023	ppb	9.619	1580	2	101.1	70	130	
Cu	63	2	72	1.796	ppb	5.306	5698	2	89.8	70	130	
Zn	66	2	72	9.349	ppb	7.669	1940	10	93.5	70	130	
As	75	2	72	4.958	ppb	11.320	529	5	99.2	70	130	
Se	78	1	72	5.078	ppb	3.978	3008	5	101.6	70	130	
Sr	88	2	72	0.917	ppb	25.689	207	1	91.7	70	130	
Zr	90	2	72	11.509	ppb	6.088	107	0.5	2301.9	70	130	>+/-30%
Nb	93	2	72	1.203	ppb	0.600	4001	2	60.1	70	130	>+/-30%
Mo	95	2	115	1.908	ppb	8.210	1693	2	95.4	70	130	
Pd	105	2	115	0.010	ppb	214.280	40	1	1.0	70	130	>+/-30%
Ag	107	2	115	4.792	ppb	3.265	17216	5	95.8	70	130	
Cd	111	2	115	1.099	ppb	26.167	310	1	109.9	70	130	
Sn	120	2	115	10.782	ppb	1.133	6985	10	107.8	70	130	
Sb	121	2	115	2.287	ppb	10.006	1267	2	114.4	70	130	
Ba	137	2	115	0.995	ppb	25.060	163	1	99.5	70	130	
W	182	2	165	5.070	ppb	2.835	34641	1	507.0	70	130	>+/-30%
Pt	195	2	165	0.015	ppb	17.427	220	1	1.5	70	130	>+/-30%
Tl	205	2	165	1.063	ppb	3.553	9443	1	106.3	70	130	
Pb	208	2	165	1.112	ppb	4.118	13269	1	111.2	70	130	
Th	232	2	165	2.139	ppb	0.882	28657	2	106.9	70	130	
U	238	2	165	1.016	ppb	4.167	16089	1	101.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1005413	2.13	1160179	86.66	60	120	
Sc (IS)	45	1	HMI H2	47926556	0.58	51895621	92.35	60	120	
Sc (IS)	45	2	HMI He	416033	1.55	430930	96.54	60	120	
Sc (IS)	45	3	No Gas	133795598	0.78	158101278	84.63	60	120	
Ge Internal Standard	72	1	HMI H2	23698265	0.55	25033284	94.67	60	120	
Ge Internal Standard	72	2	HMI He	658662	0.46	674189	97.70	60	120	
In Internal Standard	115	2	HMI He	1598430	0.45	1572457	101.65	60	120	
Ho-165	165	2	HMI He	13268623	0.72	13678393	97.00	60	120	

Blank Report

Sample Table

Sample Name	mb 280-350719/1-a
Data File Name	070_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:38:43-07:00
Sample Type	Blank
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-24.021	ppb	-15.89415119	113849	0.5
Li	7	2	45	-26.258	ppb	-28.19308815	5744	0.5
Li	7	3	45	-29.227	ppb	-20.10435097	6310304	10
Be	9	1	6	0.031	ppb	99.8677171	10	0.5
B	11	1	6	-359.202	ppb	-0.304232532	31735	0.5
Na	23	1	45	-4.551	ppb	-11.89413816	155759	25
Na	23	2	45	-5.500	ppb	-60.48504942	6191	25
Mg	24	2	45	-11.976	ppb	-5.165238973	173	25
Al	27	2	45	-0.647	ppb	-247.5158415	27	15
K	39	1	45	-945.674	ppb	-2.208887716	5207042	50
K	39	2	45	0.489	ppb	1423.839976	4657	50
Ca	40	1	45	2.263	ppb	3.890774354	147246	50
Ca	44	2	45	5.822	ppb	221.4621903	17	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	-0.019	ppb	-221.7851314	-94	1
Cr	52	2	72	0.120	ppb	106.7898142	390	1
Mn	55	2	72	0.015	ppb	138.0882058	43	0.5
Fe	57	2	72	6.234	ppb	85.22507063	157	25
Co	59	2	72	0.011	ppb	86.60259585	27	0.5
Ni	60	2	72	0.022	ppb	89.07057745	43	1
Cu	63	2	72	-0.057	ppb	-211.4241652	1540	1
Zn	66	2	72	0.261	ppb	58.14973145	370	5
As	75	2	72	0.093	ppb	52.80501481	14	1
Se	78	1	72	-0.018	ppb	-144.5503927	35	1
Sr	88	2	72	0.017	ppb	426.5406299	17	0.5
Zr	90	2	72	0.938	ppb	427.5958425	27	1
Nb	93	2	72	0.110	ppb	38.19149653	467	2
Mo	95	2	115	0.030	ppb	97.26445197	37	0.5
Pd	105	2	115	0.006	ppb	308.9308167	33	1
Ag	107	2	115	-0.004	ppb	-109.8921912	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.074	ppb	109.8053926	113	1
Sb	121	2	115	0.018	ppb	285.0717519	17	0.6
Ba	137	2	115	-0.049	ppb	-79.1786291	7	0.5
W	182	2	165	0.044	ppb	67.92493349	613	1
Pt	195	2	165	0.008	ppb	110.1605658	170	1
Tl	205	2	165	0.035	ppb	31.04600058	473	0.1
Pb	208	2	165	0.017	ppb	21.40095708	1107	0.5
Th	232	2	165	0.060	ppb	17.7355202	833	1
U	238	2	165	0.006	ppb	14.51283493	123	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1001069	0.29	1160179	86.29	60	120	
Sc (IS)	45	1	HMI H2	48050631	1.13	51895621	92.59	60	120	
Sc (IS)	45	2	HMI He	423703	1.37	430930	98.32	60	120	
Sc (IS)	45	3	No Gas	134404938	1.08	158101278	85.01	60	120	
Ge Internal Standard	72	1	HMI H2	23637661	1.02	25033284	94.42	60	120	
Ge Internal Standard	72	2	HMI He	663231	0.20	674189	98.37	60	120	
In Internal Standard	115	2	HMI He	1612642	2.29	1572457	102.56	60	120	
Ho-165	165	2	HMI He	13345632	0.95	13678393	97.57	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-350719/2-a
Data File Name	071_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:42:31-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350719 6020A DOD5
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	50.117	50.117	ppb	9.416	143275	400	12.5	80	120	>+/-20%
Li	7	2	45	59.618	59.618	ppb	25.869	7499	400	14.9	80	120	>+/-20%
Li	7	3	45	42.942	42.942	ppb	5.797	7854054	400	10.7	80	120	>+/-20%
Be	9	1	6	43.065	43.065	ppb	4.299	14049	40	107.7	80	120	
Na	23	2	45	9.733	9.733	ppb	12.328	8145	40	24.3	80	120	>+/-20%
Mg	24	2	45	-12.746	-12.746	ppb	-4.733	133	40	-31.9	80	120	>+/-20%
Al	27	2	45	417.479	417.479	ppb	2.724	3931	40	1043.7	80	120	>+/-20%
K	39	2	45	1.532	1.532	ppb	1152.802	4671	40	3.8	80	120	>+/-20%
Ca	44	2	45	283.963	283.963	ppb	21.000	343	40	709.9	80	120	>+/-20%
V	51	2	72	39.367	39.367	ppb	3.114	32860	40	98.4	80	120	
Cr	52	2	72	42.701	42.701	ppb	1.459	47173	40	106.8	80	120	
Mn	55	2	72	40.329	40.329	ppb	2.094	11124	40	100.8	80	120	
Fe	57	2	72	455.245	455.245	ppb	4.589	8622	40	1138.1	80	120	>+/-20%
Co	59	2	72	40.014	40.014	ppb	1.915	99765	40	100.0	80	120	
Ni	60	2	72	39.623	39.623	ppb	2.251	30757	40	99.1	80	120	
Cu	63	2	72	39.627	39.627	ppb	0.437	91623	40	99.1	80	120	
Zn	66	2	72	39.902	39.902	ppb	5.421	7295	40	99.8	80	120	
As	75	2	72	40.321	40.321	ppb	1.904	4313	40	100.8	80	120	
Se	78	1	72	39.080	39.080	ppb	1.404	23139	40	97.7	80	120	
Nb	93	2	72	0.095	0.095	ppb	16.514	420	40	0.2	80	120	>+/-20%
Mo	95	2	115	40.876	40.876	ppb	3.245	35998	40	102.2	80	120	
Pd	105	2	115	-0.006	-0.006	ppb	-53.867	13	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.350	39.350	ppb	1.455	140948	40	98.4	80	120	
Cd	111	2	115	40.144	40.144	ppb	8.849	11317	40	100.4	80	120	
Sn	120	2	115	39.910	39.910	ppb	1.802	25644	40	99.8	80	120	
Sb	121	2	115	38.966	38.966	ppb	1.803	21458	40	97.4	80	120	
Ba	137	2	115	41.573	41.573	ppb	9.593	6238	40	103.9	80	120	
W	182	2	165	39.361	39.361	ppb	1.047	271298	40	98.4	80	120	
Pt	195	2	165	0.016	0.016	ppb	25.058	230	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.984	39.984	ppb	1.417	355093	40	100.0	80	120	
Pb	208	2	165	41.067	41.067	ppb	1.543	465355	40	102.7	80	120	
Th	232	2	165	40.232	40.232	ppb	0.781	547731	40	100.6	80	120	
U	238	2	165	39.719	39.719	ppb	0.699	638924	40	99.3	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1001940	0.56	1160179	86.36	60	120	
Sc (IS)	45	1	HMI H2	48644623	0.64	51895621	93.74	60	120	
Sc (IS)	45	2	HMI He	423128	0.63	430930	98.19	60	120	
Sc (IS)	45	3	No Gas	134524718	1.08	158101278	85.09	60	120	
Ge Internal Standard	72	1	HMI H2	24001634	0.65	25033284	95.88	60	120	
Ge Internal Standard	72	2	HMI He	664807	0.70	674189	98.61	60	120	
In Internal Standard	115	2	HMI He	1596365	2.91	1572457	101.52	60	120	
Ho-165	165	2	HMI He	13492303	0.88	13678393	98.64	60	120	

Sample Report

Sample Table

Sample Name	280-90625-C-1-B
Data File Name	072SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:46:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.623	ppb	-27.623	-8.40	108843	500000	
Li	7	2	45	-14.402	ppb	-14.402	-33.15	5778	500000	
Li	7	3	45	-30.628	ppb	-30.628	-3.54	5901748	50000	
Be	9	1	6	0.173	ppb	0.173	85.32	53	2000	
B	11	1	6	-324.505	ppb	-324.505	-0.50	41902	2000	
Na	23	1	45	10791.294	ppb	10791.294	0.74	42339258	2000	>LDR
Na	23	2	45	10234.768	ppb	10234.768	0.29	1282346	400000	
Mg	24	2	45	7990.201	ppb	7990.201	0.64	399916	400000	
Al	27	2	45	274.587	ppb	274.587	9.44	2507	400000	
K	39	1	45	4822.986	ppb	4822.986	1.47	28739716	400000	
K	39	2	45	5642.032	ppb	5642.032	1.81	100699	400000	
Ca	40	1	45	73854.823	ppb	73854.823	1.29	516163966	400000	
Ca	44	2	45	69606.973	ppb	69606.973	0.38	78976	400000	
Ti	47	2	45	580.402	ppb	580.402	30.51	93	4000	
V	51	2	72	11.252	ppb	11.252	3.86	8959	2000	
Cr	52	2	72	5.689	ppb	5.689	6.70	6241	5000	
Mn	55	2	72	334.327	ppb	334.327	2.19	88177	10000	
Fe	57	2	72	65057.192	ppb	65057.192	1.27	1176609	400000	
Co	59	2	72	0.494	ppb	0.494	6.86	1183	2000	
Ni	60	2	72	1.984	ppb	1.984	9.48	1500	5000	
Cu	63	2	72	0.771	ppb	0.771	26.07	3280	5000	
Zn	66	2	72	10.645	ppb	10.645	14.58	2094	5000	
As	75	2	72	58.956	ppb	58.956	1.69	6047	2000	
Se	78	1	72	1.036	ppb	1.036	3.04	623	2000	
Sr	88	2	72	246.600	ppb	246.600	1.94	50464	4000	
Zr	90	2	72	1170.405	ppb	1170.405	3.87	8609	1000	
Nb	93	2	72	0.098	ppb	0.098	30.47	410	200	
Mo	95	2	115	2.933	ppb	2.933	12.76	2500	2000	
Pd	105	2	115	0.007	ppb	0.007	188.30	33	100	
Ag	107	2	115	-0.002	ppb	-0.002	-408.62	20	100	
Cd	111	2	115	0.356	ppb	0.356	60.75	97	2000	
Sn	120	2	115	0.229	ppb	0.229	42.88	203	2000	
Sb	121	2	115	0.441	ppb	0.441	4.56	240	1000	
Ba	137	2	115	224.398	ppb	224.398	1.04	32419	5000	
W	182	2	165	0.080	ppb	0.080	17.52	850	100	
Pt	195	2	165	0.017	ppb	0.017	23.05	237	100	
Tl	205	2	165	0.050	ppb	0.050	28.88	597	2000	
Pb	208	2	165	0.353	ppb	0.353	5.31	4807	5000	
Th	232	2	165	0.394	ppb	0.394	3.12	5261	2000	
U	238	2	165	0.586	ppb	0.586	8.49	9230	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	953473	1.01	1160179	82.18	60	120	
Sc (IS)	45	1	HMI H2	46484623	0.97	51895621	89.57	60	120	
Sc (IS)	45	2	HMI He	408735	0.63	430930	94.85	60	120	
Sc (IS)	45	3	No Gas	126282268	0.33	158101278	79.87	60	120	
Ge Internal Standard	72	1	HMI H2	22712501	0.31	25033284	90.73	60	120	
Ge Internal Standard	72	2	HMI He	637750	1.51	674189	94.60	60	120	
In Internal Standard	115	2	HMI He	1538405	0.31	1572457	97.83	60	120	
Ho-165	165	2	HMI He	13182777	1.80	13678393	96.38	60	120	

Sample Report

Sample Table

Sample Name	280-90625-C-2-D
Data File Name	073SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:50:04-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-26.764	ppb	-26.764	-25.14	108119	500000	
Li	7	2	45	-21.787	ppb	-21.787	-90.58	5428	500000	
Li	7	3	45	-30.756	ppb	-30.756	-2.90	5920034	50000	
Be	9	1	6	0.904	ppb	0.904	24.08	277	2000	
B	11	1	6	-255.172	ppb	-255.172	-0.83	64325	2000	
Na	23	1	45	11003.411	ppb	11003.411	0.20	42761698	2000	>LDR
Na	23	2	45	10839.908	ppb	10839.908	2.25	1307817	400000	
Mg	24	2	45	15846.282	ppb	15846.282	1.21	763288	400000	
Al	27	2	45	3484.888	ppb	3484.888	3.43	30303	400000	
K	39	1	45	2839.444	ppb	2839.444	0.23	20396366	400000	
K	39	2	45	3840.724	ppb	3840.724	2.81	67399	400000	
Ca	40	1	45	124052.847	ppb	124052.847	0.51	858774814	400000	
Ca	44	2	45	118567.262	ppb	118567.262	1.39	129601	400000	
Ti	47	2	45	21.720	ppb	21.720	173.21	3	4000	
V	51	2	72	0.296	ppb	0.296	81.00	161	2000	
Cr	52	2	72	2.120	ppb	2.120	4.30	2450	5000	
Mn	55	2	72	258.083	ppb	258.083	0.91	67211	10000	
Fe	57	2	72	20932.710	ppb	20932.710	0.67	373724	400000	
Co	59	2	72	14.658	ppb	14.658	3.91	34594	2000	
Ni	60	2	72	26.163	ppb	26.163	3.02	19234	5000	
Cu	63	2	72	5.269	ppb	5.269	4.48	12912	5000	
Zn	66	2	72	123.248	ppb	123.248	1.69	20693	5000	
As	75	2	72	1.397	ppb	1.397	13.27	145	2000	
Se	78	1	72	0.231	ppb	0.231	11.54	173	2000	
Sr	88	2	72	547.085	ppb	547.085	0.39	110495	4000	
Zr	90	2	72	80.313	ppb	80.313	14.38	600	1000	
Nb	93	2	72	0.064	ppb	0.064	32.59	300	200	
Mo	95	2	115	0.086	ppb	0.086	56.26	80	2000	
Pd	105	2	115	0.001	ppb	0.001	323.89	23	100	
Ag	107	2	115	0.008	ppb	0.008	163.65	53	100	
Cd	111	2	115	14.672	ppb	14.672	4.66	3847	2000	
Sn	120	2	115	0.203	ppb	0.203	59.05	180	2000	
Sb	121	2	115	0.093	ppb	0.093	53.23	53	1000	
Ba	137	2	115	19.429	ppb	19.429	4.44	2717	5000	
W	182	2	165	0.047	ppb	0.047	30.51	617	100	
Pt	195	2	165	0.003	ppb	0.003	222.54	130	100	
Tl	205	2	165	0.228	ppb	0.228	4.58	2110	2000	
Pb	208	2	165	0.096	ppb	0.096	7.31	1930	5000	
Th	232	2	165	0.063	ppb	0.063	1.34	847	2000	
U	238	2	165	1.940	ppb	1.940	0.12	30003	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	940092	0.99	1160179	81.03	60	120	
Sc (IS)	45	1	HMI H2	46044906	0.35	51895621	88.73	60	120	
Sc (IS)	45	2	HMI He	393756	1.07	430930	91.37	60	120	
Sc (IS)	45	3	No Gas	126729398	0.18	158101278	80.16	60	120	
Ge Internal Standard	72	1	HMI H2	22752521	0.19	25033284	90.89	60	120	
Ge Internal Standard	72	2	HMI He	629472	1.23	674189	93.37	60	120	
In Internal Standard	115	2	HMI He	1483409	1.93	1572457	94.34	60	120	
Ho-165	165	2	HMI He	12961187	0.86	13678393	94.76	60	120	

Sample Report

Sample Table

Sample Name	280-90625-a-3-b
Data File Name	074SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:53:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.971	ppb	-18.971	-9.53	111287	500000	
Li	7	2	45	-12.519	ppb	-12.519	-254.96	5711	500000	
Li	7	3	45	-34.723	ppb	-34.723	-6.23	5901106	50000	
Be	9	1	6	1.051	ppb	1.051	21.14	323	2000	
B	11	1	6	-9.025	ppb	-9.025	-145.79	146808	2000	
Na	23	1	45	14841.805	ppb	14841.805	0.31	57814492	2000	>LDR
Na	23	2	45	14334.099	ppb	14334.099	0.50	1763505	400000	
Mg	24	2	45	9046.725	ppb	9046.725	0.78	445193	400000	
Al	27	2	45	2262.040	ppb	2262.040	3.51	20088	400000	
K	39	1	45	917.528	ppb	917.528	4.44	12615456	400000	
K	39	2	45	1875.671	ppb	1875.671	2.76	35856	400000	
Ca	40	1	45	20669.517	ppb	20669.517	1.40	143665371	400000	
Ca	44	2	45	19546.836	ppb	19546.836	1.64	21821	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.364	ppb	0.364	23.22	217	2000	
Cr	52	2	72	0.686	ppb	0.686	16.83	977	5000	
Mn	55	2	72	13.442	ppb	13.442	4.82	3597	10000	
Fe	57	2	72	18.239	ppb	18.239	36.80	370	400000	
Co	59	2	72	1.758	ppb	1.758	5.17	4221	2000	
Ni	60	2	72	3.886	ppb	3.886	4.44	2927	5000	
Cu	63	2	72	5.878	ppb	5.878	1.56	14460	5000	
Zn	66	2	72	47.874	ppb	47.874	5.02	8366	5000	
As	75	2	72	1.717	ppb	1.717	10.52	180	2000	
Se	78	1	72	2.760	ppb	2.760	5.61	1615	2000	
Sr	88	2	72	58.254	ppb	58.254	3.20	11981	4000	
Zr	90	2	72	29.083	ppb	29.083	42.68	233	1000	
Nb	93	2	72	0.024	ppb	0.024	59.99	180	200	
Mo	95	2	115	0.028	ppb	0.028	109.27	33	2000	
Pd	105	2	115	0.019	ppb	0.019	129.22	53	100	
Ag	107	2	115	-0.003	ppb	-0.003	-305.69	17	100	
Cd	111	2	115	0.745	ppb	0.745	45.21	203	2000	
Sn	120	2	115	0.008	ppb	0.008	631.40	67	2000	
Sb	121	2	115	0.082	ppb	0.082	38.74	50	1000	
Ba	137	2	115	44.848	ppb	44.848	5.82	6495	5000	
W	182	2	165	0.027	ppb	0.027	5.18	497	100	
Pt	195	2	165	0.011	ppb	0.011	91.07	190	100	
Tl	205	2	165	0.049	ppb	0.049	4.96	597	2000	
Pb	208	2	165	0.590	ppb	0.590	0.94	7434	5000	
Th	232	2	165	0.024	ppb	0.024	21.72	347	2000	
U	238	2	165	1.634	ppb	1.634	3.89	25746	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	945304	0.32	1160179	81.48	60	120	
Sc (IS)	45	1	HMI H2	46199948	0.68	51895621	89.02	60	120	
Sc (IS)	45	2	HMI He	401967	1.86	430930	93.28	60	120	
Sc (IS)	45	3	No Gas	128051005	0.78	158101278	80.99	60	120	
Ge Internal Standard	72	1	HMI H2	23115984	0.78	25033284	92.34	60	120	
Ge Internal Standard	72	2	HMI He	640226	1.18	674189	94.96	60	120	
In Internal Standard	115	2	HMI He	1539650	1.35	1572457	97.91	60	120	
Ho-165	165	2	HMI He	13206112	1.18	13678393	96.55	60	120	

Sample Report

Sample Table

Sample Name	280-90625-a-3-bsd@5
Data File Name	075SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T20:57:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-24.474	ppb	-24.474	-18.43	111461	500000	
Li	7	2	45	-12.720	ppb	-12.720	-40.49	5724	500000	
Li	7	3	45	-29.622	ppb	-29.622	-2.27	6112916	50000	
Be	9	1	6	0.297	ppb	0.297	39.38	97	2000	
B	11	1	6	-294.224	ppb	-294.224	-1.28	54631	2000	
Na	23	1	45	2977.571	ppb	2977.571	0.91	11963555	2000	
Na	23	2	45	2862.307	ppb	2862.307	1.38	358008	400000	
Mg	24	2	45	1807.188	ppb	1807.188	2.16	89695	400000	
Al	27	2	45	476.103	ppb	476.103	3.79	4261	400000	
K	39	1	45	119.520	ppb	119.520	10.13	9541489	400000	
K	39	2	45	366.985	ppb	366.985	2.88	10584	400000	
Ca	40	1	45	4129.406	ppb	4129.406	1.02	29370965	400000	
Ca	44	2	45	3831.252	ppb	3831.252	4.67	4291	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.171	ppb	0.171	132.54	64	2000	
Cr	52	2	72	0.361	ppb	0.361	29.11	637	5000	
Mn	55	2	72	2.490	ppb	2.490	32.12	703	10000	
Fe	57	2	72	9.547	ppb	9.547	16.67	213	400000	
Co	59	2	72	0.348	ppb	0.348	18.28	843	2000	
Ni	60	2	72	0.820	ppb	0.820	10.91	643	5000	
Cu	63	2	72	1.097	ppb	1.097	4.29	4044	5000	
Zn	66	2	72	9.607	ppb	9.607	4.73	1947	5000	
As	75	2	72	0.398	ppb	0.398	41.33	45	2000	
Se	78	1	72	0.493	ppb	0.493	24.12	328	2000	
Sr	88	2	72	11.619	ppb	11.619	2.94	2420	4000	
Zr	90	2	72	3.717	ppb	3.717	54.97	47	1000	
Nb	93	2	72	-0.007	ppb	-0.007	-147.76	83	200	
Mo	95	2	115	0.000	ppb	0.000	7749.78	10	2000	
Pd	105	2	115	0.015	ppb	0.015	61.67	47	100	
Ag	107	2	115	0.002	ppb	0.002	79.12	33	100	
Cd	111	2	115	0.249	ppb	0.249	45.97	67	2000	
Sn	120	2	115	0.059	ppb	0.059	85.52	97	2000	
Sb	121	2	115	0.039	ppb	0.039	74.48	27	1000	
Ba	137	2	115	9.542	ppb	9.542	10.56	1370	5000	
W	182	2	165	0.005	ppb	0.005	160.44	343	100	
Pt	195	2	165	0.003	ppb	0.003	222.99	133	100	
Tl	205	2	165	0.012	ppb	0.012	66.18	270	2000	
Pb	208	2	165	0.130	ppb	0.130	8.11	2320	5000	
Th	232	2	165	0.007	ppb	0.007	51.42	120	2000	
U	238	2	165	0.332	ppb	0.332	7.46	5204	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1000192	1.80	1160179	86.21	60	120	
Sc (IS)	45	1	HMI H2	47110933	0.73	51895621	90.78	60	120	
Sc (IS)	45	2	HMI He	402654	0.34	430930	93.44	60	120	
Sc (IS)	45	3	No Gas	130358215	0.63	158101278	82.45	60	120	
Ge Internal Standard	72	1	HMI H2	23373041	0.71	25033284	93.37	60	120	
Ge Internal Standard	72	2	HMI He	645871	0.69	674189	95.80	60	120	
In Internal Standard	115	2	HMI He	1515022	0.17	1572457	96.35	60	120	
Ho-165	165	2	HMI He	13088988	0.36	13678393	95.69	60	120	

Sample Table

Sample Name	280-90625-a-3-c ms
Data File Name	076SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:01:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	50.631	ppb	50.631	6.99	136750	500000	
Li	7	2	45	30.137	ppb	30.137	83.82	6591	500000	
Li	7	3	45	35.298	ppb	35.298	8.53	7377110	50000	
Be	9	1	6	43.469	ppb	43.469	3.07	13305	2000	
B	11	1	6	35.974	ppb	35.974	13.19	160974	2000	
Na	23	1	45	14927.884	ppb	14927.884	0.27	58363059	2000	>LDR
Na	23	2	45	14390.889	ppb	14390.889	1.07	1783053	400000	
Mg	24	2	45	8912.765	ppb	8912.765	0.55	441668	400000	
Al	27	2	45	2686.339	ppb	2686.339	1.78	24023	400000	
K	39	1	45	969.824	ppb	969.824	2.01	12876795	400000	
K	39	2	45	1883.325	ppb	1883.325	3.78	36234	400000	
Ca	40	1	45	20842.389	ppb	20842.389	0.85	145407178	400000	
Ca	44	2	45	20344.796	ppb	20344.796	3.59	22865	400000	
Ti	47	2	45	42.216	ppb	42.216	86.61	7	4000	
V	51	2	72	40.806	ppb	40.806	1.58	32837	2000	
Cr	52	2	72	52.480	ppb	52.480	1.28	55824	5000	
Mn	55	2	72	55.004	ppb	55.004	2.31	14610	10000	
Fe	57	2	72	582.221	ppb	582.221	4.90	10617	400000	
Co	59	2	72	40.922	ppb	40.922	0.75	98334	2000	
Ni	60	2	72	42.121	ppb	42.121	1.72	31512	5000	
Cu	63	2	72	45.126	ppb	45.126	1.42	100337	5000	
Zn	66	2	72	88.656	ppb	88.656	4.87	15247	5000	
As	75	2	72	42.602	ppb	42.602	2.12	4393	2000	
Se	78	1	72	42.394	ppb	42.394	0.99	23990	2000	
Sr	88	2	72	98.973	ppb	98.973	3.85	20356	4000	
Zr	90	2	72	5365.436	ppb	5365.436	1.60	39589	1000	>LDR
Nb	93	2	72	0.024	ppb	0.024	56.07	180	200	
Mo	95	2	115	41.369	ppb	41.369	2.32	35100	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-130.37	13	100	
Ag	107	2	115	39.270	ppb	39.270	2.77	135478	100	
Cd	111	2	115	42.225	ppb	42.225	2.61	11468	2000	
Sn	120	2	115	39.646	ppb	39.646	3.70	24532	2000	
Sb	121	2	115	40.797	ppb	40.797	3.20	21625	1000	
Ba	137	2	115	86.640	ppb	86.640	0.28	12515	5000	
W	182	2	165	40.027	ppb	40.027	1.46	268074	100	
Pt	195	2	165	0.000	ppb	0.000	1450.69	113	100	
Tl	205	2	165	40.084	ppb	40.084	0.61	345956	2000	
Pb	208	2	165	41.411	ppb	41.411	0.50	456033	5000	
Th	232	2	165	40.391	ppb	40.391	1.11	534347	2000	
U	238	2	165	41.449	ppb	41.449	0.97	647908	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	940391	0.99	1160179	81.06	60	120	
Sc (IS)	45	1	HMI H2	46370343	0.54	51895621	89.35	60	120	
Sc (IS)	45	2	HMI He	404773	1.38	430930	93.93	60	120	
Sc (IS)	45	3	No Gas	129029265	0.91	158101278	81.61	60	120	
Ge Internal Standard	72	1	HMI H2	22940323	0.47	25033284	91.64	60	120	
Ge Internal Standard	72	2	HMI He	640798	0.93	674189	95.05	60	120	
In Internal Standard	115	2	HMI He	1537131	0.66	1572457	97.75	60	120	
Ho-165	165	2	HMI He	13111399	1.39	13678393	95.85	60	120	

Sample Report

Sample Table

Sample Name	280-90625-a-3-d msd
Data File Name	077SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:05:08-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.187	ppb	49.187	8.59	136733	500000	
Li	7	2	45	33.930	ppb	33.930	35.49	6705	500000	
Li	7	3	45	40.540	ppb	40.540	9.59	7433853	50000	
Be	9	1	6	46.073	ppb	46.073	2.82	14159	2000	
B	11	1	6	39.268	ppb	39.268	17.34	162678	2000	
Na	23	1	45	14946.929	ppb	14946.929	0.79	58655281	2000	>LDR
Na	23	2	45	14186.041	ppb	14186.041	1.21	1767026	400000	
Mg	24	2	45	8933.793	ppb	8933.793	0.24	445111	400000	
Al	27	2	45	2663.320	ppb	2663.320	2.28	23943	400000	
K	39	1	45	934.161	ppb	934.161	4.43	12777569	400000	
K	39	2	45	1867.021	ppb	1867.021	3.73	36154	400000	
Ca	40	1	45	20683.322	ppb	20683.322	1.34	144829111	400000	
Ca	44	2	45	20029.555	ppb	20029.555	2.99	22628	400000	
Ti	47	2	45	83.537	ppb	83.537	44.07	13	4000	
V	51	2	72	39.234	ppb	39.234	2.32	31448	2000	
Cr	52	2	72	39.699	ppb	39.699	3.47	42114	5000	
Mn	55	2	72	53.093	ppb	53.093	1.02	14049	10000	
Fe	57	2	72	424.123	ppb	424.123	3.94	7715	400000	
Co	59	2	72	40.612	ppb	40.612	0.14	97211	2000	
Ni	60	2	72	41.591	ppb	41.591	0.75	30998	5000	
Cu	63	2	72	45.219	ppb	45.219	0.12	100154	5000	
Zn	66	2	72	88.527	ppb	88.527	3.45	15160	5000	
As	75	2	72	44.247	ppb	44.247	1.45	4544	2000	
Se	78	1	72	41.838	ppb	41.838	1.42	23911	2000	
Sr	88	2	72	102.939	ppb	102.939	0.83	21094	4000	
Zr	90	2	72	5405.721	ppb	5405.721	1.88	39737	1000	>LDR
Nb	93	2	72	0.012	ppb	0.012	137.77	143	200	
Mo	95	2	115	41.933	ppb	41.933	1.66	35494	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-214.32	17	100	
Ag	107	2	115	39.166	ppb	39.166	0.33	134809	100	
Cd	111	2	115	40.850	ppb	40.850	1.13	11067	2000	
Sn	120	2	115	40.207	ppb	40.207	4.26	24819	2000	
Sb	121	2	115	39.921	ppb	39.921	1.02	21114	1000	
Ba	137	2	115	87.562	ppb	87.562	2.27	12619	5000	
W	182	2	165	40.014	ppb	40.014	2.31	269490	100	
Pt	195	2	165	0.004	ppb	0.004	55.20	140	100	
Tl	205	2	165	39.895	ppb	39.895	2.03	346217	2000	
Pb	208	2	165	41.279	ppb	41.279	1.04	457153	5000	
Th	232	2	165	40.312	ppb	40.312	1.54	536332	2000	
U	238	2	165	41.211	ppb	41.211	1.25	647850	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	943896	0.84	1160179	81.36	60	120	
Sc (IS)	45	1	HMI H2	46544873	1.33	51895621	89.69	60	120	
Sc (IS)	45	2	HMI He	406950	1.16	430930	94.44	60	120	
Sc (IS)	45	3	No Gas	128165098	1.09	158101278	81.07	60	120	
Ge Internal Standard	72	1	HMI H2	23171490	1.05	25033284	92.56	60	120	
Ge Internal Standard	72	2	HMI He	638290	0.99	674189	94.68	60	120	
In Internal Standard	115	2	HMI He	1533610	0.79	1572457	97.53	60	120	
Ho-165	165	2	HMI He	13186890	1.82	13678393	96.41	60	120	

Sample Report

Sample Table

Sample Name	280-90625-a-3-bpds
Data File Name	078SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:08:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.360	ppb	-27.360	-9.58	109396	500000	
Li	7	2	45	-33.589	ppb	-33.589	-47.10	5351	500000	
Li	7	3	45	-32.891	ppb	-32.891	-9.02	5944523	50000	
Be	9	1	6	201.551	ppb	201.551	0.86	62914	2000	
B	11	1	6	-4.460	ppb	-4.460	-156.86	150432	2000	
Na	23	1	45	14534.757	ppb	14534.757	0.21	57208249	2000	>LDR
Na	23	2	45	13731.388	ppb	13731.388	1.00	1702516	400000	
Mg	24	2	45	8648.133	ppb	8648.133	1.27	428826	400000	
Al	27	2	45	4161.615	ppb	4161.615	2.03	37222	400000	
K	39	1	45	907.073	ppb	907.073	3.75	12703160	400000	
K	39	2	45	1863.379	ppb	1863.379	1.97	35926	400000	
Ca	40	1	45	20130.519	ppb	20130.519	1.22	141371878	400000	
Ca	44	2	45	19046.025	ppb	19046.025	0.55	21420	400000	
Ti	47	2	45	900.262	ppb	900.262	52.89	143	4000	
V	51	2	72	191.509	ppb	191.509	3.25	155123	2000	
Cr	52	2	72	193.447	ppb	193.447	1.59	206105	5000	
Mn	55	2	72	214.960	ppb	214.960	3.02	57266	10000	
Fe	57	2	72	1981.639	ppb	1981.639	2.35	36228	400000	
Co	59	2	72	195.363	ppb	195.363	1.77	471773	2000	
Ni	60	2	72	192.811	ppb	192.811	1.63	144880	5000	
Cu	63	2	72	196.773	ppb	196.773	1.77	434257	5000	
Zn	66	2	72	245.396	ppb	245.396	2.24	41844	5000	
As	75	2	72	202.060	ppb	202.060	0.24	20924	2000	
Se	78	1	72	196.564	ppb	196.564	0.74	112088	2000	
Sr	88	2	72	54.264	ppb	54.264	8.56	11221	4000	
Zr	90	2	72	27177.630	ppb	27177.630	1.20	201451	1000	>LDR
Nb	93	2	72	0.582	ppb	0.582	12.74	1947	200	
Mo	95	2	115	200.020	ppb	200.020	2.54	169776	2000	
Pd	105	2	115	0.021	ppb	0.021	46.50	57	100	
Ag	107	2	115	39.651	ppb	39.651	1.22	136903	100	
Cd	111	2	115	206.706	ppb	206.706	0.84	56190	2000	
Sn	120	2	115	199.234	ppb	199.234	1.51	123134	2000	
Sb	121	2	115	202.202	ppb	202.202	1.72	107237	1000	
Ba	137	2	115	251.745	ppb	251.745	2.25	36364	5000	
W	182	2	165	198.184	ppb	198.184	0.69	1332789	100	
Pt	195	2	165	0.064	ppb	0.064	15.77	577	100	
Tl	205	2	165	200.970	ppb	200.970	0.75	1742395	2000	
Pb	208	2	165	200.949	ppb	200.949	1.93	2220243	5000	
Th	232	2	165	0.581	ppb	0.581	6.54	7752	2000	
U	238	2	165	194.159	ppb	194.159	2.61	3049785	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	958776	0.97	1160179	82.64	60	120	
Sc (IS)	45	1	HMI H2	46678688	0.80	51895621	89.95	60	120	
Sc (IS)	45	2	HMI He	405031	1.45	430930	93.99	60	120	
Sc (IS)	45	3	No Gas	128178618	0.94	158101278	81.07	60	120	
Ge Internal Standard	72	1	HMI H2	23151174	0.51	25033284	92.48	60	120	
Ge Internal Standard	72	2	HMI He	643997	0.75	674189	95.52	60	120	
In Internal Standard	115	2	HMI He	1538606	1.86	1572457	97.85	60	120	
Ho-165	165	2	HMI He	13176651	1.01	13678393	96.33	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	079_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:12:39-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	460.498	ppb	0.631	288761	500	92.1	90	110	
Li	7	2	45	400.461	ppb	5.008	13999	500	80.1	90	110	>+\-10%
Li	7	3	45	432.715	ppb	1.033	15615755	500	86.5	90	110	>+\-10%
Be	9	1	6	50.283	ppb	3.205	15894	50	100.6	90	110	
B	11	1	6	-306.277	ppb	-0.666	48925	50	-612.6	90	110	>+\-10%
Na	23	1	45	4933.152	ppb	0.500	19701639	5000	98.7	90	110	
Na	23	2	45	4675.570	ppb	0.261	589353	5000	93.5	90	110	
Mg	24	2	45	4894.979	ppb	0.685	245267	5000	97.9	90	110	
Al	27	2	45	4958.030	ppb	2.618	44736	5000	99.2	90	110	
K	39	1	45	5130.126	ppb	1.083	30395465	5000	102.6	90	110	
K	39	2	45	5079.478	ppb	1.158	91082	5000	101.6	90	110	
Ca	40	1	45	5104.198	ppb	0.861	36260714	5000	102.1	90	110	
Ca	44	2	45	5023.932	ppb	2.324	5708	5000	100.5	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	49.233	ppb	2.624	39981	50	98.5	90	110	
Cr	52	2	72	48.884	ppb	1.515	52481	50	97.8	90	110	
Mn	55	2	72	49.745	ppb	4.960	13335	50	99.5	90	110	
Fe	57	2	72	4856.656	ppb	0.251	89089	5000	97.1	90	110	
Co	59	2	72	48.734	ppb	0.832	118156	50	97.5	90	110	
Ni	60	2	72	48.264	ppb	2.526	36431	50	96.5	90	110	
Cu	63	2	72	48.268	ppb	1.600	108171	50	96.5	90	110	
Zn	66	2	72	48.470	ppb	4.915	8552	50	96.9	90	110	
As	75	2	72	49.891	ppb	2.253	5190	50	99.8	90	110	
Se	78	1	72	50.939	ppb	1.925	29338	50	101.9	90	110	
Sr	88	2	72	51.767	ppb	2.115	10750	50	103.5	90	110	
Zr	90	2	72	51.199	ppb	21.545	400	50	102.4	90	110	
Nb	93	2	72	97.426	ppb	1.353	309629	100	97.4	90	110	
Mo	95	2	115	48.955	ppb	4.081	41484	50	97.9	90	110	
Pd	105	2	115	50.261	ppb	2.603	82679	50	100.5	90	110	
Ag	107	2	115	49.248	ppb	2.908	169721	50	98.5	90	110	
Cd	111	2	115	49.597	ppb	3.851	13456	50	99.2	90	110	
Sn	120	2	115	50.555	ppb	4.835	31236	50	101.1	90	110	
Sb	121	2	115	50.312	ppb	1.248	26648	50	100.6	90	110	
Ba	137	2	115	53.476	ppb	2.705	7722	50	107.0	90	110	
W	182	2	165	50.017	ppb	0.745	336686	50	100.0	90	110	
Pt	195	2	165	49.008	ppb	0.926	355203	50	98.0	90	110	
Tl	205	2	165	49.762	ppb	1.090	431685	50	99.5	90	110	
Pb	208	2	165	50.684	ppb	0.920	560888	50	101.4	90	110	
Th	232	2	165	50.438	ppb	1.285	670772	50	100.9	90	110	
U	238	2	165	49.155	ppb	0.364	772444	50	98.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	971179	1.28	1160179	83.71	60	120	
Sc (IS)	45	1	HMI H2	47093526	0.73	51895621	90.75	60	120	
Sc (IS)	45	2	HMI He	408685	0.92	430930	94.84	60	120	
Sc (IS)	45	3	No Gas	130003735	1.01	158101278	82.23	60	120	
Ge Internal Standard	72	1	HMI H2	23355578	0.64	25033284	93.30	60	120	
Ge Internal Standard	72	2	HMI He	646512	0.69	674189	95.89	60	120	
In Internal Standard	115	2	HMI He	1536264	2.50	1572457	97.70	60	120	
Ho-165	165	2	HMI He	13180126	0.92	13678393	96.36	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	080_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:16:26-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-30.995	ppb	-5.7	6110932	10	
Be	9	1	6	0.063	ppb	0.5	20	0.5	
B	11	1	6	-362.863	ppb	-0.6	29748	0.5	
Na	23	1	45	-7.741	ppb	-1.0	139953	25	
Na	23	2	45	-5.334	ppb	-36.5	5955	25	
Mg	24	2	45	-10.693	ppb	-10.0	230	25	
Al	27	2	45	-0.894	ppb	-312.6	23	15	
K	39	1	45	2.983	ppb	565.2	9046990	50	
K	39	2	45	8.902	ppb	254.6	4607	50	
Ca	40	1	45	-4.822	ppb	-9.0	94084	50	
Ca	44	2	45	9.396	ppb	1.7	20	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.019	ppb	-303.6	-92	1	
Cr	52	2	72	0.029	ppb	229.7	283	1	
Mn	55	2	72	-0.019	ppb	-607.3	33	0.5	
Fe	57	2	72	-0.268	ppb	-316.7	33	25	
Co	59	2	72	0.026	ppb	40.4	63	0.5	
Ni	60	2	72	0.187	ppb	14.9	167	1	
Cu	63	2	72	-0.191	ppb	-55.7	1207	1	
Zn	66	2	72	-0.957	ppb	-48.2	153	5	
As	75	2	72	0.052	ppb	56.5	9	1	
Se	78	1	72	0.031	ppb	108.9	63	1	
Sr	88	2	72	-0.013	ppb	-373.7	10	0.5	
Zr	90	2	72	1.039	ppb	199.5	27	1	>RL
Nb	93	2	72	1.042	ppb	6.6	3410	2	
Mo	95	2	115	0.074	ppb	47.1	73	0.5	
Pd	105	2	115	0.037	ppb	92.1	83	1	
Ag	107	2	115	0.013	ppb	106.1	73	1	
Cd	111	2	115	0.074	ppb	99.4	20	0.5	
Sn	120	2	115	0.141	ppb	27.0	150	1	
Sb	121	2	115	0.101	ppb	81.6	60	0.6	
Ba	137	2	115	-0.026	ppb	-263.4	10	0.5	
W	182	2	165	0.066	ppb	29.2	753	1	
Pt	195	2	165	0.007	ppb	65.1	160	1	
Tl	205	2	165	0.035	ppb	14.5	467	0.1	
Pb	208	2	165	0.017	ppb	14.6	1093	0.5	
Th	232	2	165	0.054	ppb	13.3	737	1	
U	238	2	165	0.016	ppb	11.7	280	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	978231	0.54	1160179	84.32	60	120	
Sc (IS)	45	1	HMI H2	47062609	0.45	51895621	90.69	60	120	
Sc (IS)	45	2	HMI He	406267	0.88	430930	94.28	60	120	
Sc (IS)	45	3	No Gas	130929585	1.38	158101278	82.81	60	120	
Ge Internal Standard	72	1	HMI H2	23303448	1.25	25033284	93.09	60	120	
Ge Internal Standard	72	2	HMI He	645786	0.88	674189	95.79	60	120	
In Internal Standard	115	2	HMI He	1548553	2.09	1572457	98.48	60	120	
Ho-165	165	2	HMI He	13166794	1.53	13678393	96.26	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	081LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:20:14-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	14.617	ppb	26.351	7025369	50	29.2	70	130	>+/-30%
Be	9	1	6	0.953	ppb	19.452	303	1	95.3	70	130	
Na	23	2	45	39.055	ppb	10.873	11441	50	78.1	70	130	
Mg	24	2	45	41.963	ppb	0.679	2840	50	83.9	70	130	
Al	27	2	45	36.768	ppb	13.073	360	30	122.6	70	130	
K	39	2	45	105.821	ppb	19.288	6241	100	105.8	70	130	
Ca	44	2	45	83.428	ppb	16.149	103	50	166.9	70	130	>+/-30%
V	51	2	72	5.017	ppb	5.097	3993	5	100.3	70	130	
Cr	52	2	72	1.943	ppb	10.682	2320	2	97.1	70	130	
Mn	55	2	72	0.870	ppb	11.471	270	1	87.0	70	130	
Fe	57	2	72	47.143	ppb	11.896	900	50	94.3	70	130	
Co	59	2	72	0.966	ppb	3.800	2334	1	96.6	70	130	
Ni	60	2	72	1.922	ppb	20.898	1470	2	96.1	70	130	
Cu	63	2	72	1.905	ppb	3.514	5815	2	95.3	70	130	
Zn	66	2	72	8.984	ppb	1.123	1837	10	89.8	70	130	
As	75	2	72	5.119	ppb	9.163	534	5	102.4	70	130	
Se	78	1	72	5.029	ppb	6.644	2926	5	100.6	70	130	
Sr	88	2	72	0.857	ppb	24.622	190	1	85.7	70	130	
Zr	90	2	72	8.688	ppb	91.374	83	0.5	1737.5	70	130	>+/-30%
Nb	93	2	72	1.300	ppb	3.670	4221	2	65.0	70	130	>+/-30%
Mo	95	2	115	1.860	ppb	3.766	1597	2	93.0	70	130	
Pd	105	2	115	0.013	ppb	99.702	43	1	1.3	70	130	>+/-30%
Ag	107	2	115	4.890	ppb	4.521	16992	5	97.8	70	130	
Cd	111	2	115	1.050	ppb	10.632	287	1	105.0	70	130	
Sn	120	2	115	10.094	ppb	5.177	6328	10	100.9	70	130	
Sb	121	2	115	1.915	ppb	5.586	1027	2	95.7	70	130	
Ba	137	2	115	0.710	ppb	24.162	117	1	71.0	70	130	
W	182	2	165	5.158	ppb	2.636	34638	1	515.8	70	130	>+/-30%
Pt	195	2	165	0.006	ppb	69.927	157	1	0.6	70	130	>+/-30%
Tl	205	2	165	1.048	ppb	0.847	9153	1	104.8	70	130	
Pb	208	2	165	1.098	ppb	1.957	12903	1	109.8	70	130	
Th	232	2	165	2.190	ppb	4.322	28828	2	109.5	70	130	
U	238	2	165	1.063	ppb	2.349	16553	1	106.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	977162	1.14	1160179	84.23	60	120	
Sc (IS)	45	1	HMI H2	46944828	1.32	51895621	90.46	60	120	
Sc (IS)	45	2	HMI He	405654	1.38	430930	94.13	60	120	
Sc (IS)	45	3	No Gas	130342655	0.71	158101278	82.44	60	120	
Ge Internal Standard	72	1	HMI H2	23261875	0.49	25033284	92.92	60	120	
Ge Internal Standard	72	2	HMI He	644454	0.30	674189	95.59	60	120	
In Internal Standard	115	2	HMI He	1546131	0.67	1572457	98.33	60	120	
Ho-165	165	2	HMI He	13040510	1.31	13678393	95.34	60	120	

Sample Table

Sample Name	280-90625-c-4-b
Data File Name	082SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:24:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-26.593	ppb	-26.593	-5.57	110492	500000	
Li	7	2	45	-32.912	ppb	-32.912	-42.78	5454	500000	
Li	7	3	45	-36.106	ppb	-36.106	-3.69	5994857	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-360.214	ppb	-360.214	-0.53	30185	2000	
Na	23	1	45	-10.630	ppb	-10.630	-2.05	128418	2000	
Na	23	2	45	-11.206	ppb	-11.206	-7.09	5301	400000	
Mg	24	2	45	-12.676	ppb	-12.676	-6.66	133	400000	
Al	27	2	45	-0.551	ppb	-0.551	-116.47	27	400000	
K	39	1	45	-953.424	ppb	-953.424	-2.69	5063828	400000	
K	39	2	45	-3.423	ppb	-3.423	-510.30	4464	400000	
Ca	40	1	45	-0.650	ppb	-0.650	-21.81	123508	400000	
Ca	44	2	45	3.335	ppb	3.335	303.23	13	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.199	ppb	0.199	157.56	85	2000	
Cr	52	2	72	4.202	ppb	4.202	2.69	4771	5000	
Mn	55	2	72	0.700	ppb	0.700	16.11	227	10000	
Fe	57	2	72	65.119	ppb	65.119	9.13	1240	400000	
Co	59	2	72	0.022	ppb	0.022	84.37	53	2000	
Ni	60	2	72	0.129	ppb	0.129	25.67	123	5000	
Cu	63	2	72	0.168	ppb	0.168	48.32	2010	5000	
Zn	66	2	72	0.263	ppb	0.263	41.96	363	5000	
As	75	2	72	0.089	ppb	0.089	43.54	13	2000	
Se	78	1	72	0.024	ppb	0.024	103.01	59	2000	
Sr	88	2	72	-0.030	ppb	-0.030	-93.76	7	4000	
Zr	90	2	72	2.340	ppb	2.340	33.46	37	1000	
Nb	93	2	72	0.077	ppb	0.077	51.19	350	200	
Mo	95	2	115	0.077	ppb	0.077	78.43	77	2000	
Pd	105	2	115	0.004	ppb	0.004	135.80	30	100	
Ag	107	2	115	0.000	ppb	0.000	-6099.94	27	100	
Cd	111	2	115	0.036	ppb	0.036	173.21	10	2000	
Sn	120	2	115	0.116	ppb	0.116	74.44	137	2000	
Sb	121	2	115	0.056	ppb	0.056	40.86	37	1000	
Ba	137	2	115	0.132	ppb	0.132	77.30	33	5000	
W	182	2	165	0.048	ppb	0.048	25.27	640	100	
Pt	195	2	165	0.008	ppb	0.008	56.94	173	100	
Tl	205	2	165	0.029	ppb	0.029	34.45	417	2000	
Pb	208	2	165	-0.003	ppb	-0.003	-165.83	873	5000	
Th	232	2	165	0.071	ppb	0.071	11.25	973	2000	
U	238	2	165	0.013	ppb	0.013	26.59	230	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	963161	1.01	1160179	83.02	60	120	
Sc (IS)	45	1	HMI H2	47027394	1.07	51895621	90.62	60	120	
Sc (IS)	45	2	HMI He	412036	0.57	430930	95.62	60	120	
Sc (IS)	45	3	No Gas	130700751	0.73	158101278	82.67	60	120	
Ge Internal Standard	72	1	HMI H2	23293506	0.76	25033284	93.05	60	120	
Ge Internal Standard	72	2	HMI He	650440	0.58	674189	96.48	60	120	
In Internal Standard	115	2	HMI He	1573477	2.12	1572457	100.06	60	120	
Ho-165	165	2	HMI He	13261649	1.30	13678393	96.95	60	120	

Sample Report

Sample Table

Sample Name	280-90625-a-6-b
Data File Name	083SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:27:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.687	ppb	-27.687	-5.36	111099	500000	
Li	7	2	45	-35.932	ppb	-35.932	-32.12	5401	500000	
Li	7	3	45	-35.264	ppb	-35.264	-2.69	6072819	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-350.865	ppb	-350.865	-0.60	33745	2000	
Na	23	1	45	2230.577	ppb	2230.577	0.99	9071163	2000	
Na	23	2	45	2106.594	ppb	2106.594	0.64	271751	400000	
Mg	24	2	45	1842.372	ppb	1842.372	2.17	93666	400000	
Al	27	2	45	5.656	ppb	5.656	55.25	83	400000	
K	39	1	45	-347.399	ppb	-347.399	-4.00	7652893	400000	
K	39	2	45	602.941	ppb	602.941	5.11	14903	400000	
Ca	40	1	45	7664.652	ppb	7664.652	0.75	54807398	400000	
Ca	44	2	45	7263.476	ppb	7263.476	3.78	8329	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	1.198	ppb	1.198	134.31	916	2000	
Cr	52	2	72	24.621	ppb	24.621	2.28	26858	5000	
Mn	55	2	72	23.469	ppb	23.469	5.79	6381	10000	
Fe	57	2	72	712.681	ppb	712.681	1.61	13252	400000	
Co	59	2	72	0.175	ppb	0.175	3.19	430	2000	
Ni	60	2	72	2.641	ppb	2.641	1.99	2040	5000	
Cu	63	2	72	5.159	ppb	5.159	5.57	13162	5000	
Zn	66	2	72	11.151	ppb	11.151	10.90	2237	5000	
As	75	2	72	0.237	ppb	0.237	70.40	29	2000	
Se	78	1	72	0.065	ppb	0.065	91.70	83	2000	
Sr	88	2	72	31.776	ppb	31.776	4.87	6678	4000	
Zr	90	2	72	1.420	ppb	1.420	91.21	30	1000	
Nb	93	2	72	0.111	ppb	0.111	8.20	463	200	
Mo	95	2	115	1.895	ppb	1.895	10.23	1643	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-248.94	17	100	
Ag	107	2	115	0.004	ppb	0.004	129.62	40	100	
Cd	111	2	115	0.834	ppb	0.834	13.53	230	2000	
Sn	120	2	115	0.140	ppb	0.140	93.98	150	2000	
Sb	121	2	115	0.161	ppb	0.161	22.62	93	1000	
Ba	137	2	115	42.769	ppb	42.769	2.23	6288	5000	
W	182	2	165	0.084	ppb	0.084	15.14	877	100	
Pt	195	2	165	0.008	ppb	0.008	80.87	170	100	
Tl	205	2	165	0.023	ppb	0.023	39.42	367	2000	
Pb	208	2	165	0.130	ppb	0.130	2.51	2337	5000	
Th	232	2	165	0.024	ppb	0.024	3.54	340	2000	
U	238	2	165	0.013	ppb	0.013	16.93	223	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	974086	0.82	1160179	83.96	60	120	
Sc (IS)	45	1	HMI H2	47457261	0.65	51895621	91.45	60	120	
Sc (IS)	45	2	HMI He	412574	0.87	430930	95.74	60	120	
Sc (IS)	45	3	No Gas	132020698	1.39	158101278	83.50	60	120	
Ge Internal Standard	72	1	HMI H2	23436736	0.76	25033284	93.62	60	120	
Ge Internal Standard	72	2	HMI He	653761	0.86	674189	96.97	60	120	
In Internal Standard	115	2	HMI He	1563199	1.99	1572457	99.41	60	120	
Ho-165	165	2	HMI He	13187109	0.62	13678393	96.41	60	120	

Sample Report

Sample Table

Sample Name	280-90627-a-1-b
Data File Name	084SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:31:37-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-34.030	ppb	-34.030	-11.44	107375	500000	
Li	7	2	45	-47.593	ppb	-47.593	-2.67	5111	500000	
Li	7	3	45	-35.282	ppb	-35.282	-10.82	5833666	50000	
Be	9	1	6	0.098	ppb	0.098	88.24	30	2000	
B	11	1	6	-298.050	ppb	-298.050	-0.80	49677	2000	
Na	23	1	45	30765.800	ppb	30765.800	0.53	121347932	2000	>LDR
Na	23	2	45	28619.018	ppb	28619.018	1.84	3567494	400000	
Mg	24	2	45	3486.102	ppb	3486.102	0.55	174607	400000	
Al	27	2	45	2170.863	ppb	2170.863	0.70	19575	400000	
K	39	1	45	11736.474	ppb	11736.474	0.70	57598536	400000	
K	39	2	45	12566.889	ppb	12566.889	1.40	218376	400000	
Ca	40	1	45	20684.950	ppb	20684.950	0.76	145803258	400000	
Ca	44	2	45	21356.958	ppb	21356.958	2.90	24200	400000	
Ti	47	2	45	2536.958	ppb	2536.958	6.80	407	4000	
V	51	2	72	7.306	ppb	7.306	5.76	5864	2000	
Cr	52	2	72	10.196	ppb	10.196	2.25	11137	5000	
Mn	55	2	72	17.195	ppb	17.195	1.53	4631	10000	
Fe	57	2	72	29811.158	ppb	29811.158	0.93	546241	400000	
Co	59	2	72	1.076	ppb	1.076	6.64	2607	2000	
Ni	60	2	72	1.943	ppb	1.943	12.05	1490	5000	
Cu	63	2	72	3.513	ppb	3.513	6.91	9376	5000	
Zn	66	2	72	17.700	ppb	17.700	5.20	3320	5000	
As	75	2	72	35.262	ppb	35.262	3.43	3666	2000	
Se	78	1	72	0.218	ppb	0.218	20.00	168	2000	
Sr	88	2	72	307.772	ppb	307.772	1.64	63797	4000	
Zr	90	2	72	1233.434	ppb	1233.434	3.39	9189	1000	
Nb	93	2	72	0.128	ppb	0.128	9.77	510	200	
Mo	95	2	115	36.781	ppb	36.781	1.99	31520	2000	
Pd	105	2	115	0.004	ppb	0.004	128.78	30	100	
Ag	107	2	115	0.020	ppb	0.020	46.62	97	100	
Cd	111	2	115	9.586	ppb	9.586	8.54	2630	2000	
Sn	120	2	115	0.195	ppb	0.195	47.31	183	2000	
Sb	121	2	115	0.131	ppb	0.131	28.55	77	1000	
Ba	137	2	115	78.492	ppb	78.492	1.46	11458	5000	
W	182	2	165	0.065	ppb	0.065	11.77	747	100	
Pt	195	2	165	0.006	ppb	0.006	140.86	153	100	
Tl	205	2	165	0.101	ppb	0.101	13.66	1043	2000	
Pb	208	2	165	2.758	ppb	2.758	2.10	31373	5000	
Th	232	2	165	0.858	ppb	0.858	4.73	11431	2000	
U	238	2	165	1.796	ppb	1.796	1.32	28236	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	932369	1.06	1160179	80.36	60	120	
Sc (IS)	45	1	HMI H2	46850221	0.26	51895621	90.28	60	120	
Sc (IS)	45	2	HMI He	408013	0.99	430930	94.68	60	120	
Sc (IS)	45	3	No Gas	126824398	0.23	158101278	80.22	60	120	
Ge Internal Standard	72	1	HMI H2	23088001	0.47	25033284	92.23	60	120	
Ge Internal Standard	72	2	HMI He	646013	0.56	674189	95.82	60	120	
In Internal Standard	115	2	HMI He	1552860	2.16	1572457	98.75	60	120	
Ho-165	165	2	HMI He	13178826	0.58	13678393	96.35	60	120	

Sample Table

Sample Name	280-90627-c-2-b
Data File Name	085SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:35:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-32.346	ppb	-32.346	-13.02	104441	500000	
Li	7	2	45	-33.622	ppb	-33.622	-37.80	5254	500000	
Li	7	3	45	-39.721	ppb	-39.721	-9.29	5681441	50000	
Be	9	1	6	0.012	ppb	0.012	173.21	3	2000	
B	11	1	6	-318.687	ppb	-318.687	-0.97	41123	2000	
Na	23	1	45	16679.986	ppb	16679.986	0.64	63712651	2000	>LDR
Na	23	2	45	15877.120	ppb	15877.120	0.16	1933732	400000	
Mg	24	2	45	10836.212	ppb	10836.212	1.14	527921	400000	
Al	27	2	45	49.992	ppb	49.992	12.97	470	400000	
K	39	1	45	5797.515	ppb	5797.515	1.97	31919970	400000	
K	39	2	45	6701.163	ppb	6701.163	1.62	115657	400000	
Ca	40	1	45	91185.354	ppb	91185.354	1.00	621251324	400000	
Ca	44	2	45	88929.151	ppb	88929.151	0.66	98257	400000	
Ti	47	2	45	84.747	ppb	84.747	114.49	13	4000	
V	51	2	72	3.334	ppb	3.334	6.10	2585	2000	
Cr	52	2	72	9.811	ppb	9.811	7.06	10523	5000	
Mn	55	2	72	240.118	ppb	240.118	2.10	62962	10000	
Fe	57	2	72	82947.461	ppb	82947.461	0.54	1491111	400000	
Co	59	2	72	1.025	ppb	1.025	7.45	2437	2000	
Ni	60	2	72	1.305	ppb	1.305	7.45	990	5000	
Cu	63	2	72	1.112	ppb	1.112	15.69	4004	5000	
Zn	66	2	72	14.966	ppb	14.966	9.94	2804	5000	
As	75	2	72	27.572	ppb	27.572	2.20	2813	2000	
Se	78	1	72	0.668	ppb	0.668	13.13	412	2000	
Sr	88	2	72	628.039	ppb	628.039	2.33	127729	4000	
Zr	90	2	72	77.452	ppb	77.452	20.06	583	1000	
Nb	93	2	72	0.076	ppb	0.076	25.28	340	200	
Mo	95	2	115	17.249	ppb	17.249	4.55	14467	2000	
Pd	105	2	115	-0.001	ppb	-0.001	-519.34	20	100	
Ag	107	2	115	-0.003	ppb	-0.003	-215.98	17	100	
Cd	111	2	115	0.074	ppb	0.074	131.85	20	2000	
Sn	120	2	115	0.075	ppb	0.075	89.67	107	2000	
Sb	121	2	115	0.096	ppb	0.096	63.35	57	1000	
Ba	137	2	115	28.997	ppb	28.997	8.41	4147	5000	
W	182	2	165	0.261	ppb	0.261	2.34	2044	100	
Pt	195	2	165	-0.002	ppb	-0.002	-312.35	93	100	
Tl	205	2	165	0.008	ppb	0.008	44.91	230	2000	
Pb	208	2	165	0.225	ppb	0.225	3.89	3350	5000	
Th	232	2	165	0.094	ppb	0.094	9.51	1257	2000	
U	238	2	165	0.177	ppb	0.177	7.25	2777	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	894039	0.85	1160179	77.06	60	120	
Sc (IS)	45	1	HMI H2	45315799	0.85	51895621	87.32	60	120	
Sc (IS)	45	2	HMI He	398050	0.91	430930	92.37	60	120	
Sc (IS)	45	3	No Gas	125436788	0.28	158101278	79.34	60	120	
Ge Internal Standard	72	1	HMI H2	22442292	0.62	25033284	89.65	60	120	
Ge Internal Standard	72	2	HMI He	633835	0.47	674189	94.01	60	120	
In Internal Standard	115	2	HMI He	1519213	0.81	1572457	96.61	60	120	
Ho-165	165	2	HMI He	13011169	1.49	13678393	95.12	60	120	

Sample Report

Sample Table

Sample Name	280-90627-d-6-b
Data File Name	086SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:39:13-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-30.064	ppb	-30.064	-19.62	107308	500000	
Li	7	2	45	-30.947	ppb	-30.947	-69.98	5391	500000	
Li	7	3	45	-40.650	ppb	-40.650	-4.04	5772794	50000	
Be	9	1	6	0.022	ppb	0.022	173.21	7	2000	
B	11	1	6	-365.013	ppb	-365.013	-0.46	28032	2000	
Na	23	1	45	-2.024	ppb	-2.024	-55.32	159588	2000	
Na	23	2	45	-2.507	ppb	-2.507	-176.81	6268	400000	
Mg	24	2	45	-11.742	ppb	-11.742	-12.75	177	400000	
Al	27	2	45	7.332	ppb	7.332	52.32	97	400000	
K	39	1	45	-1020.384	ppb	-1020.384	-0.86	4702221	400000	
K	39	2	45	12.659	ppb	12.659	100.83	4647	400000	
Ca	40	1	45	19.555	ppb	19.555	17.71	261592	400000	
Ca	44	2	45	3.630	ppb	3.630	378.60	13	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.231	ppb	0.231	35.44	111	2000	
Cr	52	2	72	0.326	ppb	0.326	3.65	597	5000	
Mn	55	2	72	0.020	ppb	0.020	113.04	43	10000	
Fe	57	2	72	19.875	ppb	19.875	14.83	400	400000	
Co	59	2	72	0.008	ppb	0.008	50.62	20	2000	
Ni	60	2	72	0.028	ppb	0.028	25.95	47	5000	
Cu	63	2	72	-0.042	ppb	-0.042	-190.96	1523	5000	
Zn	66	2	72	0.325	ppb	0.325	165.83	370	5000	
As	75	2	72	0.027	ppb	0.027	41.57	7	2000	
Se	78	1	72	-0.038	ppb	-0.038	-47.24	23	2000	
Sr	88	2	72	0.003	ppb	0.003	877.96	13	4000	
Zr	90	2	72	-0.299	ppb	-0.299	-528.63	17	1000	
Nb	93	2	72	0.029	ppb	0.029	82.83	197	200	
Mo	95	2	115	0.051	ppb	0.051	58.90	53	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-128.91	13	100	
Ag	107	2	115	-0.004	ppb	-0.004	-89.71	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.008	ppb	0.008	237.41	67	2000	
Sb	121	2	115	0.045	ppb	0.045	84.90	30	1000	
Ba	137	2	115	-0.001	ppb	-0.001	-6147.42	13	5000	
W	182	2	165	0.022	ppb	0.022	107.76	457	100	
Pt	195	2	165	0.001	ppb	0.001	196.46	120	100	
Tl	205	2	165	0.004	ppb	0.004	69.71	197	2000	
Pb	208	2	165	0.016	ppb	0.016	107.50	1073	5000	
Th	232	2	165	0.009	ppb	0.009	29.44	137	2000	
U	238	2	165	0.001	ppb	0.001	180.29	40	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	945564	1.08	1160179	81.50	60	120	
Sc (IS)	45	1	HMI H2	46203414	0.58	51895621	89.03	60	120	
Sc (IS)	45	2	HMI He	404120	0.98	430930	93.78	60	120	
Sc (IS)	45	3	No Gas	127864778	0.44	158101278	80.88	60	120	
Ge Internal Standard	72	1	HMI H2	23097335	1.16	25033284	92.27	60	120	
Ge Internal Standard	72	2	HMI He	642631	1.16	674189	95.32	60	120	
In Internal Standard	115	2	HMI He	1534241	1.00	1572457	97.57	60	120	
Ho-165	165	2	HMI He	13089973	1.47	13678393	95.70	60	120	

Sample Report

Sample Table

Sample Name	280-90675-f-1-c
Data File Name	087SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:43:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-31.979	ppb	-31.979	-5.43	107066	500000	
Li	7	2	45	-38.658	ppb	-38.658	-40.60	5288	500000	
Li	7	3	45	-36.490	ppb	-36.490	-4.57	5863053	50000	
Be	9	1	6	0.022	ppb	0.022	173.21	7	2000	
B	11	1	6	-328.504	ppb	-328.504	-0.84	39176	2000	
Na	23	1	45	27134.453	ppb	27134.453	0.36	106001498	2000	>LDR
Na	23	2	45	25204.172	ppb	25204.172	1.08	3142177	400000	
Mg	24	2	45	5186.806	ppb	5186.806	0.48	259357	400000	
Al	27	2	45	4.678	ppb	4.678	50.75	73	400000	
K	39	1	45	2134.519	ppb	2134.519	1.52	17659751	400000	
K	39	2	45	3079.476	ppb	3079.476	1.81	56891	400000	
Ca	40	1	45	29304.553	ppb	29304.553	1.02	204493064	400000	
Ca	44	2	45	27698.068	ppb	27698.068	0.93	31368	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.263	ppb	0.263	106.52	138	2000	
Cr	52	2	72	0.233	ppb	0.233	56.45	500	5000	
Mn	55	2	72	152.322	ppb	152.322	1.48	40727	10000	
Fe	57	2	72	863.842	ppb	863.842	1.13	15868	400000	
Co	59	2	72	0.475	ppb	0.475	10.71	1150	2000	
Ni	60	2	72	0.745	ppb	0.745	9.75	587	5000	
Cu	63	2	72	0.505	ppb	0.505	2.15	2740	5000	
Zn	66	2	72	12.663	ppb	12.663	9.41	2467	5000	
As	75	2	72	0.297	ppb	0.297	13.34	35	2000	
Se	78	1	72	0.116	ppb	0.116	58.53	109	2000	
Sr	88	2	72	133.664	ppb	133.664	3.50	27716	4000	
Zr	90	2	72	6.849	ppb	6.849	58.93	70	1000	
Nb	93	2	72	0.014	ppb	0.014	103.92	150	200	
Mo	95	2	115	0.337	ppb	0.337	14.25	297	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-261.99	17	100	
Ag	107	2	115	0.002	ppb	0.002	223.06	33	100	
Cd	111	2	115	0.024	ppb	0.024	173.21	7	2000	
Sn	120	2	115	0.024	ppb	0.024	309.09	77	2000	
Sb	121	2	115	0.057	ppb	0.057	37.53	37	1000	
Ba	137	2	115	53.276	ppb	53.276	2.21	7739	5000	
W	182	2	165	0.016	ppb	0.016	48.31	423	100	
Pt	195	2	165	0.007	ppb	0.007	44.94	160	100	
Tl	205	2	165	0.014	ppb	0.014	48.96	293	2000	
Pb	208	2	165	0.109	ppb	0.109	16.14	2113	5000	
Th	232	2	165	0.006	ppb	0.006	11.70	100	2000	
U	238	2	165	0.050	ppb	0.050	1.63	817	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	921074	0.60	1160179	79.39	60	120	
Sc (IS)	45	1	HMI H2	46393666	0.35	51895621	89.40	60	120	
Sc (IS)	45	2	HMI He	407926	1.30	430930	94.66	60	120	
Sc (IS)	45	3	No Gas	127997858	0.43	158101278	80.96	60	120	
Ge Internal Standard	72	1	HMI H2	22956670	0.41	25033284	91.70	60	120	
Ge Internal Standard	72	2	HMI He	646129	0.82	674189	95.84	60	120	
In Internal Standard	115	2	HMI He	1544778	0.97	1572457	98.24	60	120	
Ho-165	165	2	HMI He	13201285	0.94	13678393	96.51	60	120	

Sample Report

Sample Table

Sample Name	280-90675-e-2-c
Data File Name	088SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:46:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-30.793	ppb	-30.793	-3.08	108474	500000	
Li	7	2	45	-42.678	ppb	-42.678	-32.56	5261	500000	
Li	7	3	45	-33.172	ppb	-33.172	-5.35	5845621	50000	
Be	9	1	6	0.033	ppb	0.033	173.21	10	2000	
B	11	1	6	-334.251	ppb	-334.251	-0.48	37993	2000	
Na	23	1	45	34438.293	ppb	34438.293	0.94	135717541	2000	>LDR
Na	23	2	45	31650.058	ppb	31650.058	0.21	3985649	400000	
Mg	24	2	45	5020.630	ppb	5020.630	1.08	253727	400000	
Al	27	2	45	4.218	ppb	4.218	104.29	70	400000	
K	39	1	45	1976.291	ppb	1976.291	1.88	17166166	400000	
K	39	2	45	2934.263	ppb	2934.263	0.61	54988	400000	
Ca	40	1	45	29058.588	ppb	29058.588	0.87	204632124	400000	
Ca	44	2	45	28106.499	ppb	28106.499	3.12	32173	400000	
Ti	47	2	45	20.429	ppb	20.429	173.21	3	4000	
V	51	2	72	0.219	ppb	0.219	118.49	105	2000	
Cr	52	2	72	0.309	ppb	0.309	27.87	587	5000	
Mn	55	2	72	164.260	ppb	164.260	1.68	44146	10000	
Fe	57	2	72	513.154	ppb	513.154	2.62	9490	400000	
Co	59	2	72	0.498	ppb	0.498	5.63	1213	2000	
Ni	60	2	72	0.715	ppb	0.715	15.94	567	5000	
Cu	63	2	72	0.321	ppb	0.321	4.81	2347	5000	
Zn	66	2	72	9.388	ppb	9.388	17.29	1924	5000	
As	75	2	72	0.226	ppb	0.226	71.29	27	2000	
Se	78	1	72	0.117	ppb	0.117	23.21	111	2000	
Sr	88	2	72	140.196	ppb	140.196	2.33	29225	4000	
Zr	90	2	72	5.027	ppb	5.027	17.05	57	1000	
Nb	93	2	72	-0.005	ppb	-0.005	-125.76	90	200	
Mo	95	2	115	0.332	ppb	0.332	30.99	290	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-73.23	7	100	
Ag	107	2	115	-0.005	ppb	-0.005	-0.78	10	100	
Cd	111	2	115	0.037	ppb	0.037	99.16	10	2000	
Sn	120	2	115	0.068	ppb	0.068	25.10	103	2000	
Sb	121	2	115	0.064	ppb	0.064	79.00	40	1000	
Ba	137	2	115	59.444	ppb	59.444	3.10	8556	5000	
W	182	2	165	0.018	ppb	0.018	55.39	437	100	
Pt	195	2	165	0.001	ppb	0.001	263.78	120	100	
Tl	205	2	165	0.014	ppb	0.014	16.91	297	2000	
Pb	208	2	165	0.115	ppb	0.115	11.84	2207	5000	
Th	232	2	165	0.005	ppb	0.005	75.61	90	2000	
U	238	2	165	0.052	ppb	0.052	14.81	850	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	937963	0.76	1160179	80.85	60	120	
Sc (IS)	45	1	HMI H2	46817913	0.46	51895621	90.22	60	120	
Sc (IS)	45	2	HMI He	412251	0.80	430930	95.67	60	120	
Sc (IS)	45	3	No Gas	126172618	0.65	158101278	79.80	60	120	
Ge Internal Standard	72	1	HMI H2	23074917	0.34	25033284	92.18	60	120	
Ge Internal Standard	72	2	HMI He	649578	1.78	674189	96.35	60	120	
In Internal Standard	115	2	HMI He	1530629	1.27	1572457	97.34	60	120	
Ho-165	165	2	HMI He	13371047	1.33	13678393	97.75	60	120	

Sample Report

Sample Table

Sample Name	280-90675-d-3-c
Data File Name	089SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:50:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-26.037	ppb	-26.037	-4.64	109681	500000	
Li	7	2	45	-36.139	ppb	-36.139	-12.98	5401	500000	
Li	7	3	45	-36.706	ppb	-36.706	-1.14	5889708	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-312.278	ppb	-312.278	-0.34	45350	2000	
Na	23	1	45	18176.482	ppb	18176.482	1.08	71369399	2000	>LDR
Na	23	2	45	17122.316	ppb	17122.316	1.25	2162692	400000	
Mg	24	2	45	4597.395	ppb	4597.395	0.66	232782	400000	
Al	27	2	45	3.836	ppb	3.836	33.88	67	400000	
K	39	1	45	1444.842	ppb	1444.842	0.76	14895903	400000	
K	39	2	45	2377.024	ppb	2377.024	0.24	45475	400000	
Ca	40	1	45	56880.096	ppb	56880.096	0.50	398529021	400000	
Ca	44	2	45	53831.563	ppb	53831.563	2.38	61700	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.227	ppb	0.227	85.12	108	2000	
Cr	52	2	72	0.203	ppb	0.203	29.71	470	5000	
Mn	55	2	72	137.171	ppb	137.171	1.73	36796	10000	
Fe	57	2	72	1442.994	ppb	1442.994	2.22	26564	400000	
Co	59	2	72	0.273	ppb	0.273	15.94	663	2000	
Ni	60	2	72	0.526	ppb	0.526	9.12	423	5000	
Cu	63	2	72	0.069	ppb	0.069	106.46	1783	5000	
Zn	66	2	72	10.130	ppb	10.130	8.72	2044	5000	
As	75	2	72	0.422	ppb	0.422	12.18	48	2000	
Se	78	1	72	0.079	ppb	0.079	42.03	89	2000	
Sr	88	2	72	179.300	ppb	179.300	1.57	37301	4000	
Zr	90	2	72	5.026	ppb	5.026	93.67	57	1000	
Nb	93	2	72	-0.010	ppb	-0.010	-35.60	73	200	
Mo	95	2	115	0.233	ppb	0.233	38.39	210	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-139.34	10	100	
Ag	107	2	115	-0.004	ppb	-0.004	-170.61	13	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.098	ppb	0.098	33.49	123	2000	
Sb	121	2	115	0.044	ppb	0.044	219.51	30	1000	
Ba	137	2	115	81.794	ppb	81.794	5.72	11941	5000	
W	182	2	165	0.026	ppb	0.026	24.41	490	100	
Pt	195	2	165	0.001	ppb	0.001	559.30	123	100	
Tl	205	2	165	0.013	ppb	0.013	77.06	283	2000	
Pb	208	2	165	0.095	ppb	0.095	22.86	1957	5000	
Th	232	2	165	0.007	ppb	0.007	48.26	117	2000	
U	238	2	165	0.125	ppb	0.125	2.45	2004	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	939656	0.60	1160179	80.99	60	120	
Sc (IS)	45	1	HMI H2	46595104	0.44	51895621	89.79	60	120	
Sc (IS)	45	2	HMI He	412889	0.60	430930	95.81	60	120	
Sc (IS)	45	3	No Gas	128676461	0.14	158101278	81.39	60	120	
Ge Internal Standard	72	1	HMI H2	23129779	0.54	25033284	92.40	60	120	
Ge Internal Standard	72	2	HMI He	648175	0.98	674189	96.14	60	120	
In Internal Standard	115	2	HMI He	1553753	0.58	1572457	98.81	60	120	
Ho-165	165	2	HMI He	13227376	0.68	13678393	96.70	60	120	

Sample Report

Sample Table

Sample Name	280-90675-d-4-c
Data File Name	090SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:54:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.333	ppb	-27.333	-7.35	110707	500000	
Li	7	2	45	-26.671	ppb	-26.671	-46.56	5621	500000	
Li	7	3	45	-32.668	ppb	-32.668	-8.58	5932708	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-330.140	ppb	-330.140	-1.33	39469	2000	
Na	23	1	45	13159.285	ppb	13159.285	1.15	52420873	2000	>LDR
Na	23	2	45	12538.211	ppb	12538.211	1.37	1594196	400000	
Mg	24	2	45	5821.897	ppb	5821.897	0.81	296219	400000	
Al	27	2	45	7.827	ppb	7.827	54.13	103	400000	
K	39	1	45	1685.546	ppb	1685.546	2.52	16103333	400000	
K	39	2	45	2680.459	ppb	2680.459	2.84	50979	400000	
Ca	40	1	45	51734.676	ppb	51734.676	1.20	367429515	400000	
Ca	44	2	45	48995.881	ppb	48995.881	2.79	56489	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.213	ppb	0.213	43.80	99	2000	
Cr	52	2	72	0.195	ppb	0.195	22.64	467	5000	
Mn	55	2	72	110.873	ppb	110.873	2.62	30063	10000	
Fe	57	2	72	1079.375	ppb	1079.375	2.56	20089	400000	
Co	59	2	72	0.210	ppb	0.210	20.61	517	2000	
Ni	60	2	72	0.931	ppb	0.931	10.55	737	5000	
Cu	63	2	72	0.677	ppb	0.677	13.19	3164	5000	
Zn	66	2	72	11.542	ppb	11.542	1.02	2307	5000	
As	75	2	72	0.554	ppb	0.554	18.75	62	2000	
Se	78	1	72	0.171	ppb	0.171	42.68	143	2000	
Sr	88	2	72	178.347	ppb	178.347	1.30	37488	4000	
Zr	90	2	72	8.047	ppb	8.047	43.33	80	1000	
Nb	93	2	72	0.010	ppb	0.010	60.62	140	200	
Mo	95	2	115	0.556	ppb	0.556	13.81	497	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-64.38	13	100	
Ag	107	2	115	-0.003	ppb	-0.003	-141.89	17	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.073	ppb	0.073	46.87	110	2000	
Sb	121	2	115	0.073	ppb	0.073	61.16	47	1000	
Ba	137	2	115	64.508	ppb	64.508	3.72	9610	5000	
W	182	2	165	0.025	ppb	0.025	47.07	483	100	
Pt	195	2	165	0.006	ppb	0.006	93.85	160	100	
Tl	205	2	165	0.007	ppb	0.007	91.28	230	2000	
Pb	208	2	165	0.082	ppb	0.082	35.01	1827	5000	
Th	232	2	165	0.004	ppb	0.004	70.64	77	2000	
U	238	2	165	0.174	ppb	0.174	10.69	2784	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	941215	2.37	1160179	81.13	60	120	
Sc (IS)	45	1	HMI H2	47231678	0.93	51895621	91.01	60	120	
Sc (IS)	45	2	HMI He	415221	1.20	430930	96.35	60	120	
Sc (IS)	45	3	No Gas	127831125	0.20	158101278	80.85	60	120	
Ge Internal Standard	72	1	HMI H2	23350990	0.87	25033284	93.28	60	120	
Ge Internal Standard	72	2	HMI He	654937	0.38	674189	97.14	60	120	
In Internal Standard	115	2	HMI He	1585658	2.50	1572457	100.84	60	120	
Ho-165	165	2	HMI He	13297907	0.38	13678393	97.22	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	091_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T21:58:14-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	441.240	ppb	1.566	284738	500	88.2	90	110	>+\-10%
Li	7	2	45	392.431	ppb	6.930	14039	500	78.5	90	110	>+\-10%
Li	7	3	45	418.712	ppb	2.233	15207751	500	83.7	90	110	>+\-10%
Be	9	1	6	49.538	ppb	2.082	15574	50	99.1	90	110	
B	11	1	6	-328.650	ppb	-0.943	41023	50	-657.3	90	110	>+\-10%
Na	23	1	45	4878.174	ppb	0.786	19692956	5000	97.6	90	110	
Na	23	2	45	4612.572	ppb	0.630	590056	5000	92.3	90	110	
Mg	24	2	45	4872.693	ppb	0.642	247732	5000	97.5	90	110	
Al	27	2	45	4929.080	ppb	1.971	45127	5000	98.6	90	110	
K	39	1	45	5107.937	ppb	0.494	30629364	5000	102.2	90	110	
K	39	2	45	5103.867	ppb	0.699	92844	5000	102.1	90	110	
Ca	40	1	45	5104.744	ppb	0.376	36655649	5000	102.1	90	110	
Ca	44	2	45	5287.681	ppb	2.275	6095	5000	105.8	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	47.924	ppb	0.786	39297	50	95.8	90	110	
Cr	52	2	72	48.093	ppb	3.013	52127	50	96.2	90	110	
Mn	55	2	72	48.582	ppb	2.400	13152	50	97.2	90	110	
Fe	57	2	72	4916.223	ppb	1.655	91052	5000	98.3	90	110	
Co	59	2	72	48.956	ppb	0.658	119843	50	97.9	90	110	
Ni	60	2	72	48.899	ppb	1.203	37267	50	97.8	90	110	
Cu	63	2	72	48.270	ppb	0.723	109230	50	96.5	90	110	
Zn	66	2	72	50.398	ppb	1.857	8966	50	100.8	90	110	
As	75	2	72	50.892	ppb	4.855	5346	50	101.8	90	110	
Se	78	1	72	49.666	ppb	1.205	28679	50	99.3	90	110	
Sr	88	2	72	53.997	ppb	4.053	11324	50	108.0	90	110	
Zr	90	2	72	40.471	ppb	9.226	323	50	80.9	90	110	>+\-10%
Nb	93	2	72	97.966	ppb	1.691	314345	100	98.0	90	110	
Mo	95	2	115	48.965	ppb	1.428	42233	50	97.9	90	110	
Pd	105	2	115	50.178	ppb	2.225	83978	50	100.4	90	110	
Ag	107	2	115	48.815	ppb	1.967	171189	50	97.6	90	110	
Cd	111	2	115	50.160	ppb	1.876	13849	50	100.3	90	110	
Sn	120	2	115	49.507	ppb	1.354	31129	50	99.0	90	110	
Sb	121	2	115	51.972	ppb	3.320	27997	50	103.9	90	110	
Ba	137	2	115	52.259	ppb	4.087	7682	50	104.5	90	110	
W	182	2	165	48.955	ppb	0.942	335637	50	97.9	90	110	
Pt	195	2	165	48.656	ppb	1.610	359154	50	97.3	90	110	
Tl	205	2	165	49.618	ppb	0.546	438394	50	99.2	90	110	
Pb	208	2	165	50.248	ppb	1.462	566299	50	100.5	90	110	
Th	232	2	165	49.819	ppb	1.337	674794	50	99.6	90	110	
U	238	2	165	48.782	ppb	1.337	780715	50	97.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	965791	1.24	1160179	83.24	60	120	
Sc (IS)	45	1	HMI H2	47599706	0.83	51895621	91.72	60	120	
Sc (IS)	45	2	HMI He	414686	1.25	430930	96.23	60	120	
Sc (IS)	45	3	No Gas	128997481	0.95	158101278	81.59	60	120	
Ge Internal Standard	72	1	HMI H2	23416449	0.43	25033284	93.54	60	120	
Ge Internal Standard	72	2	HMI He	652794	0.77	674189	96.83	60	120	
In Internal Standard	115	2	HMI He	1563044	2.49	1572457	99.40	60	120	
Ho-165	165	2	HMI He	13423875	0.90	13678393	98.14	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	092_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:02:01-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-33.312	ppb	-14.6	6001547	10	
Be	9	1	6	0.042	ppb	43.2	13	0.5	
B	11	1	6	-378.263	ppb	-0.4	24604	0.5	
Na	23	1	45	-5.296	ppb	-3.9	151214	25	
Na	23	2	45	-4.704	ppb	-9.1	6115	25	
Mg	24	2	45	-11.015	ppb	-11.9	217	25	
Al	27	2	45	-0.921	ppb	-247.3	23	15	
K	39	1	45	14.148	ppb	83.6	9190147	50	
K	39	2	45	-7.957	ppb	-301.4	4384	50	
Ca	40	1	45	-2.909	ppb	-12.9	108765	50	
Ca	44	2	45	17.942	ppb	129.0	30	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.240	ppb	17.3	120	1	
Cr	52	2	72	0.000	ppb	-12657.1	253	1	
Mn	55	2	72	-0.056	ppb	-76.4	23	0.5	
Fe	57	2	72	3.858	ppb	72.1	110	25	
Co	59	2	72	0.015	ppb	42.0	37	0.5	
Ni	60	2	72	0.203	ppb	17.7	180	1	
Cu	63	2	72	-0.139	ppb	-29.5	1330	1	
Zn	66	2	72	-0.636	ppb	-54.1	210	5	
As	75	2	72	0.064	ppb	34.0	10	1	
Se	78	1	72	0.010	ppb	177.2	51	1	
Sr	88	2	72	-0.029	ppb	-189.1	7	0.5	
Zr	90	2	72	2.339	ppb	87.9	37	1	>RL
Nb	93	2	72	1.088	ppb	7.0	3586	2	
Mo	95	2	115	0.031	ppb	131.9	37	0.5	
Pd	105	2	115	0.026	ppb	14.1	67	1	
Ag	107	2	115	0.016	ppb	64.1	83	1	
Cd	111	2	115	0.048	ppb	86.6	13	0.5	
Sn	120	2	115	0.053	ppb	65.9	97	1	
Sb	121	2	115	0.118	ppb	81.9	70	0.6	
Ba	137	2	115	-0.003	ppb	-1519.9	13	0.5	
W	182	2	165	0.050	ppb	22.2	650	1	
Pt	195	2	165	0.015	ppb	41.8	220	1	
Tl	205	2	165	0.031	ppb	25.8	433	0.1	
Pb	208	2	165	0.013	ppb	69.2	1053	0.5	
Th	232	2	165	0.049	ppb	26.6	677	1	
U	238	2	165	0.017	ppb	36.2	293	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	985252	0.17	1160179	84.92	60	120	
Sc (IS)	45	1	HMI H2	47562953	0.34	51895621	91.65	60	120	
Sc (IS)	45	2	HMI He	411776	1.21	430930	95.56	60	120	
Sc (IS)	45	3	No Gas	129608591	0.99	158101278	81.98	60	120	
Ge Internal Standard	72	1	HMI H2	23439990	0.21	25033284	93.64	60	120	
Ge Internal Standard	72	2	HMI He	650907	0.58	674189	96.55	60	120	
In Internal Standard	115	2	HMI He	1571427	1.31	1572457	99.93	60	120	
Ho-165	165	2	HMI He	13225215	0.77	13678393	96.69	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	093LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:05:49-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	10.639	ppb	51.212	6883545	50	21.3	70	130	>+/-30%
Be	9	1	6	1.338	ppb	26.225	427	1	133.8	70	130	>+/-30%
Na	23	2	45	40.883	ppb	9.924	11791	50	81.8	70	130	
Mg	24	2	45	35.273	ppb	13.494	2537	50	70.5	70	130	
Al	27	2	45	25.919	ppb	44.896	267	30	86.4	70	130	
K	39	2	45	108.080	ppb	9.016	6351	100	108.1	70	130	
Ca	44	2	45	32.804	ppb	78.801	47	50	65.6	70	130	>+/-30%
V	51	2	72	4.814	ppb	10.823	3891	5	96.3	70	130	
Cr	52	2	72	1.955	ppb	5.817	2370	2	97.7	70	130	
Mn	55	2	72	0.867	ppb	16.988	273	1	86.7	70	130	
Fe	57	2	72	51.604	ppb	7.260	997	50	103.2	70	130	
Co	59	2	72	1.054	ppb	4.162	2587	1	105.4	70	130	
Ni	60	2	72	2.018	ppb	5.410	1567	2	100.9	70	130	
Cu	63	2	72	1.833	ppb	0.938	5744	2	91.6	70	130	
Zn	66	2	72	10.444	ppb	9.325	2117	10	104.4	70	130	
As	75	2	72	4.803	ppb	10.736	509	5	96.1	70	130	
Se	78	1	72	5.136	ppb	1.602	3004	5	102.7	70	130	
Sr	88	2	72	0.843	ppb	9.820	190	1	84.3	70	130	
Zr	90	2	72	9.811	ppb	100.910	93	0.5	1962.1	70	130	>+/-30%
Nb	93	2	72	1.403	ppb	5.397	4621	2	70.2	70	130	
Mo	95	2	115	2.005	ppb	23.369	1767	2	100.3	70	130	
Pd	105	2	115	0.036	ppb	52.797	83	1	3.6	70	130	>+/-30%
Ag	107	2	115	5.048	ppb	2.500	18000	5	101.0	70	130	
Cd	111	2	115	0.879	ppb	16.600	247	1	87.9	70	130	
Sn	120	2	115	9.915	ppb	3.105	6381	10	99.1	70	130	
Sb	121	2	115	2.037	ppb	4.830	1120	2	101.8	70	130	
Ba	137	2	115	1.337	ppb	10.263	213	1	133.7	70	130	>+/-30%
W	182	2	165	5.038	ppb	2.706	34134	1	503.8	70	130	>+/-30%
Pt	195	2	165	0.014	ppb	64.071	213	1	1.4	70	130	>+/-30%
Tl	205	2	165	1.044	ppb	2.945	9206	1	104.4	70	130	
Pb	208	2	165	1.059	ppb	4.509	12582	1	105.9	70	130	
Th	232	2	165	2.151	ppb	1.641	28577	2	107.5	70	130	
U	238	2	165	1.006	ppb	4.877	15795	1	100.6	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	981556	1.06	1160179	84.60	60	120	
Sc (IS)	45	1	HMI H2	47356349	0.35	51895621	91.25	60	120	
Sc (IS)	45	2	HMI He	410141	0.95	430930	95.18	60	120	
Sc (IS)	45	3	No Gas	129240241	1.48	158101278	81.75	60	120	
Ge Internal Standard	72	1	HMI H2	23404226	0.49	25033284	93.49	60	120	
Ge Internal Standard	72	2	HMI He	654654	0.54	674189	97.10	60	120	
In Internal Standard	115	2	HMI He	1586640	2.27	1572457	100.90	60	120	
Ho-165	165	2	HMI He	13159829	1.57	13678393	96.21	60	120	

Sample Report

Sample Table

Sample Name	280-90675-d-5-c
Data File Name	094SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:09:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-24.308	ppb	-24.308	-19.26	110606	500000	
Li	7	2	45	-38.459	ppb	-38.459	-18.66	5311	500000	
Li	7	3	45	-39.666	ppb	-39.666	-5.16	5760103	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-313.340	ppb	-313.340	-0.86	44752	2000	
Na	23	1	45	19346.654	ppb	19346.654	0.47	76166847	2000	>LDR
Na	23	2	45	18217.847	ppb	18217.847	1.80	2281942	400000	
Mg	24	2	45	9390.936	ppb	9390.936	1.05	470826	400000	
Al	27	2	45	5.383	ppb	5.383	123.60	80	400000	
K	39	1	45	2450.612	ppb	2450.612	1.18	19091284	400000	
K	39	2	45	3287.361	ppb	3287.361	1.62	60662	400000	
Ca	40	1	45	40396.053	ppb	40396.053	0.33	283866109	400000	
Ca	44	2	45	38875.815	ppb	38875.815	1.41	44202	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.489	ppb	0.489	53.15	324	2000	
Cr	52	2	72	5.055	ppb	5.055	3.93	5684	5000	
Mn	55	2	72	65.331	ppb	65.331	4.53	17599	10000	
Fe	57	2	72	2295.037	ppb	2295.037	3.06	42338	400000	
Co	59	2	72	0.302	ppb	0.302	11.48	737	2000	
Ni	60	2	72	1.364	ppb	1.364	2.35	1060	5000	
Cu	63	2	72	0.635	ppb	0.635	15.42	3044	5000	
Zn	66	2	72	14.450	ppb	14.450	6.75	2787	5000	
As	75	2	72	0.364	ppb	0.364	15.56	42	2000	
Se	78	1	72	0.452	ppb	0.452	13.68	303	2000	
Sr	88	2	72	162.046	ppb	162.046	2.86	33804	4000	
Zr	90	2	72	3.245	ppb	3.245	49.17	43	1000	
Nb	93	2	72	0.120	ppb	0.120	12.62	490	200	
Mo	95	2	115	0.652	ppb	0.652	20.63	570	2000	
Pd	105	2	115	0.009	ppb	0.009	178.97	37	100	
Ag	107	2	115	0.010	ppb	0.010	91.78	60	100	
Cd	111	2	115	0.036	ppb	0.036	100.07	10	2000	
Sn	120	2	115	0.086	ppb	0.086	75.45	117	2000	
Sb	121	2	115	0.143	ppb	0.143	51.95	83	1000	
Ba	137	2	115	64.136	ppb	64.136	5.18	9393	5000	
W	182	2	165	0.039	ppb	0.039	58.86	577	100	
Pt	195	2	165	0.016	ppb	0.016	36.08	227	100	
Tl	205	2	165	0.040	ppb	0.040	41.11	520	2000	
Pb	208	2	165	0.071	ppb	0.071	14.47	1697	5000	
Th	232	2	165	0.068	ppb	0.068	6.94	930	2000	
U	238	2	165	0.237	ppb	0.237	6.53	3784	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	934549	0.46	1160179	80.55	60	120	
Sc (IS)	45	1	HMI H2	46725219	0.66	51895621	90.04	60	120	
Sc (IS)	45	2	HMI He	409537	0.53	430930	95.04	60	120	
Sc (IS)	45	3	No Gas	127146151	0.81	158101278	80.42	60	120	
Ge Internal Standard	72	1	HMI H2	23206476	0.82	25033284	92.70	60	120	
Ge Internal Standard	72	2	HMI He	649935	1.07	674189	96.40	60	120	
In Internal Standard	115	2	HMI He	1557665	1.12	1572457	99.06	60	120	
Ho-165	165	2	HMI He	13282541	0.49	13678393	97.11	60	120	

Sample Report

Sample Table

Sample Name	280-90675-d-6-c
Data File Name	095SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:13:27-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.531	ppb	-27.531	-2.90	111632	500000	
Li	7	2	45	-13.900	ppb	-13.900	-147.33	5918	500000	
Li	7	3	45	-35.249	ppb	-35.249	-9.50	5945191	50000	
Be	9	1	6	0.105	ppb	0.105	125.21	33	2000	
B	11	1	6	-322.525	ppb	-322.525	-1.22	43602	2000	
Na	23	1	45	11840.338	ppb	11840.338	0.66	47614006	2000	>LDR
Na	23	2	45	11312.238	ppb	11312.238	0.93	1448324	400000	
Mg	24	2	45	3745.491	ppb	3745.491	1.01	192072	400000	
Al	27	2	45	15.680	ppb	15.680	22.43	177	400000	
K	39	1	45	1644.207	ppb	1644.207	0.34	16075928	400000	
K	39	2	45	2495.540	ppb	2495.540	2.53	48088	400000	
Ca	40	1	45	17698.106	ppb	17698.106	0.41	126923315	400000	
Ca	44	2	45	17078.352	ppb	17078.352	0.67	19818	400000	
Ti	47	2	45	141.857	ppb	141.857	107.88	23	4000	
V	51	2	72	1.321	ppb	1.321	57.53	1021	2000	
Cr	52	2	72	15.784	ppb	15.784	3.92	17492	5000	
Mn	55	2	72	65.568	ppb	65.568	1.13	17950	10000	
Fe	57	2	72	889.930	ppb	889.930	5.67	16718	400000	
Co	59	2	72	0.580	ppb	0.580	10.36	1437	2000	
Ni	60	2	72	1.151	ppb	1.151	1.79	913	5000	
Cu	63	2	72	2.796	ppb	2.796	8.36	7972	5000	
Zn	66	2	72	16.417	ppb	16.417	0.27	3174	5000	
As	75	2	72	0.291	ppb	0.291	26.46	35	2000	
Se	78	1	72	0.168	ppb	0.168	28.38	143	2000	
Sr	88	2	72	109.785	ppb	109.785	1.47	23283	4000	
Zr	90	2	72	5.312	ppb	5.312	64.03	60	1000	
Nb	93	2	72	0.099	ppb	0.099	27.19	430	200	
Mo	95	2	115	0.572	ppb	0.572	8.25	507	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-79.83	10	100	
Ag	107	2	115	-0.002	ppb	-0.002	-240.33	20	100	
Cd	111	2	115	0.036	ppb	0.036	99.40	10	2000	
Sn	120	2	115	0.037	ppb	0.037	129.61	87	2000	
Sb	121	2	115	0.277	ppb	0.277	40.45	157	1000	
Ba	137	2	115	27.186	ppb	27.186	6.85	4031	5000	
W	182	2	165	0.025	ppb	0.025	62.06	487	100	
Pt	195	2	165	0.010	ppb	0.010	43.61	187	100	
Tl	205	2	165	0.023	ppb	0.023	44.07	370	2000	
Pb	208	2	165	0.207	ppb	0.207	4.76	3244	5000	
Th	232	2	165	0.030	ppb	0.030	11.71	430	2000	
U	238	2	165	0.054	ppb	0.054	3.74	890	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	976630	0.50	1160179	84.18	60	120	
Sc (IS)	45	1	HMI H2	47658941	0.51	51895621	91.84	60	120	
Sc (IS)	45	2	HMI He	417872	0.30	430930	96.97	60	120	
Sc (IS)	45	3	No Gas	129228618	0.94	158101278	81.74	60	120	
Ge Internal Standard	72	1	HMI H2	23583915	0.75	25033284	94.21	60	120	
Ge Internal Standard	72	2	HMI He	660710	0.83	674189	98.00	60	120	
In Internal Standard	115	2	HMI He	1573168	1.20	1572457	100.05	60	120	
Ho-165	165	2	HMI He	13387413	0.73	13678393	97.87	60	120	

Sample Report

Sample Table

Sample Name	280-90675-e-7-b
Data File Name	096SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:17:16-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.023	ppb	-33.023	-10.45	110158	500000	
Li	7	2	45	-41.394	ppb	-41.394	-58.25	5404	500000	
Li	7	3	45	-37.477	ppb	-37.477	-2.59	5915202	50000	
Be	9	1	6	0.011	ppb	0.011	173.21	3	2000	
B	11	1	6	-303.458	ppb	-303.458	-0.78	49704	2000	
Na	23	1	45	11419.391	ppb	11419.391	0.68	46161886	2000	>LDR
Na	23	2	45	11016.987	ppb	11016.987	1.18	1422772	400000	
Mg	24	2	45	1882.720	ppb	1882.720	0.93	97770	400000	
Al	27	2	45	18.379	ppb	18.379	22.04	203	400000	
K	39	1	45	775.601	ppb	775.601	1.81	12480134	400000	
K	39	2	45	1729.641	ppb	1729.641	2.17	35038	400000	
Ca	40	1	45	9712.171	ppb	9712.171	1.43	70066582	400000	
Ca	44	2	45	9925.144	ppb	9925.144	5.13	11621	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.438	ppb	0.438	27.41	288	2000	
Cr	52	2	72	0.422	ppb	0.422	18.73	720	5000	
Mn	55	2	72	12.823	ppb	12.823	10.82	3547	10000	
Fe	57	2	72	463.030	ppb	463.030	3.86	8732	400000	
Co	59	2	72	0.236	ppb	0.236	21.37	587	2000	
Ni	60	2	72	0.983	ppb	0.983	11.44	787	5000	
Cu	63	2	72	2.873	ppb	2.873	1.85	8162	5000	
Zn	66	2	72	29.731	ppb	29.731	2.62	5498	5000	
As	75	2	72	0.584	ppb	0.584	12.32	66	2000	
Se	78	1	72	0.066	ppb	0.066	49.20	84	2000	
Sr	88	2	72	82.508	ppb	82.508	4.64	17550	4000	
Zr	90	2	72	9.732	ppb	9.732	68.56	93	1000	
Nb	93	2	72	0.046	ppb	0.046	50.91	257	200	
Mo	95	2	115	0.867	ppb	0.867	10.50	773	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-176.68	17	100	
Ag	107	2	115	0.007	ppb	0.007	98.03	53	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.238	ppb	0.238	59.65	217	2000	
Sb	121	2	115	0.370	ppb	0.370	21.41	210	1000	
Ba	137	2	115	15.198	ppb	15.198	4.36	2290	5000	
W	182	2	165	0.013	ppb	0.013	85.39	407	100	
Pt	195	2	165	0.006	ppb	0.006	82.56	157	100	
Tl	205	2	165	0.013	ppb	0.013	39.15	287	2000	
Pb	208	2	165	0.307	ppb	0.307	3.55	4384	5000	
Th	232	2	165	0.021	ppb	0.021	24.99	303	2000	
U	238	2	165	0.026	ppb	0.026	28.52	447	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	967539	1.00	1160179	83.40	60	120	
Sc (IS)	45	1	HMI H2	47902848	0.23	51895621	92.31	60	120	
Sc (IS)	45	2	HMI He	421466	0.65	430930	97.80	60	120	
Sc (IS)	45	3	No Gas	129579071	0.46	158101278	81.96	60	120	
Ge Internal Standard	72	1	HMI H2	23711073	0.87	25033284	94.72	60	120	
Ge Internal Standard	72	2	HMI He	662230	1.51	674189	98.23	60	120	
In Internal Standard	115	2	HMI He	1595218	0.65	1572457	101.45	60	120	
Ho-165	165	2	HMI He	13452536	0.28	13678393	98.35	60	120	

Sample Table

Sample Name	280-90675-e-8-b
Data File Name	097SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:21:02-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-24.798	ppb	-24.798	-9.39	112618	500000	
Li	7	2	45	-24.524	ppb	-24.524	-47.23	5764	500000	
Li	7	3	45	-38.163	ppb	-38.163	-5.61	5913123	50000	
Be	9	1	6	0.021	ppb	0.021	173.21	7	2000	
B	11	1	6	-362.819	ppb	-362.819	-0.02	29765	2000	
Na	23	1	45	1826.755	ppb	1826.755	0.74	7490606	2000	
Na	23	2	45	1708.204	ppb	1708.204	0.82	226890	400000	
Mg	24	2	45	920.908	ppb	920.908	2.54	48328	400000	
Al	27	2	45	156.951	ppb	156.951	15.03	1493	400000	
K	39	1	45	47.892	ppb	47.892	27.17	9349074	400000	
K	39	2	45	996.373	ppb	996.373	4.18	22194	400000	
Ca	40	1	45	6721.963	ppb	6721.963	1.08	48276839	400000	
Ca	44	2	45	6255.326	ppb	6255.326	5.86	7345	400000	
Ti	47	2	45	523.400	ppb	523.400	93.62	87	4000	
V	51	2	72	1.455	ppb	1.455	5.03	1141	2000	
Cr	52	2	72	0.641	ppb	0.641	32.59	963	5000	
Mn	55	2	72	1.928	ppb	1.928	15.13	570	10000	
Fe	57	2	72	208.268	ppb	208.268	6.16	3974	400000	
Co	59	2	72	0.069	ppb	0.069	17.05	173	2000	
Ni	60	2	72	0.468	ppb	0.468	17.53	390	5000	
Cu	63	2	72	4.301	ppb	4.301	2.30	11451	5000	
Zn	66	2	72	15.000	ppb	15.000	1.63	2950	5000	
As	75	2	72	0.458	ppb	0.458	27.88	53	2000	
Se	78	1	72	0.089	ppb	0.089	72.09	97	2000	
Sr	88	2	72	34.635	ppb	34.635	1.34	7412	4000	
Zr	90	2	72	17.395	ppb	17.395	49.85	153	1000	
Nb	93	2	72	0.055	ppb	0.055	38.11	290	200	
Mo	95	2	115	0.412	ppb	0.412	21.10	373	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-714.26	20	100	
Ag	107	2	115	0.003	ppb	0.003	375.04	37	100	
Cd	111	2	115	0.024	ppb	0.024	86.66	7	2000	
Sn	120	2	115	0.138	ppb	0.138	23.57	153	2000	
Sb	121	2	115	0.283	ppb	0.283	33.77	163	1000	
Ba	137	2	115	5.574	ppb	5.574	9.72	850	5000	
W	182	2	165	0.034	ppb	0.034	44.39	557	100	
Pt	195	2	165	-0.001	ppb	-0.001	-578.84	110	100	
Tl	205	2	165	0.006	ppb	0.006	98.08	227	2000	
Pb	208	2	165	0.618	ppb	0.618	4.44	7938	5000	
Th	232	2	165	0.040	ppb	0.040	7.75	573	2000	
U	238	2	165	0.034	ppb	0.034	11.47	577	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	978345	0.82	1160179	84.33	60	120	
Sc (IS)	45	1	HMI H2	47650498	0.69	51895621	91.82	60	120	
Sc (IS)	45	2	HMI He	422338	1.12	430930	98.01	60	120	
Sc (IS)	45	3	No Gas	129848741	0.98	158101278	82.13	60	120	
Ge Internal Standard	72	1	HMI H2	23614839	0.58	25033284	94.33	60	120	
Ge Internal Standard	72	2	HMI He	665797	1.21	674189	98.76	60	120	
In Internal Standard	115	2	HMI He	1599368	2.20	1572457	101.71	60	120	
Ho-165	165	2	HMI He	13541766	0.59	13678393	99.00	60	120	

Sample Report

Sample Table

Sample Name	280-90675-e-9-b
Data File Name	098SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:24:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-30.782	ppb	-30.782	-21.41	109651	500000	
Li	7	2	45	-37.074	ppb	-37.074	-55.90	5438	500000	
Li	7	3	45	-40.699	ppb	-40.699	-4.49	5880618	50000	
Be	9	1	6	0.032	ppb	0.032	99.57	10	2000	
B	11	1	6	-346.535	ppb	-346.535	-0.74	34219	2000	
Na	23	1	45	32857.290	ppb	32857.290	0.28	130904738	2000	>LDR
Na	23	2	45	30307.744	ppb	30307.744	1.54	3863498	400000	
Mg	24	2	45	4759.282	ppb	4759.282	0.75	243522	400000	
Al	27	2	45	10.975	ppb	10.975	81.76	133	400000	
K	39	1	45	1847.478	ppb	1847.478	2.34	16813889	400000	
K	39	2	45	2729.774	ppb	2729.774	0.55	52106	400000	
Ca	40	1	45	27566.743	ppb	27566.743	0.83	196248910	400000	
Ca	44	2	45	26899.214	ppb	26899.214	1.21	31164	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.619	ppb	0.619	47.52	436	2000	
Cr	52	2	72	4.221	ppb	4.221	3.83	4864	5000	
Mn	55	2	72	157.868	ppb	157.868	2.38	43146	10000	
Fe	57	2	72	470.575	ppb	470.575	2.79	8853	400000	
Co	59	2	72	0.381	ppb	0.381	12.22	943	2000	
Ni	60	2	72	0.771	ppb	0.771	17.68	620	5000	
Cu	63	2	72	0.413	ppb	0.413	11.09	2594	5000	
Zn	66	2	72	10.568	ppb	10.568	4.31	2157	5000	
As	75	2	72	0.278	ppb	0.278	40.03	33	2000	
Se	78	1	72	0.106	ppb	0.106	75.48	105	2000	
Sr	88	2	72	132.190	ppb	132.190	0.94	28020	4000	
Zr	90	2	72	4.019	ppb	4.019	0.82	50	1000	
Nb	93	2	72	0.040	ppb	0.040	12.46	237	200	
Mo	95	2	115	0.285	ppb	0.285	18.99	260	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-172.37	17	100	
Ag	107	2	115	-0.001	ppb	-0.001	-156.78	23	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.024	ppb	0.024	274.70	80	2000	
Sb	121	2	115	0.030	ppb	0.030	123.82	23	1000	
Ba	137	2	115	52.995	ppb	52.995	5.13	7936	5000	
W	182	2	165	0.020	ppb	0.020	62.53	460	100	
Pt	195	2	165	0.006	ppb	0.006	60.68	160	100	
Tl	205	2	165	0.008	ppb	0.008	67.80	247	2000	
Pb	208	2	165	0.108	ppb	0.108	5.23	2153	5000	
Th	232	2	165	0.005	ppb	0.005	30.15	90	2000	
U	238	2	165	0.050	ppb	0.050	14.17	843	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	946219	1.28	1160179	81.56	60	120	
Sc (IS)	45	1	HMI H2	47327003	0.53	51895621	91.20	60	120	
Sc (IS)	45	2	HMI He	417317	1.07	430930	96.84	60	120	
Sc (IS)	45	3	No Gas	130278545	0.73	158101278	82.40	60	120	
Ge Internal Standard	72	1	HMI H2	23308228	0.41	25033284	93.11	60	120	
Ge Internal Standard	72	2	HMI He	660395	0.50	674189	97.95	60	120	
In Internal Standard	115	2	HMI He	1592158	1.77	1572457	101.25	60	120	
Ho-165	165	2	HMI He	13570174	0.43	13678393	99.21	60	120	

Sample Report

Sample Table

Sample Name	280-90693-b-1-b
Data File Name	099SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:28:34-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-30.226	ppb	-30.226	-3.93	109757	500000	
Li	7	2	45	-32.273	ppb	-32.273	-44.30	5541	500000	
Li	7	3	45	-40.097	ppb	-40.097	-6.11	5647734	50000	
Be	9	1	6	0.021	ppb	0.021	173.21	7	2000	
B	11	1	6	-346.679	ppb	-346.679	-0.18	34677	2000	
Na	23	1	45	6657.383	ppb	6657.383	0.42	26634485	2000	
Na	23	2	45	6240.212	ppb	6240.212	0.92	801219	400000	
Mg	24	2	45	3974.149	ppb	3974.149	1.55	203585	400000	
Al	27	2	45	31.594	ppb	31.594	46.14	323	400000	
K	39	1	45	2166.301	ppb	2166.301	0.95	18130593	400000	
K	39	2	45	3091.887	ppb	3091.887	2.01	58428	400000	
Ca	40	1	45	18827.523	ppb	18827.523	0.63	133944788	400000	
Ca	44	2	45	17915.945	ppb	17915.945	0.95	20769	400000	
Ti	47	2	45	40.535	ppb	40.535	173.21	7	4000	
V	51	2	72	0.810	ppb	0.810	2.58	596	2000	
Cr	52	2	72	0.454	ppb	0.454	17.03	753	5000	
Mn	55	2	72	932.362	ppb	932.362	1.41	254791	10000	
Fe	57	2	72	9926.223	ppb	9926.223	1.36	186081	400000	
Co	59	2	72	2.182	ppb	2.182	1.76	5408	2000	
Ni	60	2	72	2.993	ppb	2.993	7.70	2334	5000	
Cu	63	2	72	1.132	ppb	1.132	9.04	4217	5000	
Zn	66	2	72	48.058	ppb	48.058	1.22	8669	5000	
As	75	2	72	4.214	ppb	4.214	5.11	452	2000	
Se	78	1	72	0.084	ppb	0.084	17.16	93	2000	
Sr	88	2	72	107.017	ppb	107.017	1.23	22702	4000	
Zr	90	2	72	15.426	ppb	15.426	26.80	137	1000	
Nb	93	2	72	0.026	ppb	0.026	75.96	193	200	
Mo	95	2	115	0.987	ppb	0.987	8.84	873	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-244.72	17	100	
Ag	107	2	115	-0.005	ppb	-0.005	-58.79	10	100	
Cd	111	2	115	2.095	ppb	2.095	25.45	587	2000	
Sn	120	2	115	0.151	ppb	0.151	1.30	160	2000	
Sb	121	2	115	0.043	ppb	0.043	73.89	30	1000	
Ba	137	2	115	18.160	ppb	18.160	3.54	2714	5000	
W	182	2	165	0.026	ppb	0.026	5.82	500	100	
Pt	195	2	165	0.000	ppb	0.000	-723.34	113	100	
Tl	205	2	165	0.021	ppb	0.021	39.35	357	2000	
Pb	208	2	165	0.102	ppb	0.102	11.85	2083	5000	
Th	232	2	165	0.014	ppb	0.014	47.28	217	2000	
U	238	2	165	0.084	ppb	0.084	11.28	1383	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	959965	1.79	1160179	82.74	60	120	
Sc (IS)	45	1	HMI H2	47281433	0.17	51895621	91.11	60	120	
Sc (IS)	45	2	HMI He	417494	1.11	430930	96.88	60	120	
Sc (IS)	45	3	No Gas	124855725	0.22	158101278	78.97	60	120	
Ge Internal Standard	72	1	HMI H2	23369121	0.61	25033284	93.35	60	120	
Ge Internal Standard	72	2	HMI He	660854	0.61	674189	98.02	60	120	
In Internal Standard	115	2	HMI He	1584018	0.78	1572457	100.74	60	120	
Ho-165	165	2	HMI He	13543085	1.21	13678393	99.01	60	120	

Sample Report

Sample Table

Sample Name	280-90693-c-5-b
Data File Name	100SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:32:23-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350719 6020A DOD5
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.863	ppb	-33.863	-13.13	106966	500000	
Li	7	2	45	-48.411	ppb	-48.411	-27.19	5201	500000	
Li	7	3	45	-41.995	ppb	-41.995	-3.54	5756174	50000	
Be	9	1	6	0.022	ppb	0.022	86.61	7	2000	
B	11	1	6	-361.052	ppb	-361.052	-0.85	28469	2000	
Na	23	1	45	6115.502	ppb	6115.502	1.17	24150980	2000	
Na	23	2	45	5657.753	ppb	5657.753	0.30	725341	400000	
Mg	24	2	45	17648.621	ppb	17648.621	0.22	899141	400000	
Al	27	2	45	20.444	ppb	20.444	18.52	220	400000	
K	39	1	45	-569.068	ppb	-569.068	-4.37	6607969	400000	
K	39	2	45	402.828	ppb	402.828	2.28	11571	400000	
Ca	40	1	45	4458.791	ppb	4458.791	0.82	31392032	400000	
Ca	44	2	45	4757.567	ppb	4757.567	6.67	5511	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.222	ppb	0.222	33.62	105	2000	
Cr	52	2	72	0.392	ppb	0.392	9.32	677	5000	
Mn	55	2	72	456.160	ppb	456.160	1.26	122960	10000	
Fe	57	2	72	148944.345	ppb	148944.345	0.55	2753052	400000	
Co	59	2	72	10.576	ppb	10.576	2.94	25843	2000	
Ni	60	2	72	3.447	ppb	3.447	13.25	2647	5000	
Cu	63	2	72	0.391	ppb	0.391	25.67	2510	5000	
Zn	66	2	72	14.873	ppb	14.873	10.41	2867	5000	
As	75	2	72	66.640	ppb	66.640	1.48	6986	2000	
Se	78	1	72	0.370	ppb	0.370	19.00	253	2000	
Sr	88	2	72	102.960	ppb	102.960	2.72	21537	4000	
Zr	90	2	72	109.819	ppb	109.819	10.64	843	1000	
Nb	93	2	72	0.010	ppb	0.010	104.39	137	200	
Mo	95	2	115	7.238	ppb	7.238	4.78	6311	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-59.62	13	100	
Ag	107	2	115	-0.005	ppb	-0.005	-58.03	10	100	
Cd	111	2	115	0.396	ppb	0.396	43.01	110	2000	
Sn	120	2	115	0.095	ppb	0.095	52.97	123	2000	
Sb	121	2	115	0.031	ppb	0.031	123.61	23	1000	
Ba	137	2	115	43.752	ppb	43.752	6.20	6492	5000	
W	182	2	165	0.016	ppb	0.016	31.06	423	100	
Pt	195	2	165	0.007	ppb	0.007	76.06	163	100	
Tl	205	2	165	0.030	ppb	0.030	8.11	430	2000	
Pb	208	2	165	0.140	ppb	0.140	15.45	2470	5000	
Th	232	2	165	0.015	ppb	0.015	30.62	223	2000	
U	238	2	165	0.187	ppb	0.187	5.15	2984	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	917127	1.14	1160179	79.05	60	120	
Sc (IS)	45	1	HMI H2	46648893	1.15	51895621	89.89	60	120	
Sc (IS)	45	2	HMI He	416484	0.98	430930	96.65	60	120	
Sc (IS)	45	3	No Gas	128104495	0.55	158101278	81.03	60	120	
Ge Internal Standard	72	1	HMI H2	23011770	0.86	25033284	91.92	60	120	
Ge Internal Standard	72	2	HMI He	651700	0.86	674189	96.66	60	120	
In Internal Standard	115	2	HMI He	1577120	1.30	1572457	100.30	60	120	
Ho-165	165	2	HMI He	13286992	0.35	13678393	97.14	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	101_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:36:09-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	429.933	ppb	1.529	274071	500	86.0	90	110	>+\-10%
Li	7	2	45	380.717	ppb	10.874	13465	500	76.1	90	110	>+\-10%
Li	7	3	45	407.687	ppb	2.366	14444408	500	81.5	90	110	>+\-10%
Be	9	1	6	51.342	ppb	3.023	15647	50	102.7	90	110	
B	11	1	6	-340.803	ppb	-0.267	35759	50	-681.6	90	110	>+\-10%
Na	23	1	45	4850.599	ppb	0.579	19130432	5000	97.0	90	110	
Na	23	2	45	4584.277	ppb	2.305	571692	5000	91.7	90	110	
Mg	24	2	45	4748.398	ppb	0.926	235388	5000	95.0	90	110	
Al	27	2	45	4800.324	ppb	3.119	42871	5000	96.0	90	110	
K	39	1	45	5147.784	ppb	1.145	30084892	5000	103.0	90	110	
K	39	2	45	5088.879	ppb	2.187	90277	5000	101.8	90	110	
Ca	40	1	45	5083.570	ppb	0.646	35659787	5000	101.7	90	110	
Ca	44	2	45	5213.777	ppb	4.313	5858	5000	104.3	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	47.809	ppb	2.669	38601	50	95.6	90	110	
Cr	52	2	72	47.227	ppb	1.792	50429	50	94.5	90	110	
Mn	55	2	72	49.372	ppb	1.817	13162	50	98.7	90	110	
Fe	57	2	72	4780.782	ppb	0.564	87203	5000	95.6	90	110	
Co	59	2	72	48.869	ppb	1.794	117807	50	97.7	90	110	
Ni	60	2	72	48.087	ppb	0.925	36094	50	96.2	90	110	
Cu	63	2	72	47.830	ppb	2.692	106605	50	95.7	90	110	
Zn	66	2	72	48.840	ppb	2.750	8566	50	97.7	90	110	
As	75	2	72	51.250	ppb	2.326	5301	50	102.5	90	110	
Se	78	1	72	48.937	ppb	1.402	28013	50	97.9	90	110	
Sr	88	2	72	50.060	ppb	1.988	10337	50	100.1	90	110	
Zr	90	2	72	33.030	ppb	39.547	263	50	66.1	90	110	>+\-10%
Nb	93	2	72	97.335	ppb	0.876	307593	100	97.3	90	110	
Mo	95	2	115	48.475	ppb	2.920	41370	50	97.0	90	110	
Pd	105	2	115	50.064	ppb	2.488	82927	50	100.1	90	110	
Ag	107	2	115	48.374	ppb	2.331	167886	50	96.7	90	110	
Cd	111	2	115	50.102	ppb	7.476	13686	50	100.2	90	110	
Sn	120	2	115	50.241	ppb	3.263	31260	50	100.5	90	110	
Sb	121	2	115	51.885	ppb	2.292	27667	50	103.8	90	110	
Ba	137	2	115	52.811	ppb	1.313	7682	50	105.6	90	110	
W	182	2	165	49.598	ppb	0.648	331544	50	99.2	90	110	
Pt	195	2	165	49.363	ppb	0.452	355281	50	98.7	90	110	
Tl	205	2	165	50.182	ppb	1.181	432278	50	100.4	90	110	
Pb	208	2	165	50.849	ppb	1.627	558757	50	101.7	90	110	
Th	232	2	165	50.703	ppb	0.969	669614	50	101.4	90	110	
U	238	2	165	49.012	ppb	1.333	764791	50	98.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	936265	0.85	1160179	80.70	60	120	
Sc (IS)	45	1	HMI H2	46499486	0.55	51895621	89.60	60	120	
Sc (IS)	45	2	HMI He	404328	1.88	430930	93.83	60	120	
Sc (IS)	45	3	No Gas	124365915	1.05	158101278	78.66	60	120	
Ge Internal Standard	72	1	HMI H2	23212689	0.28	25033284	92.73	60	120	
Ge Internal Standard	72	2	HMI He	642877	0.86	674189	95.36	60	120	
In Internal Standard	115	2	HMI He	1547012	2.63	1572457	98.38	60	120	
Ho-165	165	2	HMI He	13087831	0.31	13678393	95.68	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	102_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:39:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-38.393	ppb	-8.1	5729198	10	
Be	9	1	6	0.022	ppb	173.2	7	0.5	
B	11	1	6	-382.308	ppb	-0.6	22301	0.5	
Na	23	1	45	-8.888	ppb	-4.8	133154	25	
Na	23	2	45	-9.347	ppb	-13.0	5451	25	
Mg	24	2	45	-10.568	ppb	-11.5	237	25	
Al	27	2	45	1.010	ppb	300.2	40	15	
K	39	1	45	20.625	ppb	104.3	8968261	50	
K	39	2	45	3.463	ppb	421.9	4511	50	
Ca	40	1	45	-3.609	ppb	-0.6	100960	50	
Ca	44	2	45	6.506	ppb	81.5	17	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.213	ppb	94.1	96	1	
Cr	52	2	72	-0.052	ppb	-150.7	197	1	
Mn	55	2	72	0.058	ppb	308.7	53	0.5	
Fe	57	2	72	2.636	ppb	33.5	87	25	
Co	59	2	72	0.017	ppb	90.6	40	0.5	
Ni	60	2	72	0.235	ppb	21.1	203	1	
Cu	63	2	72	-0.051	ppb	-42.5	1517	1	
Zn	66	2	72	-0.999	ppb	-24.1	147	5	
As	75	2	72	0.027	ppb	109.4	7	1	
Se	78	1	72	0.016	ppb	153.4	53	1	
Sr	88	2	72	0.002	ppb	5733.6	13	0.5	
Zr	90	2	72	4.166	ppb	116.4	50	1	>RL
Nb	93	2	72	1.113	ppb	10.1	3644	2	
Mo	95	2	115	0.042	ppb	95.7	47	0.5	
Pd	105	2	115	0.030	ppb	85.1	73	1	
Ag	107	2	115	0.025	ppb	67.5	113	1	
Cd	111	2	115	0.024	ppb	173.2	7	0.5	
Sn	120	2	115	0.042	ppb	94.0	90	1	
Sb	121	2	115	0.136	ppb	15.8	80	0.6	
Ba	137	2	115	-0.026	ppb	-252.5	10	0.5	
W	182	2	165	0.035	ppb	52.0	550	1	
Pt	195	2	165	0.008	ppb	54.1	170	1	
Tl	205	2	165	0.024	ppb	8.2	373	0.1	
Pb	208	2	165	0.015	ppb	147.9	1067	0.5	
Th	232	2	165	0.043	ppb	7.1	600	1	
U	238	2	165	0.015	ppb	17.8	267	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	947321	1.25	1160179	81.65	60	120	
Sc (IS)	45	1	HMI H2	46278279	0.46	51895621	89.18	60	120	
Sc (IS)	45	2	HMI He	405904	1.61	430930	94.19	60	120	
Sc (IS)	45	3	No Gas	125907738	0.36	158101278	79.64	60	120	
Ge Internal Standard	72	1	HMI H2	23008129	0.23	25033284	91.91	60	120	
Ge Internal Standard	72	2	HMI He	647170	1.15	674189	95.99	60	120	
In Internal Standard	115	2	HMI He	1569258	2.10	1572457	99.80	60	120	
Ho-165	165	2	HMI He	13157163	1.05	13678393	96.19	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	103LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:43:41-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	6.361	ppb	41.239	6724973	50	12.7	70	130	>+/-30%
Be	9	1	6	0.982	ppb	36.430	307	1	98.2	70	130	
Na	23	2	45	36.777	ppb	3.204	11174	50	73.6	70	130	
Mg	24	2	45	41.665	ppb	5.599	2830	50	83.3	70	130	
Al	27	2	45	30.383	ppb	29.201	303	30	101.3	70	130	
K	39	2	45	106.288	ppb	3.386	6261	100	106.3	70	130	
Ca	44	2	45	71.546	ppb	25.501	90	50	143.1	70	130	>+/-30%
V	51	2	72	4.868	ppb	4.417	3895	5	97.4	70	130	
Cr	52	2	72	1.858	ppb	10.757	2244	2	92.9	70	130	
Mn	55	2	72	1.114	ppb	23.908	337	1	111.4	70	130	
Fe	57	2	72	53.361	ppb	21.624	1020	50	106.7	70	130	
Co	59	2	72	1.068	ppb	2.865	2595	1	106.8	70	130	
Ni	60	2	72	2.131	ppb	12.005	1637	2	106.5	70	130	
Cu	63	2	72	1.989	ppb	11.490	6035	2	99.5	70	130	
Zn	66	2	72	9.882	ppb	4.191	2000	10	98.8	70	130	
As	75	2	72	4.742	ppb	10.069	498	5	94.8	70	130	
Se	78	1	72	5.273	ppb	4.748	3070	5	105.5	70	130	
Sr	88	2	72	1.076	ppb	27.999	237	1	107.6	70	130	
Zr	90	2	72	5.028	ppb	76.332	57	0.5	1005.7	70	130	>+/-30%
Nb	93	2	72	1.405	ppb	7.156	4581	2	70.3	70	130	
Mo	95	2	115	1.944	ppb	9.951	1697	2	97.2	70	130	
Pd	105	2	115	0.016	ppb	97.039	50	1	1.6	70	130	>+/-30%
Ag	107	2	115	4.880	ppb	6.329	17249	5	97.6	70	130	
Cd	111	2	115	0.960	ppb	18.184	267	1	96.0	70	130	
Sn	120	2	115	10.164	ppb	3.808	6481	10	101.6	70	130	
Sb	121	2	115	2.085	ppb	5.073	1137	2	104.3	70	130	
Ba	137	2	115	0.944	ppb	41.518	153	1	94.4	70	130	
W	182	2	165	5.012	ppb	0.526	33943	1	501.2	70	130	>+/-30%
Pt	195	2	165	0.003	ppb	151.542	133	1	0.3	70	130	>+/-30%
Tl	205	2	165	1.058	ppb	5.841	9326	1	105.8	70	130	
Pb	208	2	165	1.035	ppb	2.107	12306	1	103.5	70	130	
Th	232	2	165	2.125	ppb	2.648	28213	2	106.2	70	130	
U	238	2	165	1.000	ppb	1.358	15702	1	100.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	955498	2.21	1160179	82.36	60	120	
Sc (IS)	45	1	HMI H2	46792759	0.61	51895621	90.17	60	120	
Sc (IS)	45	2	HMI He	406336	0.70	430930	94.29	60	120	
Sc (IS)	45	3	No Gas	127873008	0.68	158101278	80.88	60	120	
Ge Internal Standard	72	1	HMI H2	23298818	0.22	25033284	93.07	60	120	
Ge Internal Standard	72	2	HMI He	648181	0.48	674189	96.14	60	120	
In Internal Standard	115	2	HMI He	1572407	0.42	1572457	100.00	60	120	
Ho-165	165	2	HMI He	13150466	0.73	13678393	96.14	60	120	

Blank Report

Sample Table

Sample Name	MB 280-350692/1-C
Data File Name	104_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:47:29-07:00
Sample Type	Blank
Dilution	1
Comment	350706 6020
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-28.126	ppb	-24.99287773	110429	0.5
Li	7	2	45	-42.732	ppb	-67.2822996	5278	0.5
Li	7	3	45	-36.998	ppb	-6.081488952	5907652	10
Be	9	1	6	0.032	ppb	99.91983391	10	0.5
B	11	1	6	-380.320	ppb	-0.437782482	22992	0.5
Na	23	1	45	-3.856	ppb	-10.44758159	155923	25
Na	23	2	45	-4.185	ppb	-25.05078825	6211	25
Mg	24	2	45	-13.413	ppb	-7.014532342	97	25
Al	27	2	45	0.163	ppb	1025.443131	33	15
K	39	1	45	-965.692	ppb	-0.39405468	5037071	50
K	39	2	45	-0.611	ppb	-3301.971368	4531	50
Ca	40	1	45	0.382	ppb	117.3544747	131399	50
Ca	44	2	45	11.938	ppb	40.09707716	23	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	0.238	ppb	75.56788154	119	1
Cr	52	2	72	1.095	ppb	15.72347651	1457	1
Mn	55	2	72	0.064	ppb	323.8697813	57	0.5
Fe	57	2	72	19.383	ppb	8.112559104	403	25
Co	59	2	72	0.017	ppb	34.74687268	43	0.5
Ni	60	2	72	0.109	ppb	53.26639158	110	1
Cu	63	2	72	0.065	ppb	40.87297857	1813	1
Zn	66	2	72	-0.194	ppb	-86.53021426	290	5
As	75	2	72	0.032	ppb	90.55009684	7	1
Se	78	1	72	-0.019	ppb	-54.75321948	33	1
Sr	88	2	72	-0.030	ppb	-90.73024453	7	0.5
Zr	90	2	72	0.072	ppb	1859.955264	20	1
Nb	93	2	72	0.104	ppb	30.73256173	447	2
Mo	95	2	115	0.011	ppb	275.3581193	20	0.5
Pd	105	2	115	0.002	ppb	567.915766	27	1
Ag	107	2	115	0.003	ppb	412.287042	40	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.068	ppb	49.26994246	107	1
Sb	121	2	115	0.013	ppb	335.6861744	13	0.6
Ba	137	2	115	0.064	ppb	161.9053718	23	0.5
W	182	2	165	0.011	ppb	106.4757108	393	1
Pt	195	2	165	0.003	ppb	330.968007	137	1
Tl	205	2	165	0.014	ppb	29.36243166	293	0.1
Pb	208	2	165	0.014	ppb	93.61918082	1070	0.5
Th	232	2	165	0.029	ppb	15.47266156	413	1
U	238	2	165	0.006	ppb	36.58403395	123	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	948218	1.13	1160179	81.73	60	120	
Sc (IS)	45	1	HMI H2	47247843	1.19	51895621	91.04	60	120	
Sc (IS)	45	2	HMI He	413873	1.11	430930	96.04	60	120	
Sc (IS)	45	3	No Gas	129199738	0.45	158101278	81.72	60	120	
Ge Internal Standard	72	1	HMI H2	23162033	0.94	25033284	92.52	60	120	
Ge Internal Standard	72	2	HMI He	662062	0.91	674189	98.20	60	120	
In Internal Standard	115	2	HMI He	1580548	1.59	1572457	100.51	60	120	
Ho-165	165	2	HMI He	13395314	0.83	13678393	97.93	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCS 280-350692/2-C
Data File Name	105_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:51:16-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350706 6020
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	52.738	52.738	ppb	5.894	139077	400	13.2	80	120	>+/-20%
Li	7	2	45	30.486	30.486	ppb	20.549	6711	400	7.6	80	120	>+/-20%
Li	7	3	45	33.002	33.002	ppb	9.537	7327968	400	8.3	80	120	>+/-20%
Be	9	1	6	43.217	43.217	ppb	2.756	13335	40	108.0	80	120	
Na	23	2	45	-6.849	-6.849	ppb	-52.500	5841	40	-17.1	80	120	>+/-20%
Mg	24	2	45	-13.535	-13.535	ppb	-6.767	90	40	-33.8	80	120	>+/-20%
Al	27	2	45	436.803	436.803	ppb	4.502	3997	40	1092.0	80	120	>+/-20%
K	39	2	45	9.013	9.013	ppb	216.936	4671	40	22.5	80	120	>+/-20%
Ca	44	2	45	318.889	318.889	ppb	27.913	373	40	797.2	80	120	>+/-20%
V	51	2	72	39.061	39.061	ppb	3.765	32400	40	97.7	80	120	
Cr	52	2	72	39.275	39.275	ppb	0.373	43139	40	98.2	80	120	
Mn	55	2	72	40.018	40.018	ppb	1.926	10970	40	100.0	80	120	
Fe	57	2	72	408.901	408.901	ppb	3.602	7702	40	1022.3	80	120	>+/-20%
Co	59	2	72	40.818	40.818	ppb	2.594	101118	40	102.0	80	120	
Ni	60	2	72	40.421	40.421	ppb	3.119	31181	40	101.1	80	120	
Cu	63	2	72	39.817	39.817	ppb	1.200	91489	40	99.5	80	120	
Zn	66	2	72	40.878	40.878	ppb	4.860	7419	40	102.2	80	120	
As	75	2	72	41.996	41.996	ppb	2.075	4464	40	105.0	80	120	
Se	78	1	72	40.701	40.701	ppb	2.897	23438	40	101.8	80	120	
Nb	93	2	72	0.078	0.078	ppb	6.144	360	40	0.2	80	120	>+/-20%
Mo	95	2	115	42.060	42.060	ppb	1.295	36830	40	105.2	80	120	
Pd	105	2	115	-0.012	-0.012	ppb	-29.422	3	40	0.0	80	120	>+/-20%
Ag	107	2	115	40.330	40.330	ppb	1.404	143599	40	100.8	80	120	
Cd	111	2	115	40.271	40.271	ppb	4.726	11287	40	100.7	80	120	
Sn	120	2	115	40.336	40.336	ppb	4.338	25760	40	100.8	80	120	
Sb	121	2	115	40.107	40.107	ppb	1.486	21942	40	100.3	80	120	
Ba	137	2	115	42.689	42.689	ppb	4.372	6371	40	106.7	80	120	
W	182	2	165	39.896	39.896	ppb	1.283	273511	40	99.7	80	120	
Pt	195	2	165	-0.005	-0.005	ppb	-77.029	80	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.057	41.057	ppb	0.784	362666	40	102.6	80	120	
Pb	208	2	165	42.050	42.050	ppb	0.849	473945	40	105.1	80	120	
Th	232	2	165	41.103	41.103	ppb	0.959	556580	40	102.8	80	120	
U	238	2	165	40.130	40.130	ppb	1.742	642060	40	100.3	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	948113	1.92	1160179	81.72	60	120	
Sc (IS)	45	1	HMI H2	46894578	1.29	51895621	90.36	60	120	
Sc (IS)	45	2	HMI He	411417	0.52	430930	95.47	60	120	
Sc (IS)	45	3	No Gas	128990875	0.73	158101278	81.59	60	120	
Ge Internal Standard	72	1	HMI H2	23347395	0.90	25033284	93.27	60	120	
Ge Internal Standard	72	2	HMI He	660701	0.96	674189	98.00	60	120	
In Internal Standard	115	2	HMI He	1586453	0.14	1572457	100.89	60	120	
Ho-165	165	2	HMI He	13419325	0.25	13678393	98.11	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCSD 280-350692/3-B
Data File Name	106_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:55:04-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350706 6020
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	47.063	47.063	ppb	3.620	137882	400	11.8	80	120	>+/-20%
Li	7	2	45	18.624	18.624	ppb	43.256	6631	400	4.7	80	120	>+/-20%
Li	7	3	45	30.157	30.157	ppb	8.095	7326769	400	7.5	80	120	>+/-20%
Be	9	1	6	40.701	40.701	ppb	8.355	12905	40	101.8	80	120	
Na	23	2	45	-7.392	-7.392	ppb	-41.056	5911	40	-18.5	80	120	>+/-20%
Mg	24	2	45	-13.063	-13.063	ppb	-6.665	117	40	-32.7	80	120	>+/-20%
Al	27	2	45	394.857	394.857	ppb	5.630	3704	40	987.1	80	120	>+/-20%
K	39	2	45	-10.441	-10.441	ppb	-140.225	4441	40	-26.1	80	120	>+/-20%
Ca	44	2	45	379.292	379.292	ppb	4.871	453	40	948.2	80	120	>+/-20%
V	51	2	72	38.518	38.518	ppb	3.563	32177	40	96.3	80	120	
Cr	52	2	72	47.339	47.339	ppb	1.226	52301	40	118.3	80	120	
Mn	55	2	72	40.551	40.551	ppb	6.538	11191	40	101.4	80	120	
Fe	57	2	72	487.138	487.138	ppb	3.375	9229	40	1217.8	80	120	>+/-20%
Co	59	2	72	39.788	39.788	ppb	1.204	99262	40	99.5	80	120	
Ni	60	2	72	39.148	39.148	ppb	2.845	30407	40	97.9	80	120	
Cu	63	2	72	39.935	39.935	ppb	2.912	92373	40	99.8	80	120	
Zn	66	2	72	42.004	42.004	ppb	5.870	7669	40	105.0	80	120	
As	75	2	72	41.460	41.460	ppb	1.105	4438	40	103.7	80	120	
Se	78	1	72	40.054	40.054	ppb	0.673	23358	40	100.1	80	120	
Nb	93	2	72	0.059	0.059	ppb	42.684	300	40	0.1	80	120	>+/-20%
Mo	95	2	115	42.308	42.308	ppb	2.441	36984	40	105.8	80	120	
Pd	105	2	115	-0.008	-0.008	ppb	-135.845	10	40	0.0	80	120	>+/-20%
Ag	107	2	115	38.692	38.692	ppb	0.562	137540	40	96.7	80	120	
Cd	111	2	115	39.649	39.649	ppb	1.594	11094	40	99.1	80	120	
Sn	120	2	115	40.891	40.891	ppb	0.554	26071	40	102.2	80	120	
Sb	121	2	115	39.675	39.675	ppb	2.226	21668	40	99.2	80	120	
Ba	137	2	115	43.366	43.366	ppb	0.321	6462	40	108.4	80	120	
W	182	2	165	39.701	39.701	ppb	1.671	273076	40	99.3	80	120	
Pt	195	2	165	0.000	0.000	ppb	-5553.426	113	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.669	40.669	ppb	0.290	360461	40	101.7	80	120	
Pb	208	2	165	41.598	41.598	ppb	0.503	470434	40	104.0	80	120	
Th	232	2	165	40.747	40.747	ppb	0.571	553616	40	101.9	80	120	
U	238	2	165	40.256	40.256	ppb	0.703	646244	40	100.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	973766	1.41	1160179	83.93	60	120	
Sc (IS)	45	1	HMI H2	47196351	0.25	51895621	90.94	60	120	
Sc (IS)	45	2	HMI He	421399	0.36	430930	97.79	60	120	
Sc (IS)	45	3	No Gas	129997581	0.64	158101278	82.22	60	120	
Ge Internal Standard	72	1	HMI H2	23640711	1.08	25033284	94.44	60	120	
Ge Internal Standard	72	2	HMI He	665299	1.16	674189	98.68	60	120	
In Internal Standard	115	2	HMI He	1583854	0.74	1572457	100.72	60	120	
Ho-165	165	2	HMI He	13464651	0.67	13678393	98.44	60	120	

Sample Report

Sample Table

Sample Name	280-90153-A-8-F
Data File Name	107SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T22:58:51-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350706 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	59.417	ppb	59.417	13.76	143604	500000	
Li	7	2	45	53.362	ppb	53.362	21.95	7238	500000	
Li	7	3	45	46.120	ppb	46.120	2.43	7532714	50000	
Be	9	1	6	0.064	ppb	0.064	98.45	20	2000	
B	11	1	6	-365.435	ppb	-365.435	-1.34	28309	2000	
Na	23	1	45	28376.422	ppb	28376.422	1.52	113714565	2000	>LDR
Na	23	2	45	26584.477	ppb	26584.477	1.33	3375410	400000	
Mg	24	2	45	7038.992	ppb	7038.992	0.78	358270	400000	
Al	27	2	45	7.789	ppb	7.789	9.41	103	400000	
K	39	1	45	2384.660	ppb	2384.660	1.11	19169272	400000	
K	39	2	45	3337.077	ppb	3337.077	2.00	62415	400000	
Ca	40	1	45	12555.781	ppb	12555.781	0.34	89960709	400000	
Ca	44	2	45	13416.601	ppb	13416.601	0.91	15484	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.172	ppb	0.172	53.52	65	2000	
Cr	52	2	72	0.112	ppb	0.112	84.16	380	5000	
Mn	55	2	72	997.522	ppb	997.522	0.62	272179	10000	
Fe	57	2	72	9.669	ppb	9.669	52.86	220	400000	
Co	59	2	72	1.928	ppb	1.928	2.48	4771	2000	
Ni	60	2	72	1.353	ppb	1.353	15.30	1067	5000	
Cu	63	2	72	0.109	ppb	0.109	82.07	1907	5000	
Zn	66	2	72	3.639	ppb	3.639	16.64	953	5000	
As	75	2	72	2.146	ppb	2.146	5.20	231	2000	
Se	78	1	72	0.033	ppb	0.033	193.74	64	2000	
Sr	88	2	72	202.942	ppb	202.942	2.53	42974	4000	
Zr	90	2	72	107.686	ppb	107.686	17.90	837	1000	
Nb	93	2	72	0.031	ppb	0.031	21.42	207	200	
Mo	95	2	115	0.422	ppb	0.422	27.73	380	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-29.32	3	100	
Ag	107	2	115	0.004	ppb	0.004	308.15	43	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.099	ppb	0.099	17.68	127	2000	
Sb	121	2	115	0.493	ppb	0.493	41.75	277	1000	
Ba	137	2	115	101.235	ppb	101.235	1.19	15107	5000	
W	182	2	165	0.096	ppb	0.096	13.53	973	100	
Pt	195	2	165	-0.006	ppb	-0.006	-55.87	73	100	
Tl	205	2	165	0.055	ppb	0.055	33.94	653	2000	
Pb	208	2	165	0.016	ppb	0.016	49.82	1097	5000	
Th	232	2	165	0.221	ppb	0.221	16.73	3020	2000	
U	238	2	165	0.013	ppb	0.013	33.31	233	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	960261	2.36	1160179	82.77	60	120	
Sc (IS)	45	1	HMI H2	47594869	0.40	51895621	91.71	60	120	
Sc (IS)	45	2	HMI He	415557	1.01	430930	96.43	60	120	
Sc (IS)	45	3	No Gas	127913781	0.52	158101278	80.91	60	120	
Ge Internal Standard	72	1	HMI H2	23503172	0.61	25033284	93.89	60	120	
Ge Internal Standard	72	2	HMI He	659824	0.66	674189	97.87	60	120	
In Internal Standard	115	2	HMI He	1588218	0.46	1572457	101.00	60	120	
Ho-165	165	2	HMI He	13445849	1.03	13678393	98.30	60	120	

Sample Report

Sample Table

Sample Name	280-90153-A-8-Fsd@5
Data File Name	108SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:02:38-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350706 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-1.074	ppb	-1.074	-116.82	120765	500000	
Li	7	2	45	-13.756	ppb	-13.756	-111.15	5881	500000	
Li	7	3	45	-15.650	ppb	-15.650	-17.06	6363773	50000	
Be	9	1	6	0.021	ppb	0.021	173.21	7	2000	
B	11	1	6	-385.888	ppb	-385.888	-0.41	22094	2000	
Na	23	1	45	5789.239	ppb	5789.239	0.51	23241895	2000	
Na	23	2	45	5422.846	ppb	5422.846	0.21	693100	400000	
Mg	24	2	45	1407.726	ppb	1407.726	1.25	72182	400000	
Al	27	2	45	0.156	ppb	0.156	411.74	33	400000	
K	39	1	45	468.731	ppb	468.731	2.26	11063760	400000	
K	39	2	45	667.505	ppb	667.505	5.39	16111	400000	
Ca	40	1	45	2544.691	ppb	2544.691	0.50	18261537	400000	
Ca	44	2	45	2675.257	ppb	2675.257	11.14	3090	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.083	ppb	0.083	289.40	-9	2000	
Cr	52	2	72	0.007	ppb	0.007	1480.80	263	5000	
Mn	55	2	72	199.985	ppb	199.985	1.46	54397	10000	
Fe	57	2	72	11.684	ppb	11.684	34.70	257	400000	
Co	59	2	72	0.386	ppb	0.386	14.64	953	2000	
Ni	60	2	72	0.327	ppb	0.327	23.82	277	5000	
Cu	63	2	72	3.497	ppb	3.497	4.82	9506	5000	
Zn	66	2	72	2.039	ppb	2.039	25.77	673	5000	
As	75	2	72	0.416	ppb	0.416	21.63	48	2000	
Se	78	1	72	-0.016	ppb	-0.016	-154.86	36	2000	
Sr	88	2	72	38.652	ppb	38.652	5.23	8166	4000	
Zr	90	2	72	10.247	ppb	10.247	72.13	97	1000	
Nb	93	2	72	0.013	ppb	0.013	102.58	150	200	
Mo	95	2	115	0.098	ppb	0.098	23.69	97	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-35.15	7	100	
Ag	107	2	115	0.000	ppb	0.000	-2384.75	27	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.051	ppb	0.051	64.96	97	2000	
Sb	121	2	115	0.110	ppb	0.110	9.13	67	1000	
Ba	137	2	115	19.306	ppb	19.306	5.08	2897	5000	
W	182	2	165	0.022	ppb	0.022	66.10	467	100	
Pt	195	2	165	-0.001	ppb	-0.001	-749.67	110	100	
Tl	205	2	165	0.009	ppb	0.009	81.27	253	2000	
Pb	208	2	165	-0.003	ppb	-0.003	-676.93	890	5000	
Th	232	2	165	0.024	ppb	0.024	14.58	350	2000	
U	238	2	165	0.003	ppb	0.003	24.13	70	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	991550	0.45	1160179	85.47	60	120	
Sc (IS)	45	1	HMI H2	47401689	0.87	51895621	91.34	60	120	
Sc (IS)	45	2	HMI He	415033	0.69	430930	96.31	60	120	
Sc (IS)	45	3	No Gas	129596365	0.62	158101278	81.97	60	120	
Ge Internal Standard	72	1	HMI H2	23596907	0.29	25033284	94.26	60	120	
Ge Internal Standard	72	2	HMI He	657470	1.02	674189	97.52	60	120	
In Internal Standard	115	2	HMI He	1590765	0.46	1572457	101.16	60	120	
Ho-165	165	2	HMI He	13464642	0.87	13678393	98.44	60	120	

Sample Report

Sample Table

Sample Name	280-90153-A-8-Fpds
Data File Name	109SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:06:24-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350706 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	56.540	ppb	56.540	7.39	142012	500000	
Li	7	2	45	35.271	ppb	35.271	14.72	6975	500000	
Li	7	3	45	42.012	ppb	42.012	10.05	7575469	50000	
Be	9	1	6	210.229	ppb	210.229	0.30	65074	2000	
B	11	1	6	-364.910	ppb	-364.910	-0.35	28225	2000	
Na	23	1	45	27614.696	ppb	27614.696	1.46	110245958	2000	>LDR
Na	23	2	45	25627.880	ppb	25627.880	1.59	3301388	400000	
Mg	24	2	45	6772.657	ppb	6772.657	0.42	349751	400000	
Al	27	2	45	2011.616	ppb	2011.616	1.90	18744	400000	
K	39	1	45	2341.574	ppb	2341.574	1.94	18917099	400000	
K	39	2	45	3232.049	ppb	3232.049	1.15	61472	400000	
Ca	40	1	45	12191.826	ppb	12191.826	0.73	87033525	400000	
Ca	44	2	45	12860.769	ppb	12860.769	3.45	15057	400000	
Ti	47	2	45	865.387	ppb	865.387	49.42	143	4000	
V	51	2	72	192.738	ppb	192.738	1.81	160801	2000	
Cr	52	2	72	193.806	ppb	193.806	0.59	212644	5000	
Mn	55	2	72	1169.971	ppb	1169.971	1.72	320776	10000	
Fe	57	2	72	2036.825	ppb	2036.825	1.88	38342	400000	
Co	59	2	72	197.318	ppb	197.318	1.35	490643	2000	
Ni	60	2	72	192.266	ppb	192.266	1.26	148765	5000	
Cu	63	2	72	194.954	ppb	194.954	0.29	443098	5000	
Zn	66	2	72	205.130	ppb	205.130	1.55	36067	5000	
As	75	2	72	202.707	ppb	202.707	0.43	21615	2000	
Se	78	1	72	196.362	ppb	196.362	1.40	113048	2000	
Sr	88	2	72	195.855	ppb	195.855	0.58	41681	4000	
Zr	90	2	72	27247.428	ppb	27247.428	0.39	207985	1000	>LDR
Nb	93	2	72	0.632	ppb	0.632	8.77	2167	200	
Mo	95	2	115	199.032	ppb	199.032	1.18	173644	2000	
Pd	105	2	115	0.016	ppb	0.016	37.49	50	100	
Ag	107	2	115	39.564	ppb	39.564	2.82	140356	100	
Cd	111	2	115	204.283	ppb	204.283	2.05	57053	2000	
Sn	120	2	115	200.675	ppb	200.675	1.62	127456	2000	
Sb	121	2	115	205.346	ppb	205.346	0.70	111938	1000	
Ba	137	2	115	315.570	ppb	315.570	0.25	46853	5000	
W	182	2	165	193.238	ppb	193.238	1.00	1329386	100	
Pt	195	2	165	0.056	ppb	0.056	1.83	527	100	
Tl	205	2	165	200.756	ppb	200.756	1.78	1780410	2000	
Pb	208	2	165	200.232	ppb	200.232	1.05	2263296	5000	
Th	232	2	165	0.599	ppb	0.599	3.57	8169	2000	
U	238	2	165	193.777	ppb	193.777	0.68	3114110	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	950806	0.52	1160179	81.95	60	120	
Sc (IS)	45	1	HMI H2	47416733	0.88	51895621	91.37	60	120	
Sc (IS)	45	2	HMI He	421574	0.60	430930	97.83	60	120	
Sc (IS)	45	3	No Gas	130071585	0.40	158101278	82.27	60	120	
Ge Internal Standard	72	1	HMI H2	23371455	1.34	25033284	93.36	60	120	
Ge Internal Standard	72	2	HMI He	663165	1.71	674189	98.36	60	120	
In Internal Standard	115	2	HMI He	1581194	1.85	1572457	100.56	60	120	
Ho-165	165	2	HMI He	13479694	1.13	13678393	98.55	60	120	

Sample Report

Sample Table

Sample Name	280-90230-A-7-C
Data File Name	110SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:10:09-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350706 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-32.696	ppb	-32.696	-9.06	111401	500000	
Li	7	2	45	-39.614	ppb	-39.614	-35.76	5468	500000	
Li	7	3	45	-35.091	ppb	-35.091	-2.12	5952200	50000	
Be	9	1	6	0.053	ppb	0.053	91.58	17	2000	
B	11	1	6	-386.519	ppb	-386.519	-0.40	21313	2000	
Na	23	1	45	64.091	ppb	64.091	1.03	436121	2000	
Na	23	2	45	54.818	ppb	54.818	6.14	13979	400000	
Mg	24	2	45	-9.150	ppb	-9.150	-6.90	320	400000	
Al	27	2	45	2.217	ppb	2.217	25.17	53	400000	
K	39	1	45	-1000.452	ppb	-1000.452	-0.61	5010064	400000	
K	39	2	45	-2.609	ppb	-2.609	-474.35	4601	400000	
Ca	40	1	45	34.643	ppb	34.643	0.28	383811	400000	
Ca	44	2	45	42.506	ppb	42.506	91.14	60	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.055	ppb	-0.055	-559.28	-125	2000	
Cr	52	2	72	0.718	ppb	0.718	4.89	1050	5000	
Mn	55	2	72	0.341	ppb	0.341	11.76	133	10000	
Fe	57	2	72	17.141	ppb	17.141	11.48	363	400000	
Co	59	2	72	0.040	ppb	0.040	30.54	100	2000	
Ni	60	2	72	0.073	ppb	0.073	36.58	83	5000	
Cu	63	2	72	-0.016	ppb	-0.016	-388.42	1640	5000	
Zn	66	2	72	3.588	ppb	3.588	27.43	953	5000	
As	75	2	72	0.122	ppb	0.122	76.78	17	2000	
Se	78	1	72	0.072	ppb	0.072	132.55	87	2000	
Sr	88	2	72	0.125	ppb	0.125	35.39	40	4000	
Zr	90	2	72	6.147	ppb	6.147	45.51	67	1000	
Nb	93	2	72	-0.024	ppb	-0.024	-22.41	30	200	
Mo	95	2	115	0.116	ppb	0.116	28.14	113	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-35.09	7	100	
Ag	107	2	115	0.004	ppb	0.004	212.11	40	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.102	ppb	0.102	84.30	130	2000	
Sb	121	2	115	0.116	ppb	0.116	56.28	70	1000	
Ba	137	2	115	0.506	ppb	0.506	11.27	90	5000	
W	182	2	165	0.110	ppb	0.110	21.40	1073	100	
Pt	195	2	165	0.005	ppb	0.005	103.92	150	100	
Tl	205	2	165	0.059	ppb	0.059	22.49	697	2000	
Pb	208	2	165	0.076	ppb	0.076	46.86	1777	5000	
Th	232	2	165	0.009	ppb	0.009	23.83	143	2000	
U	238	2	165	0.041	ppb	0.041	4.09	693	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	966223	0.29	1160179	83.28	60	120	
Sc (IS)	45	1	HMI H2	48389313	0.22	51895621	93.24	60	120	
Sc (IS)	45	2	HMI He	423606	1.39	430930	98.30	60	120	
Sc (IS)	45	3	No Gas	129318818	0.03	158101278	81.79	60	120	
Ge Internal Standard	72	1	HMI H2	23460251	0.57	25033284	93.72	60	120	
Ge Internal Standard	72	2	HMI He	666371	1.57	674189	98.84	60	120	
In Internal Standard	115	2	HMI He	1597470	1.61	1572457	101.59	60	120	
Ho-165	165	2	HMI He	13492331	1.09	13678393	98.64	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	111_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:13:58-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	454.412	ppb	1.438	290078	500	90.9	90	110	
Li	7	2	45	418.388	ppb	4.007	14466	500	83.7	90	110	>+\-10%
Li	7	3	45	419.182	ppb	3.557	15156621	500	83.8	90	110	>+\-10%
Be	9	1	6	51.303	ppb	2.754	16328	50	102.6	90	110	
B	11	1	6	-345.185	ppb	-0.324	35829	50	-690.4	90	110	>+\-10%
Na	23	1	45	4932.324	ppb	1.157	19942710	5000	98.6	90	110	
Na	23	2	45	4662.340	ppb	0.131	592375	5000	93.2	90	110	
Mg	24	2	45	4853.643	ppb	0.290	245135	5000	97.1	90	110	
Al	27	2	45	4979.664	ppb	0.757	45294	5000	99.6	90	110	
K	39	1	45	5167.249	ppb	0.616	30929434	5000	103.3	90	110	
K	39	2	45	5178.142	ppb	0.595	93507	5000	103.6	90	110	
Ca	40	1	45	5094.223	ppb	0.223	36639949	5000	101.9	90	110	
Ca	44	2	45	5137.499	ppb	5.300	5885	5000	102.7	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	47.977	ppb	2.823	39552	50	96.0	90	110	
Cr	52	2	72	48.085	ppb	2.176	52408	50	96.2	90	110	
Mn	55	2	72	48.190	ppb	7.781	13112	50	96.4	90	110	
Fe	57	2	72	4920.265	ppb	1.977	91635	5000	98.4	90	110	
Co	59	2	72	48.308	ppb	1.387	118910	50	96.6	90	110	
Ni	60	2	72	47.395	ppb	3.037	36318	50	94.8	90	110	
Cu	63	2	72	48.980	ppb	1.096	111417	50	98.0	90	110	
Zn	66	2	72	50.168	ppb	5.029	8976	50	100.3	90	110	
As	75	2	72	50.358	ppb	0.083	5318	50	100.7	90	110	
Se	78	1	72	50.222	ppb	0.486	29124	50	100.4	90	110	
Sr	88	2	72	51.975	ppb	6.225	10961	50	103.9	90	110	
Zr	90	2	72	53.956	ppb	16.917	427	50	107.9	90	110	
Nb	93	2	72	98.002	ppb	1.557	316211	100	98.0	90	110	
Mo	95	2	115	48.899	ppb	2.732	42049	50	97.8	90	110	
Pd	105	2	115	49.993	ppb	2.142	83416	50	100.0	90	110	
Ag	107	2	115	49.293	ppb	1.673	172337	50	98.6	90	110	
Cd	111	2	115	53.606	ppb	4.342	14750	50	107.2	90	110	
Sn	120	2	115	49.752	ppb	3.948	31179	50	99.5	90	110	
Sb	121	2	115	52.510	ppb	1.400	28211	50	105.0	90	110	
Ba	137	2	115	52.598	ppb	0.600	7705	50	105.2	90	110	
W	182	2	165	49.805	ppb	1.133	339438	50	99.6	90	110	
Pt	195	2	165	48.893	ppb	1.093	358787	50	97.8	90	110	
Tl	205	2	165	50.230	ppb	0.632	441201	50	100.5	90	110	
Pb	208	2	165	50.433	ppb	1.631	565027	50	100.9	90	110	
Th	232	2	165	50.464	ppb	1.023	679495	50	100.9	90	110	
U	238	2	165	48.966	ppb	1.270	779033	50	97.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	977619	0.93	1160179	84.26	60	120	
Sc (IS)	45	1	HMI H2	47676858	0.19	51895621	91.87	60	120	
Sc (IS)	45	2	HMI He	411925	0.56	430930	95.59	60	120	
Sc (IS)	45	3	No Gas	128497061	1.50	158101278	81.28	60	120	
Ge Internal Standard	72	1	HMI H2	23516435	0.67	25033284	93.94	60	120	
Ge Internal Standard	72	2	HMI He	656385	0.78	674189	97.36	60	120	
In Internal Standard	115	2	HMI He	1557893	0.99	1572457	99.07	60	120	
Ho-165	165	2	HMI He	13344961	1.26	13678393	97.56	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	112_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:17:44-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-32.364	ppb	-1.8	5931014	10	
Be	9	1	6	0.041	ppb	173.2	13	0.5	
B	11	1	6	-391.616	ppb	-0.5	19918	0.5	
Na	23	1	45	-7.612	ppb	-5.5	141199	25	
Na	23	2	45	-4.680	ppb	-73.9	6081	25	
Mg	24	2	45	-11.396	ppb	-6.6	197	25	
Al	27	2	45	-1.273	ppb	-229.8	20	15	
K	39	1	45	38.473	ppb	57.1	9242812	50	
K	39	2	45	13.580	ppb	160.6	4724	50	
Ca	40	1	45	-5.357	ppb	-7.0	90770	50	
Ca	44	2	45	0.451	ppb	1947.9	10	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.131	ppb	41.1	31	1	
Cr	52	2	72	0.000	ppb	16453.0	257	1	
Mn	55	2	72	-0.032	ppb	-410.8	30	0.5	
Fe	57	2	72	3.273	ppb	86.7	100	25	
Co	59	2	72	0.012	ppb	88.3	30	0.5	
Ni	60	2	72	0.184	ppb	47.3	167	1	
Cu	63	2	72	-0.043	ppb	-132.9	1557	1	
Zn	66	2	72	-0.761	ppb	-33.5	190	5	
As	75	2	72	0.026	ppb	231.0	7	1	
Se	78	1	72	0.051	ppb	53.5	75	1	
Sr	88	2	72	-0.062	ppb	0.0	0	0.5	
Zr	90	2	72	3.170	ppb	188.3	43	1	>RL
Nb	93	2	72	0.994	ppb	2.1	3314	2	
Mo	95	2	115	0.061	ppb	56.1	63	0.5	
Pd	105	2	115	0.034	ppb	46.2	80	1	
Ag	107	2	115	0.008	ppb	23.1	57	1	
Cd	111	2	115	0.024	ppb	173.2	7	0.5	
Sn	120	2	115	0.085	ppb	80.7	117	1	
Sb	121	2	115	0.135	ppb	21.2	80	0.6	
Ba	137	2	115	-0.048	ppb	-82.2	7	0.5	
W	182	2	165	0.053	ppb	13.1	673	1	
Pt	195	2	165	0.006	ppb	161.3	153	1	
Tl	205	2	165	0.043	ppb	26.3	543	0.1	
Pb	208	2	165	0.017	ppb	62.1	1097	0.5	
Th	232	2	165	0.064	ppb	20.6	877	1	
U	238	2	165	0.023	ppb	15.6	387	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	983304	0.70	1160179	84.75	60	120	
Sc (IS)	45	1	HMI H2	47310499	0.65	51895621	91.16	60	120	
Sc (IS)	45	2	HMI He	409378	0.18	430930	95.00	60	120	
Sc (IS)	45	3	No Gas	127661028	0.20	158101278	80.75	60	120	
Ge Internal Standard	72	1	HMI H2	23595373	0.96	25033284	94.26	60	120	
Ge Internal Standard	72	2	HMI He	656864	0.29	674189	97.43	60	120	
In Internal Standard	115	2	HMI He	1579416	2.02	1572457	100.44	60	120	
Ho-165	165	2	HMI He	13300331	1.48	13678393	97.24	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-4242078
Data File Name	113LCCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:21:32-07:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.124	ppb	8.423	6887755	50	34.2	70	130	>+/-30%
Be	9	1	6	1.029	ppb	30.289	330	1	102.9	70	130	
Na	23	2	45	43.079	ppb	2.428	12124	50	86.2	70	130	
Mg	24	2	45	42.757	ppb	15.123	2924	50	85.5	70	130	
Al	27	2	45	28.369	ppb	18.191	290	30	94.6	70	130	
K	39	2	45	111.209	ppb	12.301	6435	100	111.2	70	130	
Ca	44	2	45	81.780	ppb	41.949	103	50	163.6	70	130	>+/-30%
V	51	2	72	5.347	ppb	2.321	4307	5	106.9	70	130	
Cr	52	2	72	2.056	ppb	5.884	2467	2	102.8	70	130	
Mn	55	2	72	1.095	ppb	20.891	333	1	109.5	70	130	
Fe	57	2	72	49.017	ppb	13.581	943	50	98.0	70	130	
Co	59	2	72	1.124	ppb	8.021	2747	1	112.4	70	130	
Ni	60	2	72	1.843	ppb	12.049	1427	2	92.1	70	130	
Cu	63	2	72	1.832	ppb	7.175	5711	2	91.6	70	130	
Zn	66	2	72	9.999	ppb	10.036	2030	10	100.0	70	130	
As	75	2	72	5.388	ppb	7.694	568	5	107.8	70	130	
Se	78	1	72	4.986	ppb	5.492	2914	5	99.7	70	130	
Sr	88	2	72	0.992	ppb	29.643	220	1	99.2	70	130	
Zr	90	2	72	16.093	ppb	35.193	140	0.5	3218.5	70	130	>+/-30%
Nb	93	2	72	1.226	ppb	7.137	4031	2	61.3	70	130	>+/-30%
Mo	95	2	115	2.090	ppb	5.220	1837	2	104.5	70	130	
Pd	105	2	115	0.022	ppb	72.743	60	1	2.2	70	130	>+/-30%
Ag	107	2	115	5.027	ppb	1.683	17900	5	100.5	70	130	
Cd	111	2	115	1.026	ppb	17.410	287	1	102.6	70	130	
Sn	120	2	115	10.219	ppb	1.574	6565	10	102.2	70	130	
Sb	121	2	115	2.460	ppb	16.218	1350	2	123.0	70	130	
Ba	137	2	115	0.959	ppb	16.923	157	1	95.9	70	130	
W	182	2	165	5.037	ppb	2.037	34281	1	503.7	70	130	>+/-30%
Pt	195	2	165	0.005	ppb	167.168	150	1	0.5	70	130	>+/-30%
Tl	205	2	165	1.014	ppb	1.843	8983	1	101.4	70	130	
Pb	208	2	165	1.031	ppb	3.144	12322	1	103.1	70	130	
Th	232	2	165	2.103	ppb	1.824	28069	2	105.2	70	130	
U	238	2	165	1.032	ppb	4.083	16286	1	103.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	981512	1.68	1160179	84.60	60	120	
Sc (IS)	45	1	HMI H2	47138249	0.30	51895621	90.83	60	120	
Sc (IS)	45	2	HMI He	412142	1.06	430930	95.64	60	120	
Sc (IS)	45	3	No Gas	126854535	0.65	158101278	80.24	60	120	
Ge Internal Standard	72	1	HMI H2	23374794	1.39	25033284	93.37	60	120	
Ge Internal Standard	72	2	HMI He	651289	0.91	674189	96.60	60	120	
In Internal Standard	115	2	HMI He	1584536	1.42	1572457	100.77	60	120	
Ho-165	165	2	HMI He	13216299	1.03	13678393	96.62	60	120	

Blank Report

Sample Table

Sample Name	MB 280-350891/1-A
Data File Name	114_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:25:19-07:00
Sample Type	Blank
Dilution	1
Comment	350891 200.8
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-19.574	ppb	-17.10067919	113751	0.5
Li	7	2	45	-39.798	ppb	-58.35494891	5254	0.5
Li	7	3	45	-33.099	ppb	-8.262249105	5960170	10
Be	9	1	6	0.021	ppb	86.6069911	7	0.5
B	11	1	6	-394.366	ppb	-0.722792224	18980	0.5
Na	23	1	45	-2.315	ppb	-16.05659292	162281	25
Na	23	2	45	-3.075	ppb	-105.3913669	6245	25
Mg	24	2	45	-12.794	ppb	-11.23220957	127	25
Al	27	2	45	1.363	ppb	266.7054828	43	15
K	39	1	45	344.407	ppb	9.53513851	10522994	50
K	39	2	45	16.950	ppb	231.2870401	4754	50
Ca	40	1	45	2.904	ppb	6.933962085	149540	50
Ca	44	2	45	30.058	ppb	75.07685461	43	25
Ti	47	2	45	41.020	ppb	173.2050808	7	0.5
V	51	2	72	0.104	ppb	143.1212845	9	1
Cr	52	2	72	0.088	ppb	124.6239135	347	1
Mn	55	2	72	0.056	ppb	99.93781692	53	0.5
Fe	57	2	72	6.997	ppb	12.4192904	167	25
Co	59	2	72	0.005	ppb	43.06347036	13	0.5
Ni	60	2	72	0.006	ppb	227.2969137	30	1
Cu	63	2	72	-0.001	ppb	-10181.78086	1627	1
Zn	66	2	72	-0.512	ppb	-97.8095305	230	5
As	75	2	72	0.052	ppb	151.3514474	9	1
Se	78	1	72	-0.031	ppb	-34.81225997	27	1
Sr	88	2	72	0.050	ppb	198.3966214	23	0.5
Zr	90	2	72	2.841	ppb	166.2561055	40	1
Nb	93	2	72	0.049	ppb	58.62216108	260	2
Mo	95	2	115	0.019	ppb	153.3362145	27	0.5
Pd	105	2	115	0.010	ppb	53.63797176	40	1
Ag	107	2	115	0.000	ppb	14055.33279	27	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.012	ppb	216.1663248	70	1
Sb	121	2	115	0.050	ppb	91.87658871	33	0.6
Ba	137	2	115	-0.024	ppb	-289.9227376	10	0.5
W	182	2	165	0.005	ppb	86.02328259	347	1
Pt	195	2	165	-0.004	ppb	-22.636759	83	1
Tl	205	2	165	0.010	ppb	35.96357446	253	0.1
Pb	208	2	165	0.006	ppb	237.3265337	970	0.5
Th	232	2	165	0.010	ppb	18.10711721	153	1
U	238	2	165	0.007	ppb	19.55811636	130	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	984113	2.22	1160179	84.82	60	120	
Sc (IS)	45	1	HMI H2	47314449	0.60	51895621	91.17	60	120	
Sc (IS)	45	2	HMI He	407092	1.38	430930	94.47	60	120	
Sc (IS)	45	3	No Gas	128614328	0.82	158101278	81.35	60	120	
Ge Internal Standard	72	1	HMI H2	23306305	0.74	25033284	93.10	60	120	
Ge Internal Standard	72	2	HMI He	646791	0.90	674189	95.94	60	120	
In Internal Standard	115	2	HMI He	1552100	1.63	1572457	98.71	60	120	
Ho-165	165	2	HMI He	13226191	1.01	13678393	96.69	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCS 280-350891/2-A
Data File Name	115_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:29:07-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350891 200.8
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	36.966	36.966	ppb	1.105	133520	400	9.2	80	120	>+/-20%
Li	7	2	45	4.330	4.330	ppb	291.748	6138	400	1.1	80	120	>+/-20%
Li	7	3	45	25.403	25.403	ppb	10.319	7044974	400	6.4	80	120	>+/-20%
Be	9	1	6	32.472	32.472	ppb	5.925	10333	40	81.2	80	120	
Na	23	2	45	3.648	3.648	ppb	40.040	7098	40	9.1	80	120	>+/-20%
Mg	24	2	45	-11.978	-11.978	ppb	-18.985	167	40	-29.9	80	120	>+/-20%
Al	27	2	45	316.917	316.917	ppb	12.052	2884	40	792.3	80	120	>+/-20%
K	39	2	45	7.197	7.197	ppb	192.245	4601	40	18.0	80	120	>+/-20%
Ca	44	2	45	327.389	327.389	ppb	27.595	380	40	818.5	80	120	>+/-20%
V	51	2	72	31.965	31.965	ppb	4.597	25817	40	79.9	80	120	>+/-20%
Cr	52	2	72	32.147	32.147	ppb	2.720	34424	40	80.4	80	120	
Mn	55	2	72	30.730	30.730	ppb	0.696	8212	40	76.8	80	120	>+/-20%
Fe	57	2	72	345.462	345.462	ppb	5.960	6345	40	863.7	80	120	>+/-20%
Co	59	2	72	31.255	31.255	ppb	1.358	75407	40	78.1	80	120	>+/-20%
Ni	60	2	72	31.043	31.043	ppb	1.241	23326	40	77.6	80	120	>+/-20%
Cu	63	2	72	30.280	30.280	ppb	1.322	68141	40	75.7	80	120	>+/-20%
Zn	66	2	72	30.980	30.980	ppb	7.366	5554	40	77.5	80	120	>+/-20%
As	75	2	72	32.958	32.958	ppb	2.958	3413	40	82.4	80	120	
Se	78	1	72	30.925	30.925	ppb	0.619	17885	40	77.3	80	120	>+/-20%
Nb	93	2	72	0.046	0.046	ppb	25.105	250	40	0.1	80	120	>+/-20%
Mo	95	2	115	31.837	31.837	ppb	3.069	27580	40	79.6	80	120	>+/-20%
Pd	105	2	115	0.008	0.008	ppb	253.197	37	40	0.0	80	120	>+/-20%
Ag	107	2	115	30.592	30.592	ppb	4.006	107682	40	76.5	80	120	>+/-20%
Cd	111	2	115	31.375	31.375	ppb	5.715	8709	40	78.4	80	120	>+/-20%
Sn	120	2	115	30.555	30.555	ppb	3.198	19322	40	76.4	80	120	>+/-20%
Sb	121	2	115	30.199	30.199	ppb	3.631	16342	40	75.5	80	120	>+/-20%
Ba	137	2	115	32.484	32.484	ppb	4.590	4798	40	81.2	80	120	
W	182	2	165	30.315	30.315	ppb	1.787	205546	40	75.8	80	120	>+/-20%
Pt	195	2	165	0.005	0.005	ppb	148.336	150	40	0.0	80	120	>+/-20%
Tl	205	2	165	31.648	31.648	ppb	0.347	276438	40	79.1	80	120	>+/-20%
Pb	208	2	165	32.447	32.447	ppb	1.875	361733	40	81.1	80	120	
Th	232	2	165	31.062	31.062	ppb	0.633	415857	40	77.7	80	120	>+/-20%
U	238	2	165	31.078	31.078	ppb	1.134	491596	40	77.7	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	977571	0.78	1160179	84.26	60	120	
Sc (IS)	45	1	HMI H2	46963774	0.43	51895621	90.50	60	120	
Sc (IS)	45	2	HMI He	408033	0.53	430930	94.69	60	120	
Sc (IS)	45	3	No Gas	126688328	0.11	158101278	80.13	60	120	
Ge Internal Standard	72	1	HMI H2	23430122	0.72	25033284	93.60	60	120	
Ge Internal Standard	72	2	HMI He	643375	1.15	674189	95.43	60	120	
In Internal Standard	115	2	HMI He	1569454	2.95	1572457	99.81	60	120	
Ho-165	165	2	HMI He	13268151	1.55	13678393	97.00	60	120	

Sample Report

Sample Table

Sample Name	280-90686-A-3-A
Data File Name	116SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:32:54-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-8.471	ppb	-8.471	-62.79	111187	500000	
Li	7	2	45	1.430	ppb	1.430	445.23	5908	500000	
Li	7	3	45	-8.923	ppb	-8.923	-26.40	6348954	50000	
Be	9	1	6	0.012	ppb	0.012	173.21	3	2000	
B	11	1	6	-308.177	ppb	-308.177	-1.39	42005	2000	
Na	23	1	45	369342.218	ppb	369342.218	0.40	1386461313	2000	>LDR
Na	23	2	45	337479.495	ppb	337479.495	1.28	40793289	400000	
Mg	24	2	45	40339.734	ppb	40339.734	1.53	1954698	400000	
Al	27	2	45	-0.791	ppb	-0.791	-472.34	23	400000	
K	39	1	45	8798.402	ppb	8798.402	1.27	43292796	400000	
K	39	2	45	7978.736	ppb	7978.736	2.62	136278	400000	
Ca	40	1	45	216262.899	ppb	216262.899	0.60	1451528245	400000	
Ca	44	2	45	230090.905	ppb	230090.905	0.31	253136	400000	
Ti	47	2	45	21.437	ppb	21.437	173.21	3	4000	
V	51	2	72	0.599	ppb	0.599	44.89	394	2000	
Cr	52	2	72	0.175	ppb	0.175	66.19	420	5000	
Mn	55	2	72	0.262	ppb	0.262	131.50	103	10000	
Fe	57	2	72	9.894	ppb	9.894	16.06	210	400000	
Co	59	2	72	0.335	ppb	0.335	0.93	777	2000	
Ni	60	2	72	3.614	ppb	3.614	1.08	2630	5000	
Cu	63	2	72	9.979	ppb	9.979	1.30	22618	5000	
Zn	66	2	72	0.027	ppb	0.027	527.75	307	5000	
As	75	2	72	0.983	ppb	0.983	21.86	101	2000	
Se	78	1	72	27.186	ppb	27.186	1.06	14676	2000	
Sr	88	2	72	4701.724	ppb	4701.724	0.06	932410	4000	
Zr	90	2	72	83.710	ppb	83.710	27.77	613	1000	
Nb	93	2	72	0.025	ppb	0.025	27.49	177	200	
Mo	95	2	115	14.767	ppb	14.767	3.10	11918	2000	
Pd	105	2	115	0.033	ppb	0.033	58.44	73	100	
Ag	107	2	115	0.006	ppb	0.006	228.45	43	100	
Cd	111	2	115	0.039	ppb	0.039	99.87	10	2000	
Sn	120	2	115	0.235	ppb	0.235	14.99	197	2000	
Sb	121	2	115	0.187	ppb	0.187	28.13	100	1000	
Ba	137	2	115	39.696	ppb	39.696	7.98	5458	5000	
W	182	2	165	0.085	ppb	0.085	25.47	860	100	
Pt	195	2	165	0.015	ppb	0.015	13.38	213	100	
Tl	205	2	165	0.039	ppb	0.039	16.17	487	2000	
Pb	208	2	165	0.050	ppb	0.050	33.81	1417	5000	
Th	232	2	165	0.295	ppb	0.295	15.99	3837	2000	
U	238	2	165	16.403	ppb	16.403	0.32	250375	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	845020	0.54	1160179	72.84	60	120	
Sc (IS)	45	1	HMI H2	44646461	0.48	51895621	86.03	60	120	
Sc (IS)	45	2	HMI He	396366	1.50	430930	91.98	60	120	
Sc (IS)	45	3	No Gas	126547351	0.65	158101278	80.04	60	120	
Ge Internal Standard	72	1	HMI H2	21862834	0.33	25033284	87.34	60	120	
Ge Internal Standard	72	2	HMI He	618118	0.77	674189	91.68	60	120	
In Internal Standard	115	2	HMI He	1461359	0.19	1572457	92.93	60	120	
Ho-165	165	2	HMI He	12800883	0.68	13678393	93.58	60	120	

Sample Report

Sample Table

Sample Name	280-90561-A-1-A
Data File Name	117SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:36:48-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-20.998	ppb	-20.998	-20.14	111314	500000	
Li	7	2	45	-20.989	ppb	-20.989	-135.50	5618	500000	
Li	7	3	45	-28.491	ppb	-28.491	-9.41	6007066	50000	
Be	9	1	6	0.055	ppb	0.055	35.24	17	2000	
B	11	1	6	-152.993	ppb	-152.993	-2.12	98079	2000	
Na	23	1	45	59616.572	ppb	59616.572	0.31	233327310	2000	>LDR
Na	23	2	45	54864.646	ppb	54864.646	0.18	6811762	400000	
Mg	24	2	45	15820.737	ppb	15820.737	0.67	787252	400000	
Al	27	2	45	1696.879	ppb	1696.879	4.83	15260	400000	
K	39	1	45	4528.764	ppb	4528.764	0.87	27552526	400000	
K	39	2	45	4080.579	ppb	4080.579	1.51	73704	400000	
Ca	40	1	45	52261.447	ppb	52261.447	1.42	365563355	400000	
Ca	44	2	45	51078.039	ppb	51078.039	1.01	57673	400000	
Ti	47	2	45	62.559	ppb	62.559	0.53	10	4000	
V	51	2	72	1.424	ppb	1.424	6.97	1068	2000	
Cr	52	2	72	1.024	ppb	1.024	8.14	1327	5000	
Mn	55	2	72	23.893	ppb	23.893	7.65	6335	10000	
Fe	57	2	72	692.575	ppb	692.575	2.90	12555	400000	
Co	59	2	72	0.350	ppb	0.350	19.67	837	2000	
Ni	60	2	72	1.123	ppb	1.123	12.57	860	5000	
Cu	63	2	72	76.785	ppb	76.785	0.91	168684	5000	
Zn	66	2	72	29.373	ppb	29.373	3.84	5231	5000	
As	75	2	72	0.583	ppb	0.583	29.83	63	2000	
Se	78	1	72	0.465	ppb	0.465	13.77	308	2000	
Sr	88	2	72	460.437	ppb	460.437	1.42	94154	4000	
Zr	90	2	72	43.321	ppb	43.321	14.33	337	1000	
Nb	93	2	72	0.013	ppb	0.013	61.63	143	200	
Mo	95	2	115	1.593	ppb	1.593	5.04	1343	2000	
Pd	105	2	115	0.024	ppb	0.024	81.03	60	100	
Ag	107	2	115	0.002	ppb	0.002	69.99	33	100	
Cd	111	2	115	0.013	ppb	0.013	173.21	3	2000	
Sn	120	2	115	0.120	ppb	0.120	72.31	133	2000	
Sb	121	2	115	0.454	ppb	0.454	18.41	243	1000	
Ba	137	2	115	55.446	ppb	55.446	3.73	7899	5000	
W	182	2	165	0.042	ppb	0.042	28.93	587	100	
Pt	195	2	165	0.001	ppb	0.001	477.30	117	100	
Tl	205	2	165	0.011	ppb	0.011	33.60	260	2000	
Pb	208	2	165	1.310	ppb	1.310	2.04	15187	5000	
Th	232	2	165	0.067	ppb	0.067	7.50	900	2000	
U	238	2	165	1.411	ppb	1.411	1.75	21916	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	938647	0.93	1160179	80.91	60	120	
Sc (IS)	45	1	HMI H2	46520088	1.02	51895621	89.64	60	120	
Sc (IS)	45	2	HMI He	406737	0.53	430930	94.39	60	120	
Sc (IS)	45	3	No Gas	127613298	1.14	158101278	80.72	60	120	
Ge Internal Standard	72	1	HMI H2	23022916	0.33	25033284	91.97	60	120	
Ge Internal Standard	72	2	HMI He	637302	0.51	674189	94.53	60	120	
In Internal Standard	115	2	HMI He	1515628	2.10	1572457	96.39	60	120	
Ho-165	165	2	HMI He	13014549	1.16	13678393	95.15	60	120	

Sample Report

Sample Table

Sample Name	280-90561-A-1-B MS
Data File Name	118SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:40:35-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	34.350	ppb	34.350	19.41	131144	500000	
Li	7	2	45	26.506	ppb	26.506	30.16	6608	500000	
Li	7	3	45	31.905	ppb	31.905	8.53	7195824	50000	
Be	9	1	6	33.639	ppb	33.639	5.82	10220	2000	
B	11	1	6	-122.716	ppb	-122.716	-3.83	107513	2000	
Na	23	1	45	58550.294	ppb	58550.294	0.80	228887457	2000	>LDR
Na	23	2	45	53544.929	ppb	53544.929	0.33	6699893	400000	
Mg	24	2	45	15370.368	ppb	15370.368	0.82	770811	400000	
Al	27	2	45	1924.129	ppb	1924.129	3.04	17432	400000	
K	39	1	45	4447.739	ppb	4447.739	1.16	27187343	400000	
K	39	2	45	3943.856	ppb	3943.856	1.43	71943	400000	
Ca	40	1	45	51033.485	ppb	51033.485	0.94	356568061	400000	
Ca	44	2	45	51148.527	ppb	51148.527	0.73	58202	400000	
Ti	47	2	45	374.106	ppb	374.106	101.91	60	4000	
V	51	2	72	33.957	ppb	33.957	2.44	27441	2000	
Cr	52	2	72	32.965	ppb	32.965	1.51	35326	5000	
Mn	55	2	72	53.600	ppb	53.600	3.56	14303	10000	
Fe	57	2	72	997.146	ppb	997.146	2.64	18247	400000	
Co	59	2	72	31.546	ppb	31.546	0.36	76163	2000	
Ni	60	2	72	31.247	ppb	31.247	3.89	23490	5000	
Cu	63	2	72	107.083	ppb	107.083	1.21	236985	5000	
Zn	66	2	72	61.105	ppb	61.105	5.89	10654	5000	
As	75	2	72	33.148	ppb	33.148	1.05	3434	2000	
Se	78	1	72	33.007	ppb	33.007	1.19	18768	2000	
Sr	88	2	72	484.346	ppb	484.346	1.38	100047	4000	
Zr	90	2	72	2483.397	ppb	2483.397	5.00	18425	1000	
Nb	93	2	72	0.026	ppb	0.026	64.39	187	200	
Mo	95	2	115	34.760	ppb	34.760	3.78	29536	2000	
Pd	105	2	115	0.003	ppb	0.003	260.64	27	100	
Ag	107	2	115	30.658	ppb	30.658	1.34	105898	100	
Cd	111	2	115	31.789	ppb	31.789	2.69	8642	2000	
Sn	120	2	115	25.803	ppb	25.803	1.84	16009	2000	
Sb	121	2	115	31.753	ppb	31.753	0.97	16852	1000	
Ba	137	2	115	92.788	ppb	92.788	3.58	13416	5000	
W	182	2	165	31.001	ppb	31.001	1.64	206568	100	
Pt	195	2	165	0.005	ppb	0.005	75.18	150	100	
Tl	205	2	165	31.345	ppb	31.345	0.83	269069	2000	
Pb	208	2	165	33.470	ppb	33.470	0.54	366729	5000	
Th	232	2	165	13.151	ppb	13.151	5.37	173077	2000	
U	238	2	165	33.187	ppb	33.187	1.03	515947	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	933435	0.91	1160179	80.46	60	120	
Sc (IS)	45	1	HMI H2	46465999	1.10	51895621	89.54	60	120	
Sc (IS)	45	2	HMI He	409904	0.70	430930	95.12	60	120	
Sc (IS)	45	3	No Gas	127053665	0.87	158101278	80.36	60	120	
Ge Internal Standard	72	1	HMI H2	23038649	0.44	25033284	92.03	60	120	
Ge Internal Standard	72	2	HMI He	643797	1.02	674189	95.49	60	120	
In Internal Standard	115	2	HMI He	1538995	0.90	1572457	97.87	60	120	
Ho-165	165	2	HMI He	13039377	0.46	13678393	95.33	60	120	

Sample Report

Sample Table

Sample Name	280-90561-A-1-C MSD
Data File Name	119SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:44:22-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	36.449	ppb	36.449	16.63	131617	500000	
Li	7	2	45	38.098	ppb	38.098	24.63	6741	500000	
Li	7	3	45	26.867	ppb	26.867	7.67	7130655	50000	
Be	9	1	6	32.338	ppb	32.338	4.91	9933	2000	
B	11	1	6	-150.218	ppb	-150.218	-3.73	99532	2000	
Na	23	1	45	53194.085	ppb	53194.085	0.18	207490550	2000	>LDR
Na	23	2	45	48904.676	ppb	48904.676	1.23	6034539	400000	
Mg	24	2	45	14220.406	ppb	14220.406	0.63	703254	400000	
Al	27	2	45	1773.011	ppb	1773.011	1.50	15844	400000	
K	39	1	45	3802.335	ppb	3802.335	1.27	24481452	400000	
K	39	2	45	3742.189	ppb	3742.189	0.88	67540	400000	
Ca	40	1	45	46412.227	ppb	46412.227	0.46	323567389	400000	
Ca	44	2	45	47239.948	ppb	47239.948	1.84	53006	400000	
Ti	47	2	45	104.345	ppb	104.345	91.58	17	4000	
V	51	2	72	30.641	ppb	30.641	3.67	24793	2000	
Cr	52	2	72	30.032	ppb	30.032	1.05	32260	5000	
Mn	55	2	72	51.650	ppb	51.650	3.16	13813	10000	
Fe	57	2	72	936.153	ppb	936.153	2.62	17159	400000	
Co	59	2	72	30.242	ppb	30.242	1.12	73147	2000	
Ni	60	2	72	31.134	ppb	31.134	3.43	23453	5000	
Cu	63	2	72	97.001	ppb	97.001	0.36	215228	5000	
Zn	66	2	72	56.538	ppb	56.538	2.34	9897	5000	
As	75	2	72	31.756	ppb	31.756	3.41	3296	2000	
Se	78	1	72	31.140	ppb	31.140	0.81	17772	2000	
Sr	88	2	72	443.363	ppb	443.363	1.35	91755	4000	
Zr	90	2	72	2377.173	ppb	2377.173	2.64	17662	1000	
Nb	93	2	72	0.014	ppb	0.014	63.34	150	200	
Mo	95	2	115	33.495	ppb	33.495	1.42	27994	2000	
Pd	105	2	115	0.007	ppb	0.007	98.35	33	100	
Ag	107	2	115	30.314	ppb	30.314	2.19	103009	100	
Cd	111	2	115	29.647	ppb	29.647	1.28	7932	2000	
Sn	120	2	115	24.065	ppb	24.065	2.73	14694	2000	
Sb	121	2	115	32.022	ppb	32.022	3.31	16722	1000	
Ba	137	2	115	82.956	ppb	82.956	5.34	11811	5000	
W	182	2	165	30.089	ppb	30.089	1.56	201471	100	
Pt	195	2	165	0.003	ppb	0.003	58.12	137	100	
Tl	205	2	165	30.033	ppb	30.033	0.37	259082	2000	
Pb	208	2	165	32.009	ppb	32.009	0.65	352473	5000	
Th	232	2	165	13.834	ppb	13.834	12.19	182938	2000	
U	238	2	165	31.763	ppb	31.763	0.51	496221	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	943885	1.32	1160179	81.36	60	120	
Sc (IS)	45	1	HMI H2	46359326	0.10	51895621	89.33	60	120	
Sc (IS)	45	2	HMI He	404199	0.91	430930	93.80	60	120	
Sc (IS)	45	3	No Gas	127692255	1.05	158101278	80.77	60	120	
Ge Internal Standard	72	1	HMI H2	23121340	0.64	25033284	92.36	60	120	
Ge Internal Standard	72	2	HMI He	644944	1.03	674189	95.66	60	120	
In Internal Standard	115	2	HMI He	1514244	1.71	1572457	96.30	60	120	
Ho-165	165	2	HMI He	13102802	0.85	13678393	95.79	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	120_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:48:08-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	447.471	ppb	1.852	285390	500	89.5	90	110	>+\-10%
Li	7	2	45	431.532	ppb	8.078	14726	500	86.3	90	110	>+\-10%
Li	7	3	45	418.177	ppb	0.544	15120594	500	83.6	90	110	>+\-10%
Be	9	1	6	50.556	ppb	0.912	15667	50	101.1	90	110	
B	11	1	6	-340.071	ppb	-0.573	36604	50	-680.1	90	110	>+\-10%
Na	23	1	45	4933.858	ppb	0.442	19802171	5000	98.7	90	110	
Na	23	2	45	4668.171	ppb	0.740	593065	5000	93.4	90	110	
Mg	24	2	45	4861.822	ppb	0.284	245537	5000	97.2	90	110	
Al	27	2	45	4896.508	ppb	1.112	44538	5000	97.9	90	110	
K	39	1	45	5183.246	ppb	0.795	30768688	5000	103.7	90	110	
K	39	2	45	5120.213	ppb	2.369	92499	5000	102.4	90	110	
Ca	40	1	45	5099.863	ppb	0.848	36410029	5000	102.0	90	110	
Ca	44	2	45	5108.380	ppb	5.963	5851	5000	102.2	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	48.100	ppb	1.943	39307	50	96.2	90	110	
Cr	52	2	72	48.384	ppb	0.172	52264	50	96.8	90	110	
Mn	55	2	72	50.631	ppb	5.370	13649	50	101.3	90	110	
Fe	57	2	72	4926.191	ppb	2.198	90904	5000	98.5	90	110	
Co	59	2	72	48.778	ppb	0.964	118981	50	97.6	90	110	
Ni	60	2	72	48.205	ppb	1.163	36612	50	96.4	90	110	
Cu	63	2	72	48.493	ppb	1.667	109336	50	97.0	90	110	
Zn	66	2	72	49.781	ppb	3.489	8826	50	99.6	90	110	
As	75	2	72	49.134	ppb	2.937	5143	50	98.3	90	110	
Se	78	1	72	49.703	ppb	1.958	28641	50	99.4	90	110	
Sr	88	2	72	53.677	ppb	2.043	11214	50	107.4	90	110	
Zr	90	2	72	105.401	ppb	22.757	807	50	210.8	90	110	>+\-10%
Nb	93	2	72	97.178	ppb	0.349	310723	100	97.2	90	110	
Mo	95	2	115	49.613	ppb	1.843	42073	50	99.2	90	110	
Pd	105	2	115	50.371	ppb	1.290	82900	50	100.7	90	110	
Ag	107	2	115	48.343	ppb	1.392	166703	50	96.7	90	110	
Cd	111	2	115	50.179	ppb	6.641	13619	50	100.4	90	110	
Sn	120	2	115	50.167	ppb	2.495	31016	50	100.3	90	110	
Sb	121	2	115	50.841	ppb	2.604	26936	50	101.7	90	110	
Ba	137	2	115	51.091	ppb	3.881	7382	50	102.2	90	110	
W	182	2	165	49.373	ppb	0.483	332472	50	98.7	90	110	
Pt	195	2	165	48.804	ppb	0.329	353851	50	97.6	90	110	
Tl	205	2	165	49.673	ppb	0.550	431076	50	99.3	90	110	
Pb	208	2	165	50.284	ppb	0.407	556640	50	100.6	90	110	
Th	232	2	165	50.513	ppb	0.570	672007	50	101.0	90	110	
U	238	2	165	49.120	ppb	0.424	772136	50	98.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	951943	1.93	1160179	82.05	60	120	
Sc (IS)	45	1	HMI H2	47326476	0.43	51895621	91.20	60	120	
Sc (IS)	45	2	HMI He	411912	0.84	430930	95.59	60	120	
Sc (IS)	45	3	No Gas	128342695	1.47	158101278	81.18	60	120	
Ge Internal Standard	72	1	HMI H2	23366104	0.40	25033284	93.34	60	120	
Ge Internal Standard	72	2	HMI He	650483	1.33	674189	96.48	60	120	
In Internal Standard	115	2	HMI He	1536510	0.41	1572457	97.71	60	120	
Ho-165	165	2	HMI He	13184382	0.89	13678393	96.39	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	121_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:51:55-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-36.501	ppb	-6.7	5951841	10	
Be	9	1	6	0.021	ppb	173.2	7	0.5	
B	11	1	6	-391.173	ppb	-0.3	19915	0.5	
Na	23	1	45	24.309	ppb	0.3	266045	25	
Na	23	2	45	19.445	ppb	6.5	9243	25	
Mg	24	2	45	-11.004	ppb	-4.3	220	25	
Al	27	2	45	-0.937	ppb	-178.9	23	15	
K	39	1	45	67.016	ppb	38.2	9288243	50	>RL
K	39	2	45	23.938	ppb	61.6	4981	50	
Ca	40	1	45	-0.157	ppb	-140.4	126760	50	
Ca	44	2	45	9.037	ppb	97.7	20	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.148	ppb	141.3	45	1	
Cr	52	2	72	-0.014	ppb	-662.6	240	1	
Mn	55	2	72	-0.020	ppb	-112.4	33	0.5	
Fe	57	2	72	3.464	ppb	7.6	103	25	
Co	59	2	72	0.007	ppb	91.8	17	0.5	
Ni	60	2	72	0.110	ppb	11.2	110	1	
Cu	63	2	72	-0.085	ppb	-81.9	1460	1	
Zn	66	2	72	-0.777	ppb	-29.5	187	5	
As	75	2	72	0.082	ppb	78.9	12	1	
Se	78	1	72	-0.004	ppb	-465.2	43	1	
Sr	88	2	72	0.129	ppb	37.6	40	0.5	
Zr	90	2	72	1.410	ppb	187.8	30	1	>RL
Nb	93	2	72	1.106	ppb	4.4	3671	2	
Mo	95	2	115	0.050	ppb	88.2	53	0.5	
Pd	105	2	115	0.044	ppb	16.3	97	1	
Ag	107	2	115	0.026	ppb	30.5	120	1	
Cd	111	2	115	0.012	ppb	173.2	3	0.5	
Sn	120	2	115	0.079	ppb	65.8	113	1	
Sb	121	2	115	0.191	ppb	61.5	110	0.6	
Ba	137	2	115	-0.003	ppb	-4815.8	13	0.5	
W	182	2	165	0.062	ppb	12.1	740	1	
Pt	195	2	165	0.002	ppb	153.6	127	1	
Tl	205	2	165	0.032	ppb	42.9	450	0.1	
Pb	208	2	165	0.009	ppb	78.5	1020	0.5	
Th	232	2	165	0.059	ppb	30.0	813	1	
U	238	2	165	0.019	ppb	36.4	333	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	975374	0.92	1160179	84.07	60	120	
Sc (IS)	45	1	HMI H2	46936221	0.39	51895621	90.44	60	120	
Sc (IS)	45	2	HMI He	416147	1.11	430930	96.57	60	120	
Sc (IS)	45	3	No Gas	129940378	0.26	158101278	82.19	60	120	
Ge Internal Standard	72	1	HMI H2	23329641	0.62	25033284	93.19	60	120	
Ge Internal Standard	72	2	HMI He	655583	0.92	674189	97.24	60	120	
In Internal Standard	115	2	HMI He	1582474	1.49	1572457	100.64	60	120	
Ho-165	165	2	HMI He	13359066	1.03	13678393	97.67	60	120	

Sample Report

Sample Table

Sample Name	280-90561-A-2-A
Data File Name	122SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:55:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.680	ppb	-19.680	-11.81	113053	500000	
Li	7	2	45	-17.717	ppb	-17.717	-66.37	5848	500000	
Li	7	3	45	-35.336	ppb	-35.336	-3.55	5897568	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-393.236	ppb	-393.236	-0.44	19057	2000	
Na	23	1	45	23.405	ppb	23.405	4.57	263039	2000	
Na	23	2	45	20.913	ppb	20.913	4.22	9483	400000	
Mg	24	2	45	-9.127	ppb	-9.127	-26.83	317	400000	
Al	27	2	45	1.930	ppb	1.930	148.01	50	400000	
K	39	1	45	407.525	ppb	407.525	7.30	10724507	400000	
K	39	2	45	16.146	ppb	16.146	4.52	4874	400000	
Ca	40	1	45	19.314	ppb	19.314	3.34	264723	400000	
Ca	44	2	45	26.100	ppb	26.100	1.37	40	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.164	ppb	0.164	124.32	57	2000	
Cr	52	2	72	0.008	ppb	0.008	1410.39	263	5000	
Mn	55	2	72	0.030	ppb	0.030	265.38	47	10000	
Fe	57	2	72	0.781	ppb	0.781	109.30	53	400000	
Co	59	2	72	0.005	ppb	0.005	42.45	13	2000	
Ni	60	2	72	0.018	ppb	0.018	188.18	40	5000	
Cu	63	2	72	0.399	ppb	0.399	21.83	2544	5000	
Zn	66	2	72	0.207	ppb	0.207	278.63	357	5000	
As	75	2	72	0.026	ppb	0.026	108.83	7	2000	
Se	78	1	72	-0.006	ppb	-0.006	-635.25	41	2000	
Sr	88	2	72	0.224	ppb	0.224	63.70	60	4000	
Zr	90	2	72	0.535	ppb	0.535	287.03	23	1000	
Nb	93	2	72	0.470	ppb	0.470	11.75	1620	200	
Mo	95	2	115	0.279	ppb	0.279	16.65	253	2000	
Pd	105	2	115	0.016	ppb	0.016	70.80	50	100	
Ag	107	2	115	0.002	ppb	0.002	248.57	33	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.099	ppb	0.099	71.30	127	2000	
Sb	121	2	115	0.019	ppb	0.019	148.73	17	1000	
Ba	137	2	115	-0.004	ppb	-0.004	-1911.50	13	5000	
W	182	2	165	0.021	ppb	0.021	53.95	463	100	
Pt	195	2	165	0.005	ppb	0.005	152.19	150	100	
Tl	205	2	165	0.006	ppb	0.006	127.46	227	2000	
Pb	208	2	165	0.005	ppb	0.005	264.99	970	5000	
Th	232	2	165	0.038	ppb	0.038	18.61	543	2000	
U	238	2	165	0.005	ppb	0.005	55.59	110	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	968013	0.05	1160179	83.44	60	120	
Sc (IS)	45	1	HMI H2	47041448	1.00	51895621	90.65	60	120	
Sc (IS)	45	2	HMI He	418466	1.03	430930	97.11	60	120	
Sc (IS)	45	3	No Gas	128243158	1.08	158101278	81.11	60	120	
Ge Internal Standard	72	1	HMI H2	23317275	0.99	25033284	93.15	60	120	
Ge Internal Standard	72	2	HMI He	655711	1.03	674189	97.26	60	120	
In Internal Standard	115	2	HMI He	1577512	1.84	1572457	100.32	60	120	
Ho-165	165	2	HMI He	13421186	1.06	13678393	98.12	60	120	

Sample Report

Sample Table

Sample Name	280-90561-A-8-A
Data File Name	123SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-11T23:59:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-16.276	ppb	-16.276	-14.20	113084	500000	
Li	7	2	45	-13.257	ppb	-13.257	-109.03	5825	500000	
Li	7	3	45	-30.705	ppb	-30.705	-13.89	5938508	50000	
Be	9	1	6	0.042	ppb	0.042	113.35	13	2000	
B	11	1	6	-156.869	ppb	-156.869	-6.54	98182	2000	
Na	23	1	45	58995.591	ppb	58995.591	1.13	231000897	2000	>LDR
Na	23	2	45	54673.794	ppb	54673.794	0.58	6851201	400000	
Mg	24	2	45	15883.563	ppb	15883.563	0.48	797712	400000	
Al	27	2	45	1606.449	ppb	1606.449	6.44	14586	400000	
K	39	1	45	4588.735	ppb	4588.735	1.49	27812430	400000	
K	39	2	45	4087.775	ppb	4087.775	1.87	74507	400000	
Ca	40	1	45	51965.422	ppb	51965.422	0.83	363686915	400000	
Ca	44	2	45	50976.280	ppb	50976.280	0.72	58094	400000	
Ti	47	2	45	164.484	ppb	164.484	173.21	27	4000	
V	51	2	72	1.423	ppb	1.423	19.13	1081	2000	
Cr	52	2	72	1.173	ppb	1.173	43.74	1508	5000	
Mn	55	2	72	22.313	ppb	22.313	4.87	5998	10000	
Fe	57	2	72	605.173	ppb	605.173	4.46	11117	400000	
Co	59	2	72	0.259	ppb	0.259	17.68	627	2000	
Ni	60	2	72	1.091	ppb	1.091	9.99	847	5000	
Cu	63	2	72	73.918	ppb	73.918	0.73	164577	5000	
Zn	66	2	72	27.702	ppb	27.702	9.05	5014	5000	
As	75	2	72	0.569	ppb	0.569	11.59	63	2000	
Se	78	1	72	0.495	ppb	0.495	6.82	327	2000	
Sr	88	2	72	463.089	ppb	463.089	0.80	95943	4000	
Zr	90	2	72	8.606	ppb	8.606	60.93	83	1000	
Nb	93	2	72	0.265	ppb	0.265	4.43	947	200	
Mo	95	2	115	1.364	ppb	1.364	3.06	1150	2000	
Pd	105	2	115	0.017	ppb	0.017	36.70	50	100	
Ag	107	2	115	0.031	ppb	0.031	50.10	130	100	
Cd	111	2	115	0.075	ppb	0.075	0.94	20	2000	
Sn	120	2	115	0.201	ppb	0.201	20.04	183	2000	
Sb	121	2	115	0.225	ppb	0.225	53.10	123	1000	
Ba	137	2	115	55.950	ppb	55.950	3.17	7969	5000	
W	182	2	165	0.045	ppb	0.045	20.01	620	100	
Pt	195	2	165	0.009	ppb	0.009	1.18	180	100	
Tl	205	2	165	0.016	ppb	0.016	58.26	310	2000	
Pb	208	2	165	1.233	ppb	1.233	3.12	14617	5000	
Th	232	2	165	0.082	ppb	0.082	30.73	1127	2000	
U	238	2	165	1.425	ppb	1.425	3.15	22564	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	952703	2.70	1160179	82.12	60	120	
Sc (IS)	45	1	HMI H2	46542326	0.56	51895621	89.68	60	120	
Sc (IS)	45	2	HMI He	410529	0.82	430930	95.27	60	120	
Sc (IS)	45	3	No Gas	127100108	0.47	158101278	80.39	60	120	
Ge Internal Standard	72	1	HMI H2	23156008	0.63	25033284	92.50	60	120	
Ge Internal Standard	72	2	HMI He	645702	1.54	674189	95.77	60	120	
In Internal Standard	115	2	HMI He	1514769	0.94	1572457	96.33	60	120	
Ho-165	165	2	HMI He	13265695	0.44	13678393	96.98	60	120	

Sample Report

Sample Table

Sample Name	280-90629-F-1-A
Data File Name	124SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:03:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-24.031	ppb	-24.031	-9.51	112779	500000	
Li	7	2	45	-19.719	ppb	-19.719	-87.79	5768	500000	
Li	7	3	45	-37.186	ppb	-37.186	-9.38	5894551	50000	
Be	9	1	6	0.021	ppb	0.021	173.21	7	2000	
B	11	1	6	-381.050	ppb	-381.050	-0.28	23045	2000	
Na	23	1	45	14035.675	ppb	14035.675	0.49	56334242	2000	>LDR
Na	23	2	45	13339.495	ppb	13339.495	2.67	1697384	400000	
Mg	24	2	45	3115.260	ppb	3115.260	1.49	159039	400000	
Al	27	2	45	44.596	ppb	44.596	32.52	440	400000	
K	39	1	45	1822.401	ppb	1822.401	0.97	16804534	400000	
K	39	2	45	1425.808	ppb	1425.808	1.20	29288	400000	
Ca	40	1	45	11607.206	ppb	11607.206	0.56	83178079	400000	
Ca	44	2	45	11833.971	ppb	11833.971	5.28	13659	400000	
Ti	47	2	45	102.240	ppb	102.240	35.30	17	4000	
V	51	2	72	0.485	ppb	0.485	84.04	322	2000	
Cr	52	2	72	7.812	ppb	7.812	4.48	8726	5000	
Mn	55	2	72	5.225	ppb	5.225	4.51	1457	10000	
Fe	57	2	72	188.343	ppb	188.343	4.40	3544	400000	
Co	59	2	72	0.047	ppb	0.047	12.29	117	2000	
Ni	60	2	72	0.437	ppb	0.437	12.97	360	5000	
Cu	63	2	72	1.499	ppb	1.499	5.88	5011	5000	
Zn	66	2	72	4.038	ppb	4.038	15.66	1017	5000	
As	75	2	72	0.187	ppb	0.187	42.50	24	2000	
Se	78	1	72	-0.009	ppb	-0.009	-74.18	40	2000	
Sr	88	2	72	138.651	ppb	138.651	2.62	29205	4000	
Zr	90	2	72	8.034	ppb	8.034	16.57	80	1000	
Nb	93	2	72	0.159	ppb	0.159	12.70	620	200	
Mo	95	2	115	0.744	ppb	0.744	19.18	653	2000	
Pd	105	2	115	0.014	ppb	0.014	95.13	47	100	
Ag	107	2	115	-0.001	ppb	-0.001	-300.98	23	100	
Cd	111	2	115	0.025	ppb	0.025	173.21	7	2000	
Sn	120	2	115	0.090	ppb	0.090	45.35	120	2000	
Sb	121	2	115	0.044	ppb	0.044	44.47	30	1000	
Ba	137	2	115	45.852	ppb	45.852	7.93	6762	5000	
W	182	2	165	0.028	ppb	0.028	72.09	503	100	
Pt	195	2	165	-0.006	ppb	-0.006	-26.07	67	100	
Tl	205	2	165	0.001	ppb	0.001	1149.98	173	2000	
Pb	208	2	165	1.406	ppb	1.406	6.85	16554	5000	
Th	232	2	165	0.027	ppb	0.027	9.92	380	2000	
U	238	2	165	11.069	ppb	11.069	0.98	175291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	960763	1.19	1160179	82.81	60	120	
Sc (IS)	45	1	HMI H2	47595811	0.59	51895621	91.71	60	120	
Sc (IS)	45	2	HMI He	415684	1.12	430930	96.46	60	120	
Sc (IS)	45	3	No Gas	129001221	0.91	158101278	81.59	60	120	
Ge Internal Standard	72	1	HMI H2	23532320	0.69	25033284	94.00	60	120	
Ge Internal Standard	72	2	HMI He	656241	0.98	674189	97.34	60	120	
In Internal Standard	115	2	HMI He	1569178	1.75	1572457	99.79	60	120	
Ho-165	165	2	HMI He	13281128	0.81	13678393	97.10	60	120	

Sample Report

Sample Table

Sample Name	280-90629-F-3-A
Data File Name	125SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:07:04-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.523	ppb	-18.523	-48.27	114211	500000	
Li	7	2	45	-21.670	ppb	-21.670	-92.91	5724	500000	
Li	7	3	45	-32.468	ppb	-32.468	-8.52	5953627	50000	
Be	9	1	6	0.011	ppb	0.011	173.21	3	2000	
B	11	1	6	-389.947	ppb	-389.947	-0.63	19995	2000	
Na	23	1	45	11666.052	ppb	11666.052	2.08	46609848	2000	>LDR
Na	23	2	45	11109.500	ppb	11109.500	0.60	1413767	400000	
Mg	24	2	45	3752.723	ppb	3752.723	0.45	191273	400000	
Al	27	2	45	468.592	ppb	468.592	10.90	4324	400000	
K	39	1	45	1684.763	ppb	1684.763	3.88	16141265	400000	
K	39	2	45	1324.061	ppb	1324.061	3.96	27495	400000	
Ca	40	1	45	17476.006	ppb	17476.006	1.78	124522261	400000	
Ca	44	2	45	19469.764	ppb	19469.764	1.09	22455	400000	
Ti	47	2	45	2250.730	ppb	2250.730	35.91	367	4000	
V	51	2	72	1.223	ppb	1.223	22.50	928	2000	
Cr	52	2	72	0.776	ppb	0.776	33.24	1097	5000	
Mn	55	2	72	21.574	ppb	21.574	13.04	5865	10000	
Fe	57	2	72	771.691	ppb	771.691	4.22	14353	400000	
Co	59	2	72	0.234	ppb	0.234	9.57	573	2000	
Ni	60	2	72	0.741	ppb	0.741	20.56	590	5000	
Cu	63	2	72	8.177	ppb	8.177	2.39	19902	5000	
Zn	66	2	72	37.957	ppb	37.957	7.30	6842	5000	
As	75	2	72	0.859	ppb	0.859	2.98	94	2000	
Se	78	1	72	0.052	ppb	0.052	96.06	75	2000	
Sr	88	2	72	439.477	ppb	439.477	2.16	92207	4000	
Zr	90	2	72	34.675	ppb	34.675	11.50	280	1000	
Nb	93	2	72	0.153	ppb	0.153	16.67	600	200	
Mo	95	2	115	6.341	ppb	6.341	2.41	5501	2000	
Pd	105	2	115	0.012	ppb	0.012	72.25	43	100	
Ag	107	2	115	0.021	ppb	0.021	49.43	100	100	
Cd	111	2	115	0.060	ppb	0.060	123.99	17	2000	
Sn	120	2	115	0.187	ppb	0.187	85.97	180	2000	
Sb	121	2	115	0.111	ppb	0.111	67.16	67	1000	
Ba	137	2	115	58.589	ppb	58.589	1.14	8643	5000	
W	182	2	165	0.115	ppb	0.115	12.77	1097	100	
Pt	195	2	165	-0.001	ppb	-0.001	-296.66	107	100	
Tl	205	2	165	0.019	ppb	0.019	50.07	337	2000	
Pb	208	2	165	15.606	ppb	15.606	1.22	175728	5000	
Th	232	2	165	0.143	ppb	0.143	5.09	1954	2000	
U	238	2	165	145.859	ppb	145.859	0.96	2323833	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	958956	1.25	1160179	82.66	60	120	
Sc (IS)	45	1	HMI H2	47354114	0.91	51895621	91.25	60	120	
Sc (IS)	45	2	HMI He	415327	0.98	430930	96.38	60	120	
Sc (IS)	45	3	No Gas	128201091	1.09	158101278	81.09	60	120	
Ge Internal Standard	72	1	HMI H2	23387164	1.23	25033284	93.42	60	120	
Ge Internal Standard	72	2	HMI He	653991	1.53	674189	97.00	60	120	
In Internal Standard	115	2	HMI He	1569096	1.32	1572457	99.79	60	120	
Ho-165	165	2	HMI He	13362655	0.99	13678393	97.69	60	120	

Sample Report

Sample Table

Sample Name	280-90629-D-4-A
Data File Name	126SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:10:49-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350891 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-23.108	ppb	-23.108	-8.84	112607	500000	
Li	7	2	45	-32.000	ppb	-32.000	-26.58	5491	500000	
Li	7	3	45	-35.354	ppb	-35.354	-7.23	5783859	50000	
Be	9	1	6	0.139	ppb	0.139	66.89	43	2000	
B	11	1	6	-389.542	ppb	-389.542	-0.29	20205	2000	
Na	23	1	45	7911.630	ppb	7911.630	0.42	31686842	2000	
Na	23	2	45	7578.572	ppb	7578.572	0.15	962096	400000	
Mg	24	2	45	4382.744	ppb	4382.744	0.74	222207	400000	
Al	27	2	45	1788.056	ppb	1788.056	1.86	16342	400000	
K	39	1	45	2142.664	ppb	2142.664	2.99	18069819	400000	
K	39	2	45	1840.203	ppb	1840.203	3.81	36269	400000	
Ca	40	1	45	17534.681	ppb	17534.681	0.24	125019765	400000	
Ca	44	2	45	18239.601	ppb	18239.601	2.47	20936	400000	
Ti	47	2	45	10164.514	ppb	10164.514	47.62	1649	4000	
V	51	2	72	2.808	ppb	2.808	16.92	2231	2000	
Cr	52	2	72	1.967	ppb	1.967	17.65	2377	5000	
Mn	55	2	72	41.236	ppb	41.236	2.79	11161	10000	
Fe	57	2	72	1729.082	ppb	1729.082	3.08	32027	400000	
Co	59	2	72	0.503	ppb	0.503	17.69	1230	2000	
Ni	60	2	72	1.245	ppb	1.245	3.09	973	5000	
Cu	63	2	72	10.163	ppb	10.163	0.63	24281	5000	
Zn	66	2	72	69.457	ppb	69.457	3.31	12225	5000	
As	75	2	72	1.621	ppb	1.621	7.56	174	2000	
Se	78	1	72	0.233	ppb	0.233	35.73	180	2000	
Sr	88	2	72	337.978	ppb	337.978	1.49	70748	4000	
Zr	90	2	72	60.990	ppb	60.990	17.29	477	1000	
Nb	93	2	72	0.417	ppb	0.417	17.11	1444	200	
Mo	95	2	115	7.224	ppb	7.224	3.63	6218	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-101.79	17	100	
Ag	107	2	115	0.083	ppb	0.083	16.18	317	100	
Cd	111	2	115	0.097	ppb	0.097	142.30	27	2000	
Sn	120	2	115	0.391	ppb	0.391	10.16	307	2000	
Sb	121	2	115	0.411	ppb	0.411	21.45	227	1000	
Ba	137	2	115	61.731	ppb	61.731	4.54	9040	5000	
W	182	2	165	0.206	ppb	0.206	22.12	1707	100	
Pt	195	2	165	0.004	ppb	0.004	65.93	140	100	
Tl	205	2	165	0.027	ppb	0.027	20.66	403	2000	
Pb	208	2	165	26.413	ppb	26.413	1.87	294752	5000	
Th	232	2	165	0.345	ppb	0.345	1.32	4641	2000	
U	238	2	165	101.872	ppb	101.872	1.62	1611977	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	962695	1.20	1160179	82.98	60	120	
Sc (IS)	45	1	HMI H2	47381018	0.23	51895621	91.30	60	120	
Sc (IS)	45	2	HMI He	413386	0.39	430930	95.93	60	120	
Sc (IS)	45	3	No Gas	125783968	1.20	158101278	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	23504296	0.72	25033284	93.89	60	120	
Ge Internal Standard	72	2	HMI He	652378	0.89	674189	96.76	60	120	
In Internal Standard	115	2	HMI He	1557695	1.50	1572457	99.06	60	120	
Ho-165	165	2	HMI He	13272164	0.63	13678393	97.03	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	127_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:14:37-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	453.221	ppb	1.912	287676	500	90.6	90	110	
Li	7	2	45	408.509	ppb	5.164	14419	500	81.7	90	110	>+\-10%
Li	7	3	45	409.331	ppb	1.193	14795389	500	81.9	90	110	>+\-10%
Be	9	1	6	51.896	ppb	2.185	16027	50	103.8	90	110	
B	11	1	6	-348.083	ppb	-0.964	33795	50	-696.2	90	110	>+\-10%
Na	23	1	45	4952.730	ppb	0.763	19889228	5000	99.1	90	110	
Na	23	2	45	4658.656	ppb	0.981	598130	5000	93.2	90	110	
Mg	24	2	45	4852.745	ppb	1.197	247662	5000	97.1	90	110	
Al	27	2	45	5007.953	ppb	1.615	46032	5000	100.2	90	110	
K	39	1	45	5280.930	ppb	1.262	31196162	5000	105.6	90	110	
K	39	2	45	5060.316	ppb	0.142	92445	5000	101.2	90	110	
Ca	40	1	45	5109.089	ppb	0.559	36498582	5000	102.2	90	110	
Ca	44	2	45	5303.441	ppb	8.254	6138	5000	106.1	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	48.735	ppb	2.739	40263	50	97.5	90	110	
Cr	52	2	72	48.115	ppb	1.655	52542	50	96.2	90	110	
Mn	55	2	72	48.661	ppb	1.685	13272	50	97.3	90	110	
Fe	57	2	72	4803.891	ppb	0.893	89635	5000	96.1	90	110	
Co	59	2	72	48.526	ppb	0.167	119680	50	97.1	90	110	
Ni	60	2	72	48.203	ppb	1.718	37013	50	96.4	90	110	
Cu	63	2	72	48.678	ppb	1.690	110951	50	97.4	90	110	
Zn	66	2	72	49.445	ppb	3.337	8869	50	98.9	90	110	
As	75	2	72	50.437	ppb	1.019	5336	50	100.9	90	110	
Se	78	1	72	49.444	ppb	2.143	28757	50	98.9	90	110	
Sr	88	2	72	52.072	ppb	1.206	11001	50	104.1	90	110	
Zr	90	2	72	43.265	ppb	19.150	347	50	86.5	90	110	>+\-10%
Nb	93	2	72	97.928	ppb	1.513	316545	100	97.9	90	110	
Mo	95	2	115	48.999	ppb	1.362	42503	50	98.0	90	110	
Pd	105	2	115	50.038	ppb	0.736	84237	50	100.1	90	110	
Ag	107	2	115	48.583	ppb	1.902	171369	50	97.2	90	110	
Cd	111	2	115	50.006	ppb	2.310	13886	50	100.0	90	110	
Sn	120	2	115	49.222	ppb	1.954	31126	50	98.4	90	110	
Sb	121	2	115	51.521	ppb	1.553	27920	50	103.0	90	110	
Ba	137	2	115	56.177	ppb	3.725	8302	50	112.4	90	110	>+\-10%
W	182	2	165	49.418	ppb	0.999	335905	50	98.8	90	110	
Pt	195	2	165	49.044	ppb	1.033	358932	50	98.1	90	110	
Tl	205	2	165	49.811	ppb	0.817	436327	50	99.6	90	110	
Pb	208	2	165	50.718	ppb	0.409	566747	50	101.4	90	110	
Th	232	2	165	50.387	ppb	0.421	676678	50	100.8	90	110	
U	238	2	165	48.565	ppb	0.853	770606	50	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	948653	0.40	1160179	81.77	60	120	
Sc (IS)	45	1	HMI H2	47356628	0.82	51895621	91.25	60	120	
Sc (IS)	45	2	HMI He	416266	0.47	430930	96.60	60	120	
Sc (IS)	45	3	No Gas	127096141	0.88	158101278	80.39	60	120	
Ge Internal Standard	72	1	HMI H2	23584505	0.05	25033284	94.21	60	120	
Ge Internal Standard	72	2	HMI He	657655	1.16	674189	97.55	60	120	
In Internal Standard	115	2	HMI He	1571702	0.64	1572457	99.95	60	120	
Ho-165	165	2	HMI He	13308984	1.00	13678393	97.30	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	128_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:18:24-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-34.046	ppb	-8.0	5877457	10	
Be	9	1	6	0.000	ppb	#DIV/0!	0	0.5	
B	11	1	6	-397.417	ppb	-0.7	18063	0.5	
Na	23	1	45	4.729	ppb	21.9	192997	25	
Na	23	2	45	1.944	ppb	47.5	7108	25	
Mg	24	2	45	-11.564	ppb	-8.8	193	25	
Al	27	2	45	-0.978	ppb	-61.0	23	15	
K	39	1	45	73.503	ppb	17.9	9524723	50	>RL
K	39	2	45	-4.008	ppb	-380.4	4554	50	
Ca	40	1	45	-2.876	ppb	-18.4	109965	50	
Ca	44	2	45	23.078	ppb	175.0	37	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.023	ppb	-424.1	-97	1	
Cr	52	2	72	-0.017	ppb	-105.0	240	1	
Mn	55	2	72	-0.021	ppb	-271.7	33	0.5	
Fe	57	2	72	3.582	ppb	55.1	107	25	
Co	59	2	72	0.016	ppb	25.4	40	0.5	
Ni	60	2	72	0.182	ppb	22.7	167	1	
Cu	63	2	72	-0.104	ppb	-50.1	1430	1	
Zn	66	2	72	-0.922	ppb	-31.7	163	5	
As	75	2	72	0.031	ppb	237.2	7	1	
Se	78	1	72	0.009	ppb	259.0	51	1	
Sr	88	2	72	0.017	ppb	418.9	17	0.5	
Zr	90	2	72	0.066	ppb	27.2	20	1	
Nb	93	2	72	1.057	ppb	7.1	3544	2	
Mo	95	2	115	0.030	ppb	57.5	37	0.5	
Pd	105	2	115	0.049	ppb	72.6	107	1	
Ag	107	2	115	0.009	ppb	80.5	60	1	
Cd	111	2	115	0.012	ppb	173.2	3	0.5	
Sn	120	2	115	0.077	ppb	136.8	113	1	
Sb	121	2	115	0.067	ppb	41.8	43	0.6	
Ba	137	2	115	-0.093	ppb	0.0	0	0.5	
W	182	2	165	0.049	ppb	19.5	653	1	
Pt	195	2	165	0.007	ppb	11.6	167	1	
Tl	205	2	165	0.028	ppb	37.7	417	0.1	
Pb	208	2	165	0.016	ppb	5.5	1097	0.5	
Th	232	2	165	0.064	ppb	22.6	880	1	
U	238	2	165	0.028	ppb	5.4	467	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	992890	2.73	1160179	85.58	60	120	
Sc (IS)	45	1	HMI H2	47992338	1.12	51895621	92.48	60	120	
Sc (IS)	45	2	HMI He	421231	1.00	430930	97.75	60	120	
Sc (IS)	45	3	No Gas	127237645	0.09	158101278	80.48	60	120	
Ge Internal Standard	72	1	HMI H2	23776431	1.03	25033284	94.98	60	120	
Ge Internal Standard	72	2	HMI He	661821	0.69	674189	98.17	60	120	
In Internal Standard	115	2	HMI He	1591778	0.63	1572457	101.23	60	120	
Ho-165	165	2	HMI He	13357219	0.66	13678393	97.65	60	120	

Blank Report

Sample Table

Sample Name	MB 280-350677/1-B
Data File Name	129_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:22:12-07:00
Sample Type	Blank
Dilution	1
Comment	350944 200.8
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-27.099	ppb	-23.51946511	112510	0.5
Li	7	2	45	-39.464	ppb	-60.53236751	5394	0.5
Li	7	3	45	-35.240	ppb	-12.0549829	5853170	10
Be	9	1	6	0.000	ppb	#DIV/0!	0	0.5
B	11	1	6	-398.990	ppb	-0.47147552	17365	0.5
Na	23	1	45	7.236	ppb	5.80653391	203050	25
Na	23	2	45	5.904	ppb	16.34953779	7552	25
Mg	24	2	45	-12.060	ppb	-7.733372203	167	25
Al	27	2	45	0.862	ppb	506.4622243	40	15
K	39	1	45	363.634	ppb	7.122409102	10750579	50
K	39	2	45	-6.466	ppb	-81.47515926	4471	50
Ca	40	1	45	0.164	ppb	296.8562296	131842	50
Ca	44	2	45	8.823	ppb	256.8667121	20	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	0.224	ppb	67.51348891	108	1
Cr	52	2	72	3.063	ppb	3.597763385	3594	1
Mn	55	2	72	1.007	ppb	26.42785438	313	0.5
Fe	57	2	72	95.418	ppb	10.73508511	1824	25
Co	59	2	72	0.022	ppb	11.37343589	53	0.5
Ni	60	2	72	0.118	ppb	73.04392234	117	1
Cu	63	2	72	0.114	ppb	12.36780925	1917	1
Zn	66	2	72	-0.516	ppb	-51.59591446	233	5
As	75	2	72	0.019	ppb	253.0269503	6	1
Se	78	1	72	-0.023	ppb	-105.7144778	32	1
Sr	88	2	72	0.001	ppb	5141.370013	13	0.5
Zr	90	2	72	2.267	ppb	120.4128263	37	1
Nb	93	2	72	0.445	ppb	4.00505804	1550	2
Mo	95	2	115	0.049	ppb	89.13404766	53	0.5
Pd	105	2	115	0.014	ppb	132.784276	47	1
Ag	107	2	115	0.003	ppb	134.4600555	37	1
Cd	111	2	115	0.024	ppb	173.2050808	7	0.5
Sn	120	2	115	0.087	ppb	57.23573691	120	1
Sb	121	2	115	0.038	ppb	145.5411401	27	0.6
Ba	137	2	115	-0.007	ppb	-1389.014906	13	0.5
W	182	2	165	0.011	ppb	69.16067361	387	1
Pt	195	2	165	0.000	ppb	154.2949106	117	1
Tl	205	2	165	0.013	ppb	121.6444405	287	0.1
Pb	208	2	165	0.015	ppb	80.30024553	1077	0.5
Th	232	2	165	0.033	ppb	12.76040798	463	1
U	238	2	165	0.011	ppb	14.90657662	200	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	983768	1.60	1160179	84.79	60	120	
Sc (IS)	45	1	HMI H2	47971661	1.04	51895621	92.44	60	120	
Sc (IS)	45	2	HMI He	417630	0.60	430930	96.91	60	120	
Sc (IS)	45	3	No Gas	127242248	0.80	158101278	80.48	60	120	
Ge Internal Standard	72	1	HMI H2	23687420	0.43	25033284	94.62	60	120	
Ge Internal Standard	72	2	HMI He	659356	0.52	674189	97.80	60	120	
In Internal Standard	115	2	HMI He	1588468	4.64	1572457	101.02	60	120	
Ho-165	165	2	HMI He	13323997	0.61	13678393	97.41	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCS 280-350677/2-B
Data File Name	130_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:26:02-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350944 200.8
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	30.293	30.293	ppb	8.301	132164	400	7.6	80	120	>+/-20%
Li	7	2	45	33.208	33.208	ppb	13.435	6851	400	8.3	80	120	>+/-20%
Li	7	3	45	14.793	14.793	ppb	23.012	6919038	400	3.7	80	120	>+/-20%
Be	9	1	6	32.619	32.619	ppb	6.880	10290	40	81.5	80	120	
Na	23	2	45	6.603	6.603	ppb	50.717	7622	40	16.5	80	120	>+/-20%
Mg	24	2	45	-11.074	-11.074	ppb	-12.726	217	40	-27.7	80	120	>+/-20%
Al	27	2	45	296.038	296.038	ppb	2.812	2754	40	740.1	80	120	>+/-20%
K	39	2	45	-3.274	-3.274	ppb	-678.404	4514	40	-8.2	80	120	>+/-20%
Ca	44	2	45	245.426	245.426	ppb	14.762	293	40	613.6	80	120	>+/-20%
V	51	2	72	30.274	30.274	ppb	0.895	25085	40	75.7	80	120	>+/-20%
Cr	52	2	72	31.126	31.126	ppb	2.608	34227	40	77.8	80	120	>+/-20%
Mn	55	2	72	31.376	31.376	ppb	1.496	8606	40	78.4	80	120	>+/-20%
Fe	57	2	72	292.712	292.712	ppb	3.252	5521	40	731.8	80	120	>+/-20%
Co	59	2	72	31.324	31.324	ppb	0.435	77573	40	78.3	80	120	>+/-20%
Ni	60	2	72	29.934	29.934	ppb	2.153	23089	40	74.8	80	120	>+/-20%
Cu	63	2	72	30.808	30.808	ppb	1.015	71126	40	77.0	80	120	>+/-20%
Zn	66	2	72	31.106	31.106	ppb	4.067	5721	40	77.8	80	120	>+/-20%
As	75	2	72	33.546	33.546	ppb	2.828	3565	40	83.9	80	120	
Se	78	1	72	32.499	32.499	ppb	2.411	18814	40	81.2	80	120	
Nb	93	2	72	0.289	0.289	ppb	7.892	1047	40	0.7	80	120	>+/-20%
Mo	95	2	115	32.161	32.161	ppb	3.529	27953	40	80.4	80	120	
Pd	105	2	115	0.014	0.014	ppb	88.281	47	40	0.0	80	120	>+/-20%
Ag	107	2	115	31.365	31.365	ppb	2.264	110762	40	78.4	80	120	>+/-20%
Cd	111	2	115	32.069	32.069	ppb	4.048	8913	40	80.2	80	120	
Sn	120	2	115	31.914	31.914	ppb	6.500	20216	40	79.8	80	120	>+/-20%
Sb	121	2	115	32.687	32.687	ppb	1.273	17743	40	81.7	80	120	
Ba	137	2	115	34.349	34.349	ppb	7.598	5088	40	85.9	80	120	
W	182	2	165	30.455	30.455	ppb	0.772	206906	40	76.1	80	120	>+/-20%
Pt	195	2	165	0.000	0.000	ppb	9169.716	113	40	0.0	80	120	>+/-20%
Tl	205	2	165	31.726	31.726	ppb	0.902	277659	40	79.3	80	120	>+/-20%
Pb	208	2	165	32.720	32.720	ppb	1.107	365522	40	81.8	80	120	
Th	232	2	165	31.390	31.390	ppb	0.762	421103	40	78.5	80	120	>+/-20%
U	238	2	165	31.498	31.498	ppb	0.889	499253	40	78.7	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	968913	0.43	1160179	83.51	60	120	
Sc (IS)	45	1	HMI H2	47349141	0.39	51895621	91.24	60	120	
Sc (IS)	45	2	HMI He	416675	0.69	430930	96.69	60	120	
Sc (IS)	45	3	No Gas	128306621	0.62	158101278	81.15	60	120	
Ge Internal Standard	72	1	HMI H2	23454841	0.42	25033284	93.69	60	120	
Ge Internal Standard	72	2	HMI He	660378	0.40	674189	97.95	60	120	
In Internal Standard	115	2	HMI He	1573916	2.71	1572457	100.09	60	120	
Ho-165	165	2	HMI He	13294290	1.12	13678393	97.19	60	120	

Sample Report

Sample Table

Sample Name	280-90629-E-1-C
Data File Name	131SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:29:53-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.043	ppb	-25.043	-15.25	112759	500000	
Li	7	2	45	-28.838	ppb	-28.838	-35.67	5558	500000	
Li	7	3	45	-35.013	ppb	-35.013	-2.78	5855493	50000	
Be	9	1	6	0.032	ppb	0.032	100.61	10	2000	
B	11	1	6	-392.328	ppb	-392.328	-0.59	19367	2000	
Na	23	1	45	13705.617	ppb	13705.617	0.50	55189871	2000	>LDR
Na	23	2	45	13129.840	ppb	13129.840	1.16	1663050	400000	
Mg	24	2	45	3244.518	ppb	3244.518	1.53	164821	400000	
Al	27	2	45	103.569	ppb	103.569	22.58	977	400000	
K	39	1	45	1876.739	ppb	1876.739	3.04	17086670	400000	
K	39	2	45	1447.579	ppb	1447.579	3.64	29522	400000	
Ca	40	1	45	12748.537	ppb	12748.537	0.66	91632905	400000	
Ca	44	2	45	13411.909	ppb	13411.909	4.89	15410	400000	
Ti	47	2	45	287.338	ppb	287.338	69.01	47	4000	
V	51	2	72	0.633	ppb	0.633	67.05	446	2000	
Cr	52	2	72	6.982	ppb	6.982	3.16	7862	5000	
Mn	55	2	72	11.275	ppb	11.275	12.97	3110	10000	
Fe	57	2	72	343.837	ppb	343.837	4.35	6468	400000	
Co	59	2	72	0.094	ppb	0.094	22.19	233	2000	
Ni	60	2	72	0.564	ppb	0.564	18.23	460	5000	
Cu	63	2	72	3.513	ppb	3.513	1.98	9566	5000	
Zn	66	2	72	30.205	ppb	30.205	3.38	5554	5000	
As	75	2	72	0.272	ppb	0.272	8.03	33	2000	
Se	78	1	72	0.044	ppb	0.044	71.58	71	2000	
Sr	88	2	72	190.149	ppb	190.149	2.68	40227	4000	
Zr	90	2	72	76.064	ppb	76.064	17.73	597	1000	
Nb	93	2	72	0.194	ppb	0.194	18.24	737	200	
Mo	95	2	115	1.779	ppb	1.779	7.20	1573	2000	
Pd	105	2	115	0.006	ppb	0.006	148.87	33	100	
Ag	107	2	115	0.000	ppb	0.000	-2676.87	27	100	
Cd	111	2	115	0.036	ppb	0.036	100.77	10	2000	
Sn	120	2	115	0.168	ppb	0.168	87.46	170	2000	
Sb	121	2	115	0.109	ppb	0.109	48.78	67	1000	
Ba	137	2	115	50.575	ppb	50.575	5.44	7585	5000	
W	182	2	165	0.091	ppb	0.091	21.70	933	100	
Pt	195	2	165	0.001	ppb	0.001	256.29	123	100	
Tl	205	2	165	0.041	ppb	0.041	22.84	530	2000	
Pb	208	2	165	5.139	ppb	5.139	1.89	58382	5000	
Th	232	2	165	0.308	ppb	0.308	3.53	4174	2000	
U	238	2	165	33.373	ppb	33.373	0.64	530809	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	968219	0.93	1160179	83.45	60	120	
Sc (IS)	45	1	HMI H2	47748461	0.62	51895621	92.01	60	120	
Sc (IS)	45	2	HMI He	413673	0.36	430930	96.00	60	120	
Sc (IS)	45	3	No Gas	127183678	0.07	158101278	80.44	60	120	
Ge Internal Standard	72	1	HMI H2	23609518	0.30	25033284	94.31	60	120	
Ge Internal Standard	72	2	HMI He	659199	0.68	674189	97.78	60	120	
In Internal Standard	115	2	HMI He	1593507	2.27	1572457	101.34	60	120	
Ho-165	165	2	HMI He	13339854	0.14	13678393	97.53	60	120	

Sample Report

Sample Table

Sample Name	280-90629-A-2-B
Data File Name	132SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:33:39-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.476	ppb	-22.476	-13.80	112813	500000	
Li	7	2	45	-33.258	ppb	-33.258	-24.61	5468	500000	
Li	7	3	45	-34.209	ppb	-34.209	-2.75	5858901	50000	
Be	9	1	6	0.085	ppb	0.085	78.49	27	2000	
B	11	1	6	-395.056	ppb	-395.056	-0.33	18290	2000	
Na	23	1	45	7541.389	ppb	7541.389	0.74	30203690	2000	
Na	23	2	45	7154.755	ppb	7154.755	1.30	908950	400000	
Mg	24	2	45	4150.537	ppb	4150.537	1.37	210544	400000	
Al	27	2	45	442.641	ppb	442.641	3.10	4071	400000	
K	39	1	45	1525.636	ppb	1525.636	2.10	15480935	400000	
K	39	2	45	1120.238	ppb	1120.238	1.62	23863	400000	
Ca	40	1	45	16900.806	ppb	16900.806	1.09	120468515	400000	
Ca	44	2	45	17957.940	ppb	17957.940	4.88	20623	400000	
Ti	47	2	45	1271.258	ppb	1271.258	24.67	207	4000	
V	51	2	72	1.324	ppb	1.324	25.11	1019	2000	
Cr	52	2	72	1.116	ppb	1.116	0.41	1470	5000	
Mn	55	2	72	34.460	ppb	34.460	2.37	9416	10000	
Fe	57	2	72	955.128	ppb	955.128	1.56	17866	400000	
Co	59	2	72	0.311	ppb	0.311	19.73	767	2000	
Ni	60	2	72	0.634	ppb	0.634	17.62	513	5000	
Cu	63	2	72	8.681	ppb	8.681	2.73	21160	5000	
Zn	66	2	72	82.136	ppb	82.136	5.26	14526	5000	
As	75	2	72	1.274	ppb	1.274	7.03	139	2000	
Se	78	1	72	0.226	ppb	0.226	22.46	176	2000	
Sr	88	2	72	313.244	ppb	313.244	1.94	66154	4000	
Zr	90	2	72	59.998	ppb	59.998	19.12	473	1000	
Nb	93	2	72	0.123	ppb	0.123	5.30	503	200	
Mo	95	2	115	5.512	ppb	5.512	3.31	4804	2000	
Pd	105	2	115	0.012	ppb	0.012	74.70	43	100	
Ag	107	2	115	0.014	ppb	0.014	11.38	77	100	
Cd	111	2	115	0.060	ppb	0.060	91.24	17	2000	
Sn	120	2	115	0.079	ppb	0.079	44.11	113	2000	
Sb	121	2	115	0.399	ppb	0.399	22.59	223	1000	
Ba	137	2	115	48.371	ppb	48.371	9.66	7168	5000	
W	182	2	165	0.119	ppb	0.119	19.42	1120	100	
Pt	195	2	165	-0.004	ppb	-0.004	-153.73	80	100	
Tl	205	2	165	0.020	ppb	0.020	44.10	347	2000	
Pb	208	2	165	24.570	ppb	24.570	0.67	274979	5000	
Th	232	2	165	0.225	ppb	0.225	4.21	3044	2000	
U	238	2	165	99.321	ppb	99.321	1.13	1575705	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	960377	0.74	1160179	82.78	60	120	
Sc (IS)	45	1	HMI H2	47368469	0.68	51895621	91.28	60	120	
Sc (IS)	45	2	HMI He	413524	0.34	430930	95.96	60	120	
Sc (IS)	45	3	No Gas	126906411	0.24	158101278	80.27	60	120	
Ge Internal Standard	72	1	HMI H2	23505349	0.33	25033284	93.90	60	120	
Ge Internal Standard	72	2	HMI He	658071	0.92	674189	97.61	60	120	
In Internal Standard	115	2	HMI He	1576498	0.91	1572457	100.26	60	120	
Ho-165	165	2	HMI He	13307141	0.95	13678393	97.29	60	120	

Sample Report

Sample Table

Sample Name	280-90629-G-3-B
Data File Name	133SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:37:25-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.935	ppb	-22.935	-12.52	111683	500000	
Li	7	2	45	-33.764	ppb	-33.764	-44.34	5441	500000	
Li	7	3	45	-30.421	ppb	-30.421	-14.86	5873873	50000	
Be	9	1	6	0.075	ppb	0.075	108.48	23	2000	
B	11	1	6	-395.411	ppb	-395.411	-0.40	18216	2000	
Na	23	1	45	11536.901	ppb	11536.901	0.95	45719433	2000	>LDR
Na	23	2	45	11091.676	ppb	11091.676	2.70	1400455	400000	
Mg	24	2	45	3643.179	ppb	3643.179	2.70	184251	400000	
Al	27	2	45	261.867	ppb	261.867	6.99	2414	400000	
K	39	1	45	1657.060	ppb	1657.060	1.70	15894478	400000	
K	39	2	45	1255.917	ppb	1255.917	4.55	26110	400000	
Ca	40	1	45	17262.589	ppb	17262.589	1.20	121990815	400000	
Ca	44	2	45	18992.654	ppb	18992.654	0.51	21737	400000	
Ti	47	2	45	1131.563	ppb	1131.563	10.96	183	4000	
V	51	2	72	0.924	ppb	0.924	32.07	684	2000	
Cr	52	2	72	1.213	ppb	1.213	16.03	1567	5000	
Mn	55	2	72	18.103	ppb	18.103	5.28	4934	10000	
Fe	57	2	72	584.694	ppb	584.694	2.24	10887	400000	
Co	59	2	72	0.181	ppb	0.181	10.85	443	2000	
Ni	60	2	72	0.486	ppb	0.486	6.28	397	5000	
Cu	63	2	72	7.213	ppb	7.213	4.89	17756	5000	
Zn	66	2	72	55.857	ppb	55.857	10.62	9926	5000	
As	75	2	72	0.853	ppb	0.853	5.05	93	2000	
Se	78	1	72	0.049	ppb	0.049	29.68	73	2000	
Sr	88	2	72	428.938	ppb	428.938	1.67	90026	4000	
Zr	90	2	72	57.667	ppb	57.667	25.56	453	1000	
Nb	93	2	72	0.109	ppb	0.109	7.22	457	200	
Mo	95	2	115	5.962	ppb	5.962	1.93	5171	2000	
Pd	105	2	115	0.004	ppb	0.004	137.83	30	100	
Ag	107	2	115	0.003	ppb	0.003	238.72	37	100	
Cd	111	2	115	0.060	ppb	0.060	91.02	17	2000	
Sn	120	2	115	0.175	ppb	0.175	33.31	173	2000	
Sb	121	2	115	0.236	ppb	0.236	40.61	133	1000	
Ba	137	2	115	56.264	ppb	56.264	5.70	8296	5000	
W	182	2	165	0.097	ppb	0.097	3.73	973	100	
Pt	195	2	165	-0.003	ppb	-0.003	-202.00	93	100	
Tl	205	2	165	0.013	ppb	0.013	65.94	280	2000	
Pb	208	2	165	14.724	ppb	14.724	1.98	165150	5000	
Th	232	2	165	0.140	ppb	0.140	13.36	1904	2000	
U	238	2	165	141.793	ppb	141.793	1.39	2249591	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	962948	0.90	1160179	83.00	60	120	
Sc (IS)	45	1	HMI H2	46964586	0.92	51895621	90.50	60	120	
Sc (IS)	45	2	HMI He	412147	1.21	430930	95.64	60	120	
Sc (IS)	45	3	No Gas	125591268	1.13	158101278	79.44	60	120	
Ge Internal Standard	72	1	HMI H2	23380956	0.55	25033284	93.40	60	120	
Ge Internal Standard	72	2	HMI He	654120	0.77	674189	97.02	60	120	
In Internal Standard	115	2	HMI He	1568452	1.49	1572457	99.75	60	120	
Ho-165	165	2	HMI He	13308303	1.39	13678393	97.29	60	120	

Sample Report

Sample Table

Sample Name	280-90629-C-4-B
Data File Name	134SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:41:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-23.283	ppb	-23.283	-14.09	112078	500000	
Li	7	2	45	-29.988	ppb	-29.988	-58.98	5558	500000	
Li	7	3	45	-36.882	ppb	-36.882	-7.70	5768962	50000	
Be	9	1	6	0.116	ppb	0.116	103.48	37	2000	
B	11	1	6	-397.376	ppb	-397.376	-0.21	17729	2000	
Na	23	1	45	7379.327	ppb	7379.327	1.63	29440093	2000	
Na	23	2	45	6957.402	ppb	6957.402	0.81	887756	400000	
Mg	24	2	45	3975.023	ppb	3975.023	1.94	202516	400000	
Al	27	2	45	452.454	ppb	452.454	14.92	4181	400000	
K	39	1	45	1508.855	ppb	1508.855	0.64	15350745	400000	
K	39	2	45	1125.720	ppb	1125.720	1.41	24060	400000	
Ca	40	1	45	16458.186	ppb	16458.186	0.34	116859042	400000	
Ca	44	2	45	17512.270	ppb	17512.270	2.61	20192	400000	
Ti	47	2	45	1452.815	ppb	1452.815	40.35	237	4000	
V	51	2	72	1.586	ppb	1.586	10.17	1233	2000	
Cr	52	2	72	8.851	ppb	8.851	4.08	9860	5000	
Mn	55	2	72	33.640	ppb	33.640	4.65	9173	10000	
Fe	57	2	72	1095.291	ppb	1095.291	5.15	20436	400000	
Co	59	2	72	0.354	ppb	0.354	12.81	870	2000	
Ni	60	2	72	0.758	ppb	0.758	13.34	607	5000	
Cu	63	2	72	8.609	ppb	8.609	3.78	20946	5000	
Zn	66	2	72	83.407	ppb	83.407	2.12	14713	5000	
As	75	2	72	1.387	ppb	1.387	27.10	150	2000	
Se	78	1	72	0.183	ppb	0.183	26.40	152	2000	
Sr	88	2	72	306.788	ppb	306.788	1.11	64637	4000	
Zr	90	2	72	26.539	ppb	26.539	19.44	220	1000	
Nb	93	2	72	0.105	ppb	0.105	29.92	447	200	
Mo	95	2	115	5.810	ppb	5.810	8.74	5088	2000	
Pd	105	2	115	0.010	ppb	0.010	155.88	40	100	
Ag	107	2	115	0.012	ppb	0.012	22.97	70	100	
Cd	111	2	115	0.048	ppb	0.048	86.60	13	2000	
Sn	120	2	115	0.104	ppb	0.104	65.85	130	2000	
Sb	121	2	115	0.446	ppb	0.446	22.74	250	1000	
Ba	137	2	115	44.022	ppb	44.022	5.86	6558	5000	
W	182	2	165	0.075	ppb	0.075	21.24	827	100	
Pt	195	2	165	-0.005	ppb	-0.005	-15.63	73	100	
Tl	205	2	165	0.009	ppb	0.009	90.34	253	2000	
Pb	208	2	165	23.594	ppb	23.594	1.12	265262	5000	
Th	232	2	165	0.127	ppb	0.127	1.18	1740	2000	
U	238	2	165	96.391	ppb	96.391	2.26	1535934	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	972701	0.62	1160179	83.84	60	120	
Sc (IS)	45	1	HMI H2	47182771	0.87	51895621	90.92	60	120	
Sc (IS)	45	2	HMI He	415255	0.79	430930	96.36	60	120	
Sc (IS)	45	3	No Gas	126111815	0.58	158101278	79.77	60	120	
Ge Internal Standard	72	1	HMI H2	23650220	0.41	25033284	94.48	60	120	
Ge Internal Standard	72	2	HMI He	656543	0.78	674189	97.38	60	120	
In Internal Standard	115	2	HMI He	1583909	0.76	1572457	100.73	60	120	
Ho-165	165	2	HMI He	13366411	0.87	13678393	97.72	60	120	

Sample Report

Sample Table

Sample Name	280-90629-C-4-C MS
Data File Name	135SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:44:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.113	ppb	32.113	8.71	132688	500000	
Li	7	2	45	6.698	ppb	6.698	333.21	6278	500000	
Li	7	3	45	18.214	ppb	18.214	7.46	6856214	50000	
Be	9	1	6	34.181	ppb	34.181	3.81	10590	2000	
B	11	1	6	-371.278	ppb	-371.278	-0.30	26116	2000	
Na	23	1	45	7488.573	ppb	7488.573	0.51	29948608	2000	
Na	23	2	45	7073.603	ppb	7073.603	1.02	900037	400000	
Mg	24	2	45	4113.146	ppb	4113.146	1.95	208992	400000	
Al	27	2	45	763.379	ppb	763.379	2.35	7008	400000	
K	39	1	45	1525.070	ppb	1525.070	1.25	15455948	400000	
K	39	2	45	1149.260	ppb	1149.260	2.15	24400	400000	
Ca	40	1	45	16887.876	ppb	16887.876	0.89	120199832	400000	
Ca	44	2	45	18385.150	ppb	18385.150	1.29	21143	400000	
Ti	47	2	45	1267.514	ppb	1267.514	34.79	207	4000	
V	51	2	72	31.620	ppb	31.620	3.90	25973	2000	
Cr	52	2	72	32.592	ppb	32.592	4.00	35503	5000	
Mn	55	2	72	66.987	ppb	66.987	4.70	18160	10000	
Fe	57	2	72	1286.373	ppb	1286.373	3.57	23913	400000	
Co	59	2	72	31.048	ppb	31.048	2.99	76190	2000	
Ni	60	2	72	30.582	ppb	30.582	3.44	23373	5000	
Cu	63	2	72	39.184	ppb	39.184	1.40	89204	5000	
Zn	66	2	72	118.570	ppb	118.570	2.93	20709	5000	
As	75	2	72	34.368	ppb	34.368	6.18	3621	2000	
Se	78	1	72	32.323	ppb	32.323	2.07	18626	2000	
Sr	88	2	72	351.928	ppb	351.928	0.26	73910	4000	
Zr	90	2	72	4071.126	ppb	4071.126	3.84	30691	1000	
Nb	93	2	72	0.048	ppb	0.048	50.42	260	200	
Mo	95	2	115	37.963	ppb	37.963	4.86	33079	2000	
Pd	105	2	115	0.004	ppb	0.004	369.12	30	100	
Ag	107	2	115	31.118	ppb	31.118	1.36	110296	100	
Cd	111	2	115	31.519	ppb	31.519	8.37	8786	2000	
Sn	120	2	115	32.175	ppb	32.175	5.50	20456	2000	
Sb	121	2	115	33.368	ppb	33.368	2.52	18177	1000	
Ba	137	2	115	82.970	ppb	82.970	5.11	12308	5000	
W	182	2	165	30.746	ppb	30.746	1.35	209256	100	
Pt	195	2	165	-0.003	ppb	-0.003	-185.23	90	100	
Tl	205	2	165	31.243	ppb	31.243	1.61	273927	2000	
Pb	208	2	165	56.297	ppb	56.297	1.00	629416	5000	
Th	232	2	165	31.712	ppb	31.712	1.31	426155	2000	
U	238	2	165	128.702	ppb	128.702	0.78	2043556	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	952068	2.75	1160179	82.06	60	120	
Sc (IS)	45	1	HMI H2	47297713	0.16	51895621	91.14	60	120	
Sc (IS)	45	2	HMI He	414140	0.82	430930	96.10	60	120	
Sc (IS)	45	3	No Gas	125871308	0.25	158101278	79.61	60	120	
Ge Internal Standard	72	1	HMI H2	23346810	0.37	25033284	93.26	60	120	
Ge Internal Standard	72	2	HMI He	654491	1.00	674189	97.08	60	120	
In Internal Standard	115	2	HMI He	1579450	1.89	1572457	100.44	60	120	
Ho-165	165	2	HMI He	13317909	0.55	13678393	97.36	60	120	

Sample Report

Sample Table

Sample Name	280-90629-C-4-D MSD
Data File Name	136SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:48:46-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350944 200.8
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.629	ppb	32.629	23.88	133427	500000	
Li	7	2	45	33.615	ppb	33.615	33.96	6805	500000	
Li	7	3	45	14.823	ppb	14.823	16.05	6770677	50000	
Be	9	1	6	32.661	ppb	32.661	2.89	10183	2000	
B	11	1	6	-374.579	ppb	-374.579	-0.25	25154	2000	
Na	23	1	45	7468.671	ppb	7468.671	0.89	29994958	2000	
Na	23	2	45	7073.308	ppb	7073.308	1.78	898258	400000	
Mg	24	2	45	4108.233	ppb	4108.233	0.80	208328	400000	
Al	27	2	45	744.675	ppb	744.675	2.72	6825	400000	
K	39	1	45	1509.986	ppb	1509.986	1.27	15457731	400000	
K	39	2	45	1137.849	ppb	1137.849	1.00	24160	400000	
Ca	40	1	45	16818.624	ppb	16818.624	0.68	120210292	400000	
Ca	44	2	45	18175.830	ppb	18175.830	5.79	20859	400000	
Ti	47	2	45	1659.921	ppb	1659.921	42.37	270	4000	
V	51	2	72	31.694	ppb	31.694	3.33	26131	2000	
Cr	52	2	72	31.264	ppb	31.264	1.40	34207	5000	
Mn	55	2	72	62.608	ppb	62.608	0.73	17049	10000	
Fe	57	2	72	1247.844	ppb	1247.844	1.64	23296	400000	
Co	59	2	72	30.481	ppb	30.481	0.86	75108	2000	
Ni	60	2	72	30.357	ppb	30.357	2.56	23296	5000	
Cu	63	2	72	38.993	ppb	38.993	1.32	89134	5000	
Zn	66	2	72	116.205	ppb	116.205	2.60	20389	5000	
As	75	2	72	33.982	ppb	33.982	1.43	3594	2000	
Se	78	1	72	31.445	ppb	31.445	1.66	18207	2000	
Sr	88	2	72	348.973	ppb	348.973	0.65	73582	4000	
Zr	90	2	72	4135.035	ppb	4135.035	2.83	31296	1000	
Nb	93	2	72	0.068	ppb	0.068	26.84	327	200	
Mo	95	2	115	36.896	ppb	36.896	0.85	31877	2000	
Pd	105	2	115	0.008	ppb	0.008	217.10	37	100	
Ag	107	2	115	30.556	ppb	30.556	1.99	107338	100	
Cd	111	2	115	31.575	ppb	31.575	8.07	8729	2000	
Sn	120	2	115	30.585	ppb	30.585	1.58	19288	2000	
Sb	121	2	115	32.196	ppb	32.196	1.28	17380	1000	
Ba	137	2	115	79.879	ppb	79.879	5.09	11751	5000	
W	182	2	165	30.076	ppb	30.076	0.87	203087	100	
Pt	195	2	165	-0.005	ppb	-0.005	-101.85	77	100	
Tl	205	2	165	30.918	ppb	30.918	1.51	268926	2000	
Pb	208	2	165	56.284	ppb	56.284	0.74	624288	5000	
Th	232	2	165	31.379	ppb	31.379	1.63	418342	2000	
U	238	2	165	128.310	ppb	128.310	0.79	2021236	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	957528	1.01	1160179	82.53	60	120	
Sc (IS)	45	1	HMI H2	47498149	1.00	51895621	91.53	60	120	
Sc (IS)	45	2	HMI He	413373	1.17	430930	95.93	60	120	
Sc (IS)	45	3	No Gas	125543865	0.79	158101278	79.41	60	120	
Ge Internal Standard	72	1	HMI H2	23459104	0.57	25033284	93.71	60	120	
Ge Internal Standard	72	2	HMI He	657102	0.67	674189	97.47	60	120	
In Internal Standard	115	2	HMI He	1565299	1.09	1572457	99.54	60	120	
Ho-165	165	2	HMI He	13213324	1.39	13678393	96.60	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	137_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:52:33-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	442.546	ppb	0.934	283823	500	88.5	90	110	>+\-10%
Li	7	2	45	384.210	ppb	3.594	13966	500	76.8	90	110	>+\-10%
Li	7	3	45	409.167	ppb	1.525	14648344	500	81.8	90	110	>+\-10%
Be	9	1	6	50.974	ppb	2.152	15961	50	101.9	90	110	
B	11	1	6	-358.296	ppb	-0.179	30803	50	-716.6	90	110	>+\-10%
Na	23	1	45	4905.498	ppb	0.780	19705425	5000	98.1	90	110	
Na	23	2	45	4583.536	ppb	0.941	590022	5000	91.7	90	110	
Mg	24	2	45	4823.084	ppb	0.485	246758	5000	96.5	90	110	
Al	27	2	45	4895.633	ppb	0.865	45110	5000	97.9	90	110	
K	39	1	45	5250.782	ppb	0.377	31076640	5000	105.0	90	110	
K	39	2	45	5067.343	ppb	0.086	92793	5000	101.3	90	110	
Ca	40	1	45	5126.584	ppb	0.509	36629989	5000	102.5	90	110	
Ca	44	2	45	5079.582	ppb	8.713	5891	5000	101.6	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	48.573	ppb	0.869	40338	50	97.1	90	110	
Cr	52	2	72	48.112	ppb	3.815	52809	50	96.2	90	110	
Mn	55	2	72	50.477	ppb	7.956	13836	50	101.0	90	110	
Fe	57	2	72	4827.193	ppb	2.581	90532	5000	96.5	90	110	
Co	59	2	72	47.785	ppb	3.271	118437	50	95.6	90	110	
Ni	60	2	72	47.105	ppb	1.565	36355	50	94.2	90	110	
Cu	63	2	72	48.310	ppb	2.270	110686	50	96.6	90	110	
Zn	66	2	72	50.038	ppb	5.365	9019	50	100.1	90	110	
As	75	2	72	51.004	ppb	1.998	5424	50	102.0	90	110	
Se	78	1	72	49.335	ppb	2.236	28644	50	98.7	90	110	
Sr	88	2	72	51.277	ppb	7.926	10894	50	102.6	90	110	
Zr	90	2	72	178.629	ppb	16.327	1377	50	357.3	90	110	>+\-10%
Nb	93	2	72	96.426	ppb	1.009	313325	100	96.4	90	110	
Mo	95	2	115	48.371	ppb	0.881	41999	50	96.7	90	110	
Pd	105	2	115	49.814	ppb	3.148	83901	50	99.6	90	110	
Ag	107	2	115	48.533	ppb	3.634	171269	50	97.1	90	110	
Cd	111	2	115	50.640	ppb	5.071	14073	50	101.3	90	110	
Sn	120	2	115	49.231	ppb	0.258	31166	50	98.5	90	110	
Sb	121	2	115	50.572	ppb	4.154	27420	50	101.1	90	110	
Ba	137	2	115	52.243	ppb	10.179	7719	50	104.5	90	110	
W	182	2	165	49.443	ppb	1.609	336503	50	98.9	90	110	
Pt	195	2	165	47.778	ppb	0.269	350150	50	95.6	90	110	
Tl	205	2	165	49.542	ppb	1.317	434511	50	99.1	90	110	
Pb	208	2	165	50.509	ppb	0.924	565126	50	101.0	90	110	
Th	232	2	165	49.749	ppb	0.937	668950	50	99.5	90	110	
U	238	2	165	48.395	ppb	0.214	768950	50	96.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	961940	1.09	1160179	82.91	60	120	
Sc (IS)	45	1	HMI H2	47364794	0.58	51895621	91.27	60	120	
Sc (IS)	45	2	HMI He	417288	1.09	430930	96.83	60	120	
Sc (IS)	45	3	No Gas	125862378	1.16	158101278	79.61	60	120	
Ge Internal Standard	72	1	HMI H2	23541466	0.61	25033284	94.04	60	120	
Ge Internal Standard	72	2	HMI He	661076	1.26	674189	98.06	60	120	
In Internal Standard	115	2	HMI He	1573346	2.55	1572457	100.06	60	120	
Ho-165	165	2	HMI He	13326526	1.15	13678393	97.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	138_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T00:56:20-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-37.614	ppb	-7.2	5803940	10	
Be	9	1	6	0.021	ppb	173.2	7	0.5	
B	11	1	6	-403.355	ppb	-0.4	15824	0.5	
Na	23	1	45	-3.869	ppb	-20.8	156240	25	
Na	23	2	45	-3.525	ppb	-46.8	6278	25	
Mg	24	2	45	-8.457	ppb	-17.5	347	25	
Al	27	2	45	0.914	ppb	211.2	40	15	
K	39	1	45	98.647	ppb	31.0	9503193	50	>RL
K	39	2	45	-2.549	ppb	-360.7	4487	50	
Ca	40	1	45	-3.232	ppb	-5.8	105995	50	
Ca	44	2	45	9.055	ppb	93.8	20	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.035	ppb	-379.1	-107	1	
Cr	52	2	72	-0.086	ppb	-67.0	163	1	
Mn	55	2	72	0.017	ppb	347.5	43	0.5	
Fe	57	2	72	0.409	ppb	380.0	47	25	
Co	59	2	72	0.030	ppb	44.5	73	0.5	
Ni	60	2	72	0.175	ppb	20.7	160	1	
Cu	63	2	72	-0.125	ppb	-14.6	1377	1	
Zn	66	2	72	-0.918	ppb	-35.9	163	5	
As	75	2	72	0.013	ppb	289.3	5	1	
Se	78	1	72	0.004	ppb	1079.8	48	1	
Sr	88	2	72	0.017	ppb	817.6	17	0.5	
Zr	90	2	72	4.076	ppb	163.0	50	1	>RL
Nb	93	2	72	1.071	ppb	10.7	3574	2	
Mo	95	2	115	0.041	ppb	57.2	47	0.5	
Pd	105	2	115	0.055	ppb	36.9	117	1	
Ag	107	2	115	0.020	ppb	41.7	97	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.067	ppb	64.0	107	1	
Sb	121	2	115	0.098	ppb	48.9	60	0.6	
Ba	137	2	115	-0.093	ppb	0.0	0	0.5	
W	182	2	165	0.078	ppb	14.1	847	1	
Pt	195	2	165	0.007	ppb	100.4	163	1	
Tl	205	2	165	0.029	ppb	35.4	423	0.1	
Pb	208	2	165	0.006	ppb	147.2	980	0.5	
Th	232	2	165	0.077	ppb	7.1	1060	1	
U	238	2	165	0.039	ppb	21.5	647	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	982214	1.64	1160179	84.66	60	120	
Sc (IS)	45	1	HMI H2	47358768	1.66	51895621	91.26	60	120	
Sc (IS)	45	2	HMI He	412772	1.42	430930	95.79	60	120	
Sc (IS)	45	3	No Gas	127210608	1.11	158101278	80.46	60	120	
Ge Internal Standard	72	1	HMI H2	23763271	0.90	25033284	94.93	60	120	
Ge Internal Standard	72	2	HMI He	658525	0.90	674189	97.68	60	120	
In Internal Standard	115	2	HMI He	1586330	1.43	1572457	100.88	60	120	
Ho-165	165	2	HMI He	13364735	1.05	13678393	97.71	60	120	

Blank Report

Sample Table

Sample Name	MB 280-350915/1-A
Data File Name	139_BLK.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:00:07-07:00
Sample Type	Blank
Dilution	1
Comment	350915 6020
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-24.807	ppb	-11.20311858	112742	0.5
Li	7	2	45	-42.410	ppb	-19.47572615	5408	0.5
Li	7	3	45	-38.393	ppb	-8.829739396	5749615	10
Be	9	1	6	0.011	ppb	173.2050808	3	0.5
B	11	1	6	-402.529	ppb	-0.141057057	15914	0.5
Na	23	1	45	441.523	ppb	0.834188191	1943590	25
Na	23	2	45	401.349	ppb	1.889269596	58701	25
Mg	24	2	45	-7.404	ppb	-4.108433215	410	25
Al	27	2	45	5.805	ppb	29.75287959	87	15
K	39	1	45	-912.175	ppb	-1.195080999	5311483	50
K	39	2	45	-6.852	ppb	-55.50829891	4524	50
Ca	40	1	45	11.952	ppb	4.326728635	215653	50
Ca	44	2	45	37.062	ppb	57.51282905	53	25
Ti	47	2	45	19.942	ppb	173.2050808	3	0.5
V	51	2	72	0.487	ppb	37.63954506	330	1
Cr	52	2	72	9.483	ppb	3.284798185	10704	1
Mn	55	2	72	1.612	ppb	15.20291605	483	0.5
Fe	57	2	72	143.433	ppb	5.939029406	2750	25
Co	59	2	72	0.040	ppb	26.41239388	100	0.5
Ni	60	2	72	0.395	ppb	16.94214772	333	1
Cu	63	2	72	0.485	ppb	24.86203828	2780	1
Zn	66	2	72	-0.092	ppb	-120.1279913	310	5
As	75	2	72	0.043	ppb	106.7495725	8	1
Se	78	1	72	0.011	ppb	270.016458	52	1
Sr	88	2	72	0.094	ppb	75.4519264	33	0.5
Zr	90	2	72	0.921	ppb	295.6500202	27	1
Nb	93	2	72	0.617	ppb	2.048487233	2130	2
Mo	95	2	115	0.082	ppb	69.17875382	83	0.5
Pd	105	2	115	0.004	ppb	395.7329767	30	1
Ag	107	2	115	0.003	ppb	140.7883547	40	1
Cd	111	2	115	0.035	ppb	99.49269569	10	0.5
Sn	120	2	115	0.409	ppb	7.02276117	330	1
Sb	121	2	115	0.024	ppb	1.918609861	20	0.6
Ba	137	2	115	0.235	ppb	111.8291492	50	0.5
W	182	2	165	0.057	ppb	12.98214649	713	1
Pt	195	2	165	0.002	ppb	229.7040602	133	1
Tl	205	2	165	0.029	ppb	34.1522067	427	0.1
Pb	208	2	165	0.040	ppb	33.72869032	1383	0.5
Th	232	2	165	0.124	ppb	14.25184419	1710	1
U	238	2	165	0.028	ppb	21.19140997	480	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	969991	0.70	1160179	83.61	60	120	
Sc (IS)	45	1	HMI H2	47703831	0.47	51895621	91.92	60	120	
Sc (IS)	45	2	HMI He	423313	1.14	430930	98.23	60	120	
Sc (IS)	45	3	No Gas	126354588	0.15	158101278	79.92	60	120	
Ge Internal Standard	72	1	HMI H2	23741019	0.27	25033284	94.84	60	120	
Ge Internal Standard	72	2	HMI He	666436	0.21	674189	98.85	60	120	
In Internal Standard	115	2	HMI He	1614485	1.28	1572457	102.67	60	120	
Ho-165	165	2	HMI He	13529871	1.10	13678393	98.91	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	LCS 280-350915/2-A
Data File Name	140_LCS.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:03:55-07:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	350915 6020
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	45.129	45.129	ppb	4.810	140424	400	11.3	80	120	>+/-20%
Li	7	2	45	48.818	48.818	ppb	43.297	7325	400	12.2	80	120	>+/-20%
Li	7	3	45	26.103	26.103	ppb	7.176	7105204	400	6.5	80	120	>+/-20%
Be	9	1	6	42.564	42.564	ppb	4.725	13222	40	106.4	80	120	
Na	23	2	45	37.858	37.858	ppb	2.072	11851	40	94.6	80	120	
Mg	24	2	45	-11.166	-11.166	ppb	-6.291	217	40	-27.9	80	120	>+/-20%
Al	27	2	45	437.958	437.958	ppb	8.517	4147	40	1094.9	80	120	>+/-20%
K	39	2	45	1.493	1.493	ppb	852.198	4701	40	3.7	80	120	>+/-20%
Ca	44	2	45	231.574	231.574	ppb	24.777	283	40	578.9	80	120	>+/-20%
V	51	2	72	38.941	38.941	ppb	4.255	32740	40	97.4	80	120	
Cr	52	2	72	40.445	40.445	ppb	3.773	45011	40	101.1	80	120	
Mn	55	2	72	40.443	40.443	ppb	4.882	11234	40	101.1	80	120	
Fe	57	2	72	384.748	384.748	ppb	3.770	7345	40	961.9	80	120	>+/-20%
Co	59	2	72	40.325	40.325	ppb	0.943	101249	40	100.8	80	120	
Ni	60	2	72	39.555	39.555	ppb	0.931	30924	40	98.9	80	120	
Cu	63	2	72	39.566	39.566	ppb	0.858	92132	40	98.9	80	120	
Zn	66	2	72	41.819	41.819	ppb	4.327	7685	40	104.5	80	120	
As	75	2	72	41.407	41.407	ppb	1.017	4461	40	103.5	80	120	
Se	78	1	72	40.755	40.755	ppb	0.710	23780	40	101.9	80	120	
Nb	93	2	72	0.331	0.331	ppb	8.083	1197	40	0.8	80	120	>+/-20%
Mo	95	2	115	41.308	41.308	ppb	2.321	37137	40	103.3	80	120	
Pd	105	2	115	0.000	0.000	ppb	-5072.465	23	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.062	39.062	ppb	1.449	142773	40	97.7	80	120	
Cd	111	2	115	40.611	40.611	ppb	1.099	11684	40	101.5	80	120	
Sn	120	2	115	40.235	40.235	ppb	2.573	26375	40	100.6	80	120	
Sb	121	2	115	38.795	38.795	ppb	6.096	21795	40	97.0	80	120	
Ba	137	2	115	42.546	42.546	ppb	3.113	6518	40	106.4	80	120	
W	182	2	165	39.205	39.205	ppb	0.459	272934	40	98.0	80	120	
Pt	195	2	165	0.008	0.008	ppb	43.985	173	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.610	40.610	ppb	0.587	364269	40	101.5	80	120	
Pb	208	2	165	41.564	41.564	ppb	0.122	475715	40	103.9	80	120	
Th	232	2	165	40.478	40.478	ppb	0.377	556604	40	101.2	80	120	
U	238	2	165	39.859	39.859	ppb	0.295	647604	40	99.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	954388	0.68	1160179	82.26	60	120	
Sc (IS)	45	1	HMI H2	48315616	0.54	51895621	93.10	60	120	
Sc (IS)	45	2	HMI He	425855	0.57	430930	98.82	60	120	
Sc (IS)	45	3	No Gas	127514315	0.95	158101278	80.65	60	120	
Ge Internal Standard	72	1	HMI H2	23654130	1.03	25033284	94.49	60	120	
Ge Internal Standard	72	2	HMI He	669539	0.62	674189	99.31	60	120	
In Internal Standard	115	2	HMI He	1628650	1.05	1572457	103.57	60	120	
Ho-165	165	2	HMI He	13626787	0.08	13678393	99.62	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-1-B
Data File Name	141SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:07:43-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.330	ppb	-25.330	-18.68	109905	500000	
Li	7	2	45	-48.210	ppb	-48.210	-42.99	5298	500000	
Li	7	3	45	-32.140	ppb	-32.140	-3.35	5833926	50000	
Be	9	1	6	0.047	ppb	0.047	114.62	13	2000	
B	11	1	6	295.871	ppb	295.871	3.20	226305	2000	
Na	23	1	45	417051.561	ppb	417051.561	0.90	1633518802	2000	>LDR
Na	23	2	45	377978.705	ppb	377978.705	0.79	48869673	400000	
Mg	24	2	45	1047.328	ppb	1047.328	2.58	55060	400000	
Al	27	2	45	4.713	ppb	4.713	13.69	77	400000	
K	39	1	45	2290.109	ppb	2290.109	0.68	18374465	400000	
K	39	2	45	2911.283	ppb	2911.283	1.39	56141	400000	
Ca	40	1	45	3678.017	ppb	3678.017	0.30	25885102	400000	
Ca	44	2	45	5576.586	ppb	5576.586	3.07	6571	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.815	ppb	0.815	69.79	601	2000	
Cr	52	2	72	12.116	ppb	12.116	1.11	13542	5000	
Mn	55	2	72	24.160	ppb	24.160	6.01	6668	10000	
Fe	57	2	72	494.100	ppb	494.100	2.69	9336	400000	
Co	59	2	72	0.086	ppb	0.086	12.41	213	2000	
Ni	60	2	72	1.129	ppb	1.129	4.63	900	5000	
Cu	63	2	72	0.650	ppb	0.650	25.64	3144	5000	
Zn	66	2	72	7.699	ppb	7.699	4.07	1667	5000	
As	75	2	72	0.105	ppb	0.105	79.63	15	2000	
Se	78	1	72	0.032	ppb	0.032	67.06	61	2000	
Sr	88	2	72	355.812	ppb	355.812	0.92	75753	4000	
Zr	90	2	72	163.075	ppb	163.075	27.68	1263	1000	
Nb	93	2	72	0.294	ppb	0.294	4.59	1067	200	
Mo	95	2	115	2.274	ppb	2.274	14.39	1977	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-663.44	20	100	
Ag	107	2	115	0.009	ppb	0.009	107.95	60	100	
Cd	111	2	115	0.036	ppb	0.036	100.95	10	2000	
Sn	120	2	115	0.346	ppb	0.346	8.57	280	2000	
Sb	121	2	115	0.280	ppb	0.280	55.79	157	1000	
Ba	137	2	115	24.186	ppb	24.186	9.88	3564	5000	
W	182	2	165	0.556	ppb	0.556	6.51	4114	100	
Pt	195	2	165	-0.006	ppb	-0.006	-64.91	67	100	
Tl	205	2	165	0.038	ppb	0.038	23.56	507	2000	
Pb	208	2	165	0.344	ppb	0.344	2.95	4774	5000	
Th	232	2	165	0.288	ppb	0.288	15.75	3911	2000	
U	238	2	165	0.026	ppb	0.026	2.38	440	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	860725	0.64	1160179	74.19	60	120	
Sc (IS)	45	1	HMI H2	46587366	1.04	51895621	89.77	60	120	
Sc (IS)	45	2	HMI He	423926	0.36	430930	98.37	60	120	
Sc (IS)	45	3	No Gas	125475415	0.45	158101278	79.36	60	120	
Ge Internal Standard	72	1	HMI H2	22637680	0.42	25033284	90.43	60	120	
Ge Internal Standard	72	2	HMI He	663459	0.63	674189	98.41	60	120	
In Internal Standard	115	2	HMI He	1564848	1.45	1572457	99.52	60	120	
Ho-165	165	2	HMI He	13385870	0.17	13678393	97.86	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-2-B
Data File Name	142SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:11:36-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.555	ppb	-25.555	-16.59	111260	500000	
Li	7	2	45	-65.530	ppb	-65.530	-12.47	5084	500000	
Li	7	3	45	-29.654	ppb	-29.654	-8.35	5976334	50000	
Be	9	1	6	0.071	ppb	0.071	86.60	20	2000	
B	11	1	6	314.539	ppb	314.539	0.95	234008	2000	
Na	23	1	45	463167.907	ppb	463167.907	0.99	1837537253	2000	>LDR
Na	23	2	45	409853.902	ppb	409853.902	0.98	54518394	400000	
Mg	24	2	45	1314.846	ppb	1314.846	2.45	70904	400000	
Al	27	2	45	0.663	ppb	0.663	309.31	40	400000	
K	39	1	45	2653.396	ppb	2653.396	0.58	20127053	400000	
K	39	2	45	3243.522	ppb	3243.522	0.44	63800	400000	
Ca	40	1	45	4433.101	ppb	4433.101	0.05	31574758	400000	
Ca	44	2	45	7129.848	ppb	7129.848	4.78	8642	400000	
Ti	47	2	45	19.551	ppb	19.551	173.21	3	4000	
V	51	2	72	0.598	ppb	0.598	80.00	422	2000	
Cr	52	2	72	6.187	ppb	6.187	6.51	7078	5000	
Mn	55	2	72	12.160	ppb	12.160	1.46	3394	10000	
Fe	57	2	72	467.145	ppb	467.145	7.32	8886	400000	
Co	59	2	72	0.040	ppb	0.040	36.64	100	2000	
Ni	60	2	72	0.454	ppb	0.454	12.74	380	5000	
Cu	63	2	72	0.864	ppb	0.864	8.17	3647	5000	
Zn	66	2	72	12.270	ppb	12.270	7.95	2477	5000	
As	75	2	72	0.117	ppb	0.117	25.36	16	2000	
Se	78	1	72	0.017	ppb	0.017	33.01	53	2000	
Sr	88	2	72	459.770	ppb	459.770	0.61	98444	4000	
Zr	90	2	72	44.370	ppb	44.370	11.63	360	1000	
Nb	93	2	72	0.136	ppb	0.136	11.30	553	200	
Mo	95	2	115	1.777	ppb	1.777	3.93	1563	2000	
Pd	105	2	115	0.002	ppb	0.002	310.37	27	100	
Ag	107	2	115	0.004	ppb	0.004	237.92	40	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.236	ppb	0.236	38.06	213	2000	
Sb	121	2	115	0.117	ppb	0.117	29.42	70	1000	
Ba	137	2	115	33.030	ppb	33.030	6.36	4931	5000	
W	182	2	165	0.415	ppb	0.415	5.66	3150	100	
Pt	195	2	165	0.001	ppb	0.001	220.11	123	100	
Tl	205	2	165	0.014	ppb	0.014	68.72	290	2000	
Pb	208	2	165	0.089	ppb	0.089	5.77	1917	5000	
Th	232	2	165	0.070	ppb	0.070	19.01	970	2000	
U	238	2	165	0.015	ppb	0.015	9.93	267	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	868252	0.44	1160179	74.84	60	120	
Sc (IS)	45	1	HMI H2	47188204	0.78	51895621	90.93	60	120	
Sc (IS)	45	2	HMI He	436126	0.63	430930	101.21	60	120	
Sc (IS)	45	3	No Gas	127458801	0.13	158101278	80.62	60	120	
Ge Internal Standard	72	1	HMI H2	22802216	1.75	25033284	91.09	60	120	
Ge Internal Standard	72	2	HMI He	667258	1.48	674189	98.97	60	120	
In Internal Standard	115	2	HMI He	1584833	2.18	1572457	100.79	60	120	
Ho-165	165	2	HMI He	13381334	1.12	13678393	97.83	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-2-Bsd@5
Data File Name	143SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:15:26-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-29.448	ppb	-29.448	-17.68	112960	500000	
Li	7	2	45	-47.141	ppb	-47.141	-26.45	5484	500000	
Li	7	3	45	-35.217	ppb	-35.217	-4.92	6104174	50000	
Be	9	1	6	0.011	ppb	0.011	173.21	3	2000	
B	11	1	6	-253.736	ppb	-253.736	-1.81	66099	2000	
Na	23	1	45	95197.865	ppb	95197.865	0.11	388641394	2000	>LDR
Na	23	2	45	84901.430	ppb	84901.430	1.71	11320831	400000	
Mg	24	2	45	266.783	ppb	266.783	1.32	15067	400000	
Al	27	2	45	0.319	ppb	0.319	192.02	37	400000	
K	39	1	45	596.795	ppb	596.795	2.99	11878192	400000	
K	39	2	45	662.007	ppb	662.007	5.51	16862	400000	
Ca	40	1	45	904.696	ppb	904.696	0.53	6733101	400000	
Ca	44	2	45	1448.473	ppb	1448.473	6.43	1767	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.046	ppb	-0.046	-194.36	-119	2000	
Cr	52	2	72	-0.026	ppb	-0.026	-133.82	237	5000	
Mn	55	2	72	1.842	ppb	1.842	4.69	560	10000	
Fe	57	2	72	71.481	ppb	71.481	7.42	1423	400000	
Co	59	2	72	0.010	ppb	0.010	77.93	27	2000	
Ni	60	2	72	0.067	ppb	0.067	67.98	80	5000	
Cu	63	2	72	0.005	ppb	0.005	100.61	1730	5000	
Zn	66	2	72	1.467	ppb	1.467	26.21	597	5000	
As	75	2	72	0.036	ppb	0.036	101.40	8	2000	
Se	78	1	72	-0.007	ppb	-0.007	-667.10	41	2000	
Sr	88	2	72	91.568	ppb	91.568	1.47	20056	4000	
Zr	90	2	72	4.657	ppb	4.657	68.66	57	1000	
Nb	93	2	72	0.036	ppb	0.036	21.85	230	200	
Mo	95	2	115	0.410	ppb	0.410	15.04	380	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-212.91	17	100	
Ag	107	2	115	0.001	ppb	0.001	526.32	30	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.124	ppb	0.124	40.24	147	2000	
Sb	121	2	115	0.071	ppb	0.071	28.53	47	1000	
Ba	137	2	115	6.370	ppb	6.370	8.62	993	5000	
W	182	2	165	0.072	ppb	0.072	6.90	820	100	
Pt	195	2	165	-0.004	ppb	-0.004	-47.08	83	100	
Tl	205	2	165	0.007	ppb	0.007	121.23	230	2000	
Pb	208	2	165	0.015	ppb	0.015	83.07	1100	5000	
Th	232	2	165	0.013	ppb	0.013	11.97	197	2000	
U	238	2	165	0.004	ppb	0.004	54.68	90	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	959128	1.10	1160179	82.67	60	120	
Sc (IS)	45	1	HMI H2	48537871	0.58	51895621	93.53	60	120	
Sc (IS)	45	2	HMI He	436991	0.82	430930	101.41	60	120	
Sc (IS)	45	3	No Gas	132680528	0.64	158101278	83.92	60	120	
Ge Internal Standard	72	1	HMI H2	23708433	0.64	25033284	94.71	60	120	
Ge Internal Standard	72	2	HMI He	682234	0.40	674189	101.19	60	120	
In Internal Standard	115	2	HMI He	1635808	1.57	1572457	104.03	60	120	
Ho-165	165	2	HMI He	13552571	0.25	13678393	99.08	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-2-C MS
Data File Name	144SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:19:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	43.172	ppb	43.172	14.56	136390	500000	
Li	7	2	45	0.618	ppb	0.618	1275.23	6471	500000	
Li	7	3	45	41.871	ppb	41.871	2.52	7390287	50000	
Be	9	1	6	45.716	ppb	45.716	4.21	12725	2000	
B	11	1	6	370.847	ppb	370.847	4.40	247363	2000	
Na	23	1	45	481157.591	ppb	481157.591	1.00	1908444398	2000	>LDR
Na	23	2	45	426051.759	ppb	426051.759	0.05	56578132	400000	
Mg	24	2	45	1362.405	ppb	1362.405	0.88	73321	400000	
Al	27	2	45	421.986	ppb	421.986	3.26	4087	400000	
K	39	1	45	2784.678	ppb	2784.678	0.76	20668208	400000	
K	39	2	45	3342.945	ppb	3342.945	0.62	65502	400000	
Ca	40	1	45	4594.360	ppb	4594.360	0.26	32708903	400000	
Ca	44	2	45	7371.495	ppb	7371.495	3.82	8919	400000	
Ti	47	2	45	194.354	ppb	194.354	62.19	33	4000	
V	51	2	72	38.827	ppb	38.827	2.19	32612	2000	
Cr	52	2	72	38.409	ppb	38.409	0.36	42725	5000	
Mn	55	2	72	51.192	ppb	51.192	2.55	14199	10000	
Fe	57	2	72	775.696	ppb	775.696	2.66	14757	400000	
Co	59	2	72	38.725	ppb	38.725	1.19	97155	2000	
Ni	60	2	72	36.780	ppb	36.780	1.11	28734	5000	
Cu	63	2	72	37.409	ppb	37.409	1.46	87133	5000	
Zn	66	2	72	52.479	ppb	52.479	2.07	9553	5000	
As	75	2	72	41.719	ppb	41.719	3.56	4491	2000	
Se	78	1	72	38.615	ppb	38.615	0.69	21658	2000	
Sr	88	2	72	521.028	ppb	521.028	0.72	111844	4000	
Zr	90	2	72	5310.062	ppb	5310.062	2.66	40913	1000	>LDR
Nb	93	2	72	0.100	ppb	0.100	17.75	437	200	
Mo	95	2	115	42.103	ppb	42.103	2.46	37561	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-58.92	13	100	
Ag	107	2	115	36.298	ppb	36.298	0.61	131688	100	
Cd	111	2	115	39.479	ppb	39.479	4.84	11278	2000	
Sn	120	2	115	39.170	ppb	39.170	2.81	25490	2000	
Sb	121	2	115	42.436	ppb	42.436	2.59	23657	1000	
Ba	137	2	115	72.173	ppb	72.173	2.85	10967	5000	
W	182	2	165	38.508	ppb	38.508	1.40	262785	100	
Pt	195	2	165	0.000	ppb	0.000	691.81	117	100	
Tl	205	2	165	37.987	ppb	37.987	0.67	334028	2000	
Pb	208	2	165	39.394	ppb	39.394	1.43	442007	5000	
Th	232	2	165	39.792	ppb	39.792	0.57	536374	2000	
U	238	2	165	39.021	ppb	39.021	0.67	621480	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	854844	0.60	1160179	73.68	60	120	
Sc (IS)	45	1	HMI H2	47174269	0.14	51895621	90.90	60	120	
Sc (IS)	45	2	HMI He	435415	0.54	430930	101.04	60	120	
Sc (IS)	45	3	No Gas	126945568	0.38	158101278	80.29	60	120	
Ge Internal Standard	72	1	HMI H2	22733326	0.69	25033284	90.81	60	120	
Ge Internal Standard	72	2	HMI He	669024	0.68	674189	99.23	60	120	
In Internal Standard	115	2	HMI He	1616451	0.87	1572457	102.80	60	120	
Ho-165	165	2	HMI He	13358433	1.04	13678393	97.66	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-2-D MSD
Data File Name	145SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:23:03-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	40.278	ppb	40.278	8.41	134840	500000	
Li	7	2	45	-6.055	ppb	-6.055	-221.61	6371	500000	
Li	7	3	45	40.231	ppb	40.231	0.52	7313244	50000	
Be	9	1	6	43.836	ppb	43.836	2.23	12345	2000	
B	11	1	6	371.524	ppb	371.524	5.74	250517	2000	
Na	23	1	45	482708.136	ppb	482708.136	1.93	1907411385	2000	>LDR
Na	23	2	45	425127.689	ppb	425127.689	1.73	56826932	400000	
Mg	24	2	45	1406.070	ppb	1406.070	2.78	76128	400000	
Al	27	2	45	427.614	ppb	427.614	3.08	4171	400000	
K	39	1	45	2829.090	ppb	2829.090	1.84	20776118	400000	
K	39	2	45	3355.798	ppb	3355.798	1.37	66181	400000	
Ca	40	1	45	4623.209	ppb	4623.209	1.04	32791498	400000	
Ca	44	2	45	7613.803	ppb	7613.803	2.57	9276	400000	
Ti	47	2	45	96.935	ppb	96.935	90.96	17	4000	
V	51	2	72	38.873	ppb	38.873	1.15	32948	2000	
Cr	52	2	72	46.100	ppb	46.100	2.36	51689	5000	
Mn	55	2	72	52.351	ppb	52.351	2.16	14650	10000	
Fe	57	2	72	807.512	ppb	807.512	2.49	15501	400000	
Co	59	2	72	38.217	ppb	38.217	1.23	96752	2000	
Ni	60	2	72	37.978	ppb	37.978	2.41	29936	5000	
Cu	63	2	72	37.519	ppb	37.519	0.25	88175	5000	
Zn	66	2	72	54.314	ppb	54.314	1.71	9967	5000	
As	75	2	72	42.496	ppb	42.496	1.44	4616	2000	
Se	78	1	72	38.349	ppb	38.349	1.45	21272	2000	
Sr	88	2	72	526.288	ppb	526.288	0.66	113997	4000	
Zr	90	2	72	5341.667	ppb	5341.667	2.42	41517	1000	>LDR
Nb	93	2	72	0.092	ppb	0.092	19.98	417	200	
Mo	95	2	115	43.246	ppb	43.246	1.31	38527	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-81.27	17	100	
Ag	107	2	115	36.437	ppb	36.437	3.04	131970	100	
Cd	111	2	115	41.644	ppb	41.644	4.88	11868	2000	
Sn	120	2	115	40.355	ppb	40.355	0.84	26228	2000	
Sb	121	2	115	41.653	ppb	41.653	1.82	23183	1000	
Ba	137	2	115	76.439	ppb	76.439	5.35	11588	5000	
W	182	2	165	38.067	ppb	38.067	1.33	261338	100	
Pt	195	2	165	-0.002	ppb	-0.002	-226.99	97	100	
Tl	205	2	165	38.226	ppb	38.226	0.83	338119	2000	
Pb	208	2	165	39.420	ppb	39.420	0.54	444961	5000	
Th	232	2	165	40.001	ppb	40.001	0.63	542408	2000	
U	238	2	165	39.088	ppb	39.088	0.61	626261	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	865113	1.03	1160179	74.57	60	120	
Sc (IS)	45	1	HMI H2	47001099	0.66	51895621	90.57	60	120	
Sc (IS)	45	2	HMI He	438335	1.71	430930	101.72	60	120	
Sc (IS)	45	3	No Gas	126184571	0.51	158101278	79.81	60	120	
Ge Internal Standard	72	1	HMI H2	22484305	0.57	25033284	89.82	60	120	
Ge Internal Standard	72	2	HMI He	675060	0.94	674189	100.13	60	120	
In Internal Standard	115	2	HMI He	1614338	2.42	1572457	102.66	60	120	
Ho-165	165	2	HMI He	13437519	0.41	13678393	98.24	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-2-Bpds
Data File Name	146SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:26:54-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-25.478	ppb	-25.478	-9.19	110680	500000	
Li	7	2	45	-46.031	ppb	-46.031	-19.59	5508	500000	
Li	7	3	45	-31.536	ppb	-31.536	-9.61	5854545	50000	
Be	9	1	6	223.562	ppb	223.562	0.41	62499	2000	
B	11	1	6	302.716	ppb	302.716	0.95	227854	2000	
Na	23	1	45	453029.188	ppb	453029.188	0.20	1787659120	2000	>LDR
Na	23	2	45	398616.773	ppb	398616.773	0.59	53129533	400000	
Mg	24	2	45	1309.934	ppb	1309.934	0.22	70787	400000	
Al	27	2	45	2001.201	ppb	2001.201	0.68	19331	400000	
K	39	1	45	2630.857	ppb	2630.857	0.78	19923799	400000	
K	39	2	45	3163.868	ppb	3163.868	3.31	62472	400000	
Ca	40	1	45	4373.274	ppb	4373.274	0.37	30981747	400000	
Ca	44	2	45	6956.023	ppb	6956.023	4.74	8449	400000	
Ti	47	2	45	931.465	ppb	931.465	45.12	160	4000	
V	51	2	72	195.788	ppb	195.788	2.12	164920	2000	
Cr	52	2	72	192.820	ppb	192.820	0.22	213629	5000	
Mn	55	2	72	210.538	ppb	210.538	1.29	58329	10000	
Fe	57	2	72	2321.799	ppb	2321.799	1.52	44132	400000	
Co	59	2	72	189.051	ppb	189.051	0.39	474747	2000	
Ni	60	2	72	183.140	ppb	183.140	0.64	143103	5000	
Cu	63	2	72	184.972	ppb	184.972	0.59	424587	5000	
Zn	66	2	72	213.079	ppb	213.079	2.99	37824	5000	
As	75	2	72	201.665	ppb	201.665	0.79	21714	2000	
Se	78	1	72	190.124	ppb	190.124	0.79	105970	2000	
Sr	88	2	72	452.047	ppb	452.047	1.27	97127	4000	
Zr	90	2	72	27027.554	ppb	27027.554	0.41	208323	1000	>LDR
Nb	93	2	72	0.811	ppb	0.811	12.69	2777	200	
Mo	95	2	115	194.816	ppb	194.816	2.08	174828	2000	
Pd	105	2	115	0.023	ppb	0.023	29.93	63	100	
Ag	107	2	115	36.373	ppb	36.373	1.33	132773	100	
Cd	111	2	115	193.790	ppb	193.790	2.58	55675	2000	
Sn	120	2	115	197.072	ppb	197.072	0.52	128785	2000	
Sb	121	2	115	200.255	ppb	200.255	1.85	112282	1000	
Ba	137	2	115	238.012	ppb	238.012	2.80	36347	5000	
W	182	2	165	187.861	ppb	187.861	0.46	1285144	100	
Pt	195	2	165	0.070	ppb	0.070	8.82	627	100	
Tl	205	2	165	190.383	ppb	190.383	0.66	1679046	2000	
Pb	208	2	165	193.193	ppb	193.193	0.85	2171388	5000	
Th	232	2	165	0.679	ppb	0.679	6.73	9203	2000	
U	238	2	165	187.470	ppb	187.470	1.87	2995503	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	858737	0.67	1160179	74.02	60	120	
Sc (IS)	45	1	HMI H2	46932368	0.53	51895621	90.44	60	120	
Sc (IS)	45	2	HMI He	437022	0.56	430930	101.41	60	120	
Sc (IS)	45	3	No Gas	125653618	0.90	158101278	79.48	60	120	
Ge Internal Standard	72	1	HMI H2	22629190	0.69	25033284	90.40	60	120	
Ge Internal Standard	72	2	HMI He	669631	0.52	674189	99.32	60	120	
In Internal Standard	115	2	HMI He	1626524	1.39	1572457	103.44	60	120	
Ho-165	165	2	HMI He	13402745	0.62	13678393	97.98	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-3-B
Data File Name	147SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:30:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-30.414	ppb	-30.414	-17.35	109899	500000	
Li	7	2	45	-54.057	ppb	-54.057	-9.51	5378	500000	
Li	7	3	45	-31.440	ppb	-31.440	-9.54	5854636	50000	
Be	9	1	6	0.118	ppb	0.118	33.69	33	2000	
B	11	1	6	279.534	ppb	279.534	6.37	222704	2000	
Na	23	1	45	440261.366	ppb	440261.366	0.85	1753479174	2000	>LDR
Na	23	2	45	388321.397	ppb	388321.397	1.06	52153104	400000	
Mg	24	2	45	1015.740	ppb	1015.740	0.63	55495	400000	
Al	27	2	45	51.336	ppb	51.336	17.67	533	400000	
K	39	1	45	2842.874	ppb	2842.874	1.04	20998008	400000	
K	39	2	45	3456.563	ppb	3456.563	3.35	68325	400000	
Ca	40	1	45	3943.468	ppb	3943.468	0.60	28209959	400000	
Ca	44	2	45	6169.775	ppb	6169.775	0.92	7552	400000	
Ti	47	2	45	77.145	ppb	77.145	43.82	13	4000	
V	51	2	72	0.280	ppb	0.280	74.13	159	2000	
Cr	52	2	72	0.270	ppb	0.270	10.08	567	5000	
Mn	55	2	72	8.762	ppb	8.762	5.99	2494	10000	
Fe	57	2	72	361.195	ppb	361.195	6.78	6978	400000	
Co	59	2	72	0.092	ppb	0.092	2.01	233	2000	
Ni	60	2	72	0.105	ppb	0.105	31.13	110	5000	
Cu	63	2	72	0.066	ppb	0.066	92.46	1857	5000	
Zn	66	2	72	16.421	ppb	16.421	1.94	3254	5000	
As	75	2	72	0.342	ppb	0.342	13.65	41	2000	
Se	78	1	72	0.124	ppb	0.124	33.92	113	2000	
Sr	88	2	72	394.579	ppb	394.579	0.41	85744	4000	
Zr	90	2	72	36.775	ppb	36.775	29.13	307	1000	
Nb	93	2	72	0.009	ppb	0.009	240.50	140	200	
Mo	95	2	115	2.762	ppb	2.762	5.67	2457	2000	
Pd	105	2	115	-0.002	ppb	-0.002	-549.37	20	100	
Ag	107	2	115	0.011	ppb	0.011	52.30	67	100	
Cd	111	2	115	0.095	ppb	0.095	94.88	27	2000	
Sn	120	2	115	0.325	ppb	0.325	40.19	273	2000	
Sb	121	2	115	0.096	ppb	0.096	67.01	60	1000	
Ba	137	2	115	31.922	ppb	31.922	6.85	4824	5000	
W	182	2	165	0.403	ppb	0.403	10.89	3067	100	
Pt	195	2	165	-0.003	ppb	-0.003	-73.99	90	100	
Tl	205	2	165	0.067	ppb	0.067	9.77	757	2000	
Pb	208	2	165	0.140	ppb	0.140	17.14	2490	5000	
Th	232	2	165	0.038	ppb	0.038	9.32	540	2000	
U	238	2	165	0.076	ppb	0.076	4.06	1247	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	866353	2.36	1160179	74.67	60	120	
Sc (IS)	45	1	HMI H2	47371758	0.79	51895621	91.28	60	120	
Sc (IS)	45	2	HMI He	440388	1.12	430930	102.19	60	120	
Sc (IS)	45	3	No Gas	125621058	0.54	158101278	79.46	60	120	
Ge Internal Standard	72	1	HMI H2	22787397	0.52	25033284	91.03	60	120	
Ge Internal Standard	72	2	HMI He	677220	0.46	674189	100.45	60	120	
In Internal Standard	115	2	HMI He	1605631	1.13	1572457	102.11	60	120	
Ho-165	165	2	HMI He	13391597	0.46	13678393	97.90	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	148_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:34:34-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	427.820	ppb	1.395	288199	500	85.6	90	110	>+\-10%
Li	7	2	45	347.965	ppb	3.827	14043	500	69.6	90	110	>+\-10%
Li	7	3	45	404.076	ppb	0.861	15045904	500	80.8	90	110	>+\-10%
Be	9	1	6	52.137	ppb	2.729	16474	50	104.3	90	110	
B	11	1	6	-336.500	ppb	-0.391	38541	50	-673.0	90	110	>+\-10%
Na	23	1	45	5355.836	ppb	0.403	22255554	5000	107.1	90	110	
Na	23	2	45	4901.320	ppb	0.635	669080	5000	98.0	90	110	
Mg	24	2	45	4848.706	ppb	0.805	263252	5000	97.0	90	110	
Al	27	2	45	5089.481	ppb	1.780	49765	5000	101.8	90	110	
K	39	1	45	5387.037	ppb	0.842	32761291	5000	107.7	90	110	
K	39	2	45	5190.839	ppb	1.252	100749	5000	103.8	90	110	
Ca	40	1	45	5202.803	ppb	1.705	38480384	5000	104.1	90	110	
Ca	44	2	45	4876.513	ppb	4.067	6005	5000	97.5	90	110	
Ti	47	2	45	57.908	ppb	100.219	10	50	115.8	90	110	>+\-10%
V	51	2	72	49.250	ppb	1.049	42954	50	98.5	90	110	
Cr	52	2	72	47.670	ppb	0.863	54965	50	95.3	90	110	
Mn	55	2	72	49.137	ppb	7.330	14146	50	98.3	90	110	
Fe	57	2	72	4878.275	ppb	0.816	96098	5000	97.6	90	110	
Co	59	2	72	47.498	ppb	1.406	123663	50	95.0	90	110	
Ni	60	2	72	47.134	ppb	1.856	38205	50	94.3	90	110	
Cu	63	2	72	47.311	ppb	0.427	113900	50	94.6	90	110	
Zn	66	2	72	49.289	ppb	2.140	9333	50	98.6	90	110	
As	75	2	72	49.661	ppb	1.331	5547	50	99.3	90	110	
Se	78	1	72	49.368	ppb	1.337	29346	50	98.7	90	110	
Sr	88	2	72	53.602	ppb	2.039	11955	50	107.2	90	110	
Zr	90	2	72	59.666	ppb	32.566	497	50	119.3	90	110	>+\-10%
Nb	93	2	72	96.397	ppb	0.943	328988	100	96.4	90	110	
Mo	95	2	115	46.107	ppb	1.407	42814	50	92.2	90	110	
Pd	105	2	115	47.819	ppb	1.543	86165	50	95.6	90	110	
Ag	107	2	115	46.933	ppb	1.130	177201	50	93.9	90	110	
Cd	111	2	115	50.463	ppb	3.407	14997	50	100.9	90	110	
Sn	120	2	115	48.917	ppb	2.249	33116	50	97.8	90	110	
Sb	121	2	115	52.585	ppb	2.109	30505	50	105.2	90	110	
Ba	137	2	115	51.055	ppb	10.870	8076	50	102.1	90	110	
W	182	2	165	48.050	ppb	1.336	340460	50	96.1	90	110	
Pt	195	2	165	46.730	ppb	0.291	356549	50	93.5	90	110	
Tl	205	2	165	48.716	ppb	1.513	444820	50	97.4	90	110	
Pb	208	2	165	49.596	ppb	1.762	577670	50	99.2	90	110	
Th	232	2	165	49.255	ppb	1.713	689466	50	98.5	90	110	
U	238	2	165	48.181	ppb	2.251	796841	50	96.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	970453	0.92	1160179	83.65	60	120	
Sc (IS)	45	1	HMI H2	49033058	0.54	51895621	94.48	60	120	
Sc (IS)	45	2	HMI He	442846	1.20	430930	102.77	60	120	
Sc (IS)	45	3	No Gas	130175178	0.97	158101278	82.34	60	120	
Ge Internal Standard	72	1	HMI H2	24105763	0.48	25033284	96.29	60	120	
Ge Internal Standard	72	2	HMI He	694304	0.56	674189	102.98	60	120	
In Internal Standard	115	2	HMI He	1682357	0.68	1572457	106.99	60	120	
Ho-165	165	2	HMI He	13874007	1.36	13678393	101.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	149_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:38:21-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-41.084	ppb	-7.0	5990947	10	
Be	9	1	6	0.000	ppb	#DIV/0!	0	0.5	
B	11	1	6	-399.252	ppb	-0.3	17422	0.5	
Na	23	1	45	245.768	ppb	0.6	1194667	25	>RL
Na	23	2	45	225.303	ppb	3.4	37820	25	>RL
Mg	24	2	45	-9.686	ppb	-6.5	307	25	
Al	27	2	45	0.262	ppb	1847.2	37	15	
K	39	1	45	130.739	ppb	13.3	10011593	50	>RL
K	39	2	45	1.318	ppb	1304.0	4908	50	
Ca	40	1	45	-5.154	ppb	-6.6	95887	50	
Ca	44	2	45	23.988	ppb	66.6	40	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.171	ppb	51.8	69	1	
Cr	52	2	72	-0.017	ppb	-126.2	253	1	
Mn	55	2	72	-0.120	ppb	-33.5	7	0.5	
Fe	57	2	72	1.785	ppb	161.8	77	25	
Co	59	2	72	0.033	ppb	40.7	87	0.5	
Ni	60	2	72	0.158	ppb	31.7	157	1	
Cu	63	2	72	-0.088	ppb	-90.2	1550	1	
Zn	66	2	72	-0.844	ppb	-43.7	187	5	
As	75	2	72	0.092	ppb	29.9	14	1	
Se	78	1	72	0.025	ppb	40.8	61	1	
Sr	88	2	72	0.088	ppb	212.5	33	0.5	
Zr	90	2	72	2.400	ppb	101.9	40	1	>RL
Nb	93	2	72	1.098	ppb	6.7	3887	2	
Mo	95	2	115	0.030	ppb	124.3	40	0.5	
Pd	105	2	115	0.021	ppb	61.9	63	1	
Ag	107	2	115	0.011	ppb	63.9	70	1	
Cd	111	2	115	0.011	ppb	173.2	3	0.5	
Sn	120	2	115	0.143	ppb	25.4	167	1	
Sb	121	2	115	0.141	ppb	25.4	90	0.6	
Ba	137	2	115	-0.051	ppb	-142.3	7	0.5	
W	182	2	165	0.073	ppb	7.9	850	1	
Pt	195	2	165	0.004	ppb	231.2	147	1	
Tl	205	2	165	0.050	ppb	17.5	630	0.1	
Pb	208	2	165	0.026	ppb	22.0	1260	0.5	
Th	232	2	165	0.070	ppb	5.8	1000	1	
U	238	2	165	0.030	ppb	15.8	520	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	992075	2.04	1160179	85.51	60	120	
Sc (IS)	45	1	HMI H2	49190251	0.42	51895621	94.79	60	120	
Sc (IS)	45	2	HMI He	445046	0.73	430930	103.28	60	120	
Sc (IS)	45	3	No Gas	132902041	0.47	158101278	84.06	60	120	
Ge Internal Standard	72	1	HMI H2	24291865	0.21	25033284	97.04	60	120	
Ge Internal Standard	72	2	HMI He	699105	0.80	674189	103.70	60	120	
In Internal Standard	115	2	HMI He	1708590	1.21	1572457	108.66	60	120	
Ho-165	165	2	HMI He	13922751	0.63	13678393	101.79	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-4-B
Data File Name	150SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:42:08-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-29.430	ppb	-29.430	-10.08	108657	500000	
Li	7	2	45	-46.504	ppb	-46.504	-41.39	5504	500000	
Li	7	3	45	-32.116	ppb	-32.116	-6.72	5725952	50000	
Be	9	1	6	0.048	ppb	0.048	114.54	13	2000	
B	11	1	6	377.547	ppb	377.547	2.76	249508	2000	
Na	23	1	45	517136.765	ppb	517136.765	0.83	2029779170	2000	>LDR
Na	23	2	45	453109.263	ppb	453109.263	1.69	60491354	400000	
Mg	24	2	45	1494.363	ppb	1494.363	0.82	80775	400000	
Al	27	2	45	12.051	ppb	12.051	15.39	150	400000	
K	39	1	45	3190.245	ppb	3190.245	1.00	22126683	400000	
K	39	2	45	3696.272	ppb	3696.272	1.18	72302	400000	
Ca	40	1	45	4366.233	ppb	4366.233	0.49	30767524	400000	
Ca	44	2	45	7479.328	ppb	7479.328	3.73	9096	400000	
Ti	47	2	45	38.922	ppb	38.922	86.61	7	4000	
V	51	2	72	0.163	ppb	0.163	36.51	60	2000	
Cr	52	2	72	0.109	ppb	0.109	72.99	387	5000	
Mn	55	2	72	5.420	ppb	5.420	6.74	1560	10000	
Fe	57	2	72	104.452	ppb	104.452	14.08	2050	400000	
Co	59	2	72	0.030	ppb	0.030	59.15	77	2000	
Ni	60	2	72	0.033	ppb	0.033	185.83	53	5000	
Cu	63	2	72	-0.169	ppb	-0.169	-59.23	1317	5000	
Zn	66	2	72	13.324	ppb	13.324	5.80	2707	5000	
As	75	2	72	0.060	ppb	0.060	18.08	10	2000	
Se	78	1	72	-0.006	ppb	-0.006	-212.54	40	2000	
Sr	88	2	72	531.155	ppb	531.155	0.50	115621	4000	
Zr	90	2	72	2.999	ppb	2.999	99.68	43	1000	
Nb	93	2	72	0.830	ppb	0.830	19.16	2877	200	
Mo	95	2	115	1.545	ppb	1.545	11.38	1393	2000	
Pd	105	2	115	0.002	ppb	0.002	182.99	27	100	
Ag	107	2	115	0.002	ppb	0.002	279.55	33	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.100	ppb	0.100	15.46	130	2000	
Sb	121	2	115	0.102	ppb	0.102	97.10	63	1000	
Ba	137	2	115	36.111	ppb	36.111	2.77	5511	5000	
W	182	2	165	0.375	ppb	0.375	6.48	2920	100	
Pt	195	2	165	0.001	ppb	0.001	804.08	120	100	
Tl	205	2	165	0.034	ppb	0.034	35.08	473	2000	
Pb	208	2	165	0.013	ppb	0.013	30.65	1073	5000	
Th	232	2	165	0.155	ppb	0.155	15.18	2140	2000	
U	238	2	165	0.015	ppb	0.015	6.71	263	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	855208	0.28	1160179	73.71	60	120	
Sc (IS)	45	1	HMI H2	46683188	0.02	51895621	89.96	60	120	
Sc (IS)	45	2	HMI He	437760	1.13	430930	101.59	60	120	
Sc (IS)	45	3	No Gas	123143375	0.21	158101278	77.89	60	120	
Ge Internal Standard	72	1	HMI H2	22633234	0.99	25033284	90.41	60	120	
Ge Internal Standard	72	2	HMI He	678411	0.45	674189	100.63	60	120	
In Internal Standard	115	2	HMI He	1621659	0.38	1572457	103.13	60	120	
Ho-165	165	2	HMI He	13583594	0.47	13678393	99.31	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-5-B
Data File Name	151SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:45:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.603	ppb	157.603	3.40	180317	500000	
Li	7	2	45	118.061	ppb	118.061	8.32	9169	500000	
Li	7	3	45	156.384	ppb	156.384	1.53	9384143	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	153.615	ppb	153.615	2.99	187348	2000	
Na	23	1	45	355702.445	ppb	355702.445	0.64	1426821419	2000	>LDR
Na	23	2	45	311874.002	ppb	311874.002	0.73	42424048	400000	
Mg	24	2	45	-7.632	ppb	-7.632	-28.95	420	400000	
Al	27	2	45	38.103	ppb	38.103	43.09	410	400000	
K	39	1	45	6487.756	ppb	6487.756	0.43	36518455	400000	
K	39	2	45	6935.959	ppb	6935.959	1.57	133947	400000	
Ca	40	1	45	42488.997	ppb	42488.997	1.10	304833762	400000	
Ca	44	2	45	147430.306	ppb	147430.306	1.09	182525	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.403	ppb	0.403	29.63	268	2000	
Cr	52	2	72	2.211	ppb	2.211	9.92	2777	5000	
Mn	55	2	72	5.233	ppb	5.233	6.77	1527	10000	
Fe	57	2	72	319.249	ppb	319.249	4.11	6258	400000	
Co	59	2	72	0.303	ppb	0.303	18.56	780	2000	
Ni	60	2	72	16.107	ppb	16.107	1.01	12932	5000	
Cu	63	2	72	1.692	ppb	1.692	4.93	5698	5000	
Zn	66	2	72	0.504	ppb	0.504	85.42	427	5000	
As	75	2	72	1.676	ppb	1.676	15.19	189	2000	
Se	78	1	72	0.041	ppb	0.041	29.38	67	2000	
Sr	88	2	72	16502.376	ppb	16502.376	0.89	3635999	4000	
Zr	90	2	72	27.816	ppb	27.816	9.70	240	1000	
Nb	93	2	72	0.329	ppb	0.329	10.79	1223	200	
Mo	95	2	115	4.940	ppb	4.940	10.35	4534	2000	
Pd	105	2	115	0.017	ppb	0.017	71.77	53	100	
Ag	107	2	115	0.050	ppb	0.050	34.20	213	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.190	ppb	0.190	25.02	193	2000	
Sb	121	2	115	1.882	ppb	1.882	8.19	1083	1000	
Ba	137	2	115	774.383	ppb	774.383	1.14	120582	5000	
W	182	2	165	0.718	ppb	0.718	5.45	5384	100	
Pt	195	2	165	0.001	ppb	0.001	1049.05	123	100	
Tl	205	2	165	0.019	ppb	0.019	37.79	343	2000	
Pb	208	2	165	0.726	ppb	0.726	2.38	9341	5000	
Th	232	2	165	0.044	ppb	0.044	10.00	630	2000	
U	238	2	165	0.015	ppb	0.015	24.90	267	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	880826	1.50	1160179	75.92	60	120	
Sc (IS)	45	1	HMI H2	47708528	0.70	51895621	91.93	60	120	
Sc (IS)	45	2	HMI He	445999	0.91	430930	103.50	60	120	
Sc (IS)	45	3	No Gas	122906735	0.71	158101278	77.74	60	120	
Ge Internal Standard	72	1	HMI H2	22834921	1.09	25033284	91.22	60	120	
Ge Internal Standard	72	2	HMI He	686739	0.65	674189	101.86	60	120	
In Internal Standard	115	2	HMI He	1658538	0.65	1572457	105.47	60	120	
Ho-165	165	2	HMI He	13799430	0.54	13678393	100.88	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-6-B
Data File Name	152SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:49:50-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-26.001	ppb	-26.001	-9.72	110620	500000	
Li	7	2	45	-62.380	ppb	-62.380	-31.58	5231	500000	
Li	7	3	45	-32.990	ppb	-32.990	-3.93	5588018	50000	
Be	9	1	6	0.036	ppb	0.036	100.87	10	2000	
B	11	1	6	304.167	ppb	304.167	4.63	228587	2000	
Na	23	1	45	459308.020	ppb	459308.020	1.21	1814564133	2000	>LDR
Na	23	2	45	401514.946	ppb	401514.946	0.71	54275286	400000	
Mg	24	2	45	1049.205	ppb	1049.205	2.47	57661	400000	
Al	27	2	45	45.939	ppb	45.939	15.66	483	400000	
K	39	1	45	3060.756	ppb	3060.756	1.48	21733256	400000	
K	39	2	45	3495.919	ppb	3495.919	1.64	69510	400000	
Ca	40	1	45	4157.279	ppb	4157.279	0.47	29493416	400000	
Ca	44	2	45	6424.200	ppb	6424.200	2.48	7915	400000	
Ti	47	2	45	94.931	ppb	94.931	91.58	17	4000	
V	51	2	72	0.320	ppb	0.320	41.60	195	2000	
Cr	52	2	72	0.226	ppb	0.226	61.85	520	5000	
Mn	55	2	72	9.103	ppb	9.103	2.28	2597	10000	
Fe	57	2	72	434.338	ppb	434.338	0.92	8409	400000	
Co	59	2	72	0.077	ppb	0.077	46.99	197	2000	
Ni	60	2	72	0.151	ppb	0.151	25.62	147	5000	
Cu	63	2	72	0.077	ppb	0.077	159.70	1890	5000	
Zn	66	2	72	20.374	ppb	20.374	4.99	3971	5000	
As	75	2	72	0.257	ppb	0.257	14.92	32	2000	
Se	78	1	72	0.009	ppb	0.009	423.63	48	2000	
Sr	88	2	72	416.023	ppb	416.023	1.62	90696	4000	
Zr	90	2	72	18.713	ppb	18.713	44.81	167	1000	
Nb	93	2	72	0.207	ppb	0.207	13.61	803	200	
Mo	95	2	115	2.626	ppb	2.626	3.69	2394	2000	
Pd	105	2	115	-0.014	ppb	-0.014	0.00	0	100	
Ag	107	2	115	0.000	ppb	0.000	-1449.91	27	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.137	ppb	0.137	44.65	157	2000	
Sb	121	2	115	0.065	ppb	0.065	57.41	43	1000	
Ba	137	2	115	31.372	ppb	31.372	2.61	4858	5000	
W	182	2	165	0.372	ppb	0.372	2.86	2900	100	
Pt	195	2	165	0.001	ppb	0.001	578.63	123	100	
Tl	205	2	165	0.013	ppb	0.013	31.50	287	2000	
Pb	208	2	165	0.100	ppb	0.100	26.60	2073	5000	
Th	232	2	165	0.055	ppb	0.055	9.23	773	2000	
U	238	2	165	0.018	ppb	0.018	26.47	327	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	859962	1.51	1160179	74.12	60	120	
Sc (IS)	45	1	HMI H2	46988933	0.48	51895621	90.55	60	120	
Sc (IS)	45	2	HMI He	443241	1.32	430930	102.86	60	120	
Sc (IS)	45	3	No Gas	120534895	0.90	158101278	76.24	60	120	
Ge Internal Standard	72	1	HMI H2	22562925	0.34	25033284	90.13	60	120	
Ge Internal Standard	72	2	HMI He	679370	0.82	674189	100.77	60	120	
In Internal Standard	115	2	HMI He	1644281	0.94	1572457	104.57	60	120	
Ho-165	165	2	HMI He	13595027	1.10	13678393	99.39	60	120	

Sample Report

Sample Table

Sample Name	280-90397-A-7-B
Data File Name	153SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:53:41-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-31.639	ppb	-31.639	-6.47	112689	500000	
Li	7	2	45	-54.583	ppb	-54.583	-24.85	5524	500000	
Li	7	3	45	-42.608	ppb	-42.608	-3.37	5537733	50000	
Be	9	1	6	0.011	ppb	0.011	173.21	3	2000	
B	11	1	6	-385.541	ppb	-385.541	-0.27	21613	2000	
Na	23	1	45	493.105	ppb	493.105	3.71	2198442	2000	
Na	23	2	45	383.371	ppb	383.371	2.89	60353	400000	
Mg	24	2	45	-10.633	ppb	-10.633	-3.22	260	400000	
Al	27	2	45	3.849	ppb	3.849	15.12	73	400000	
K	39	1	45	-915.310	ppb	-915.310	-1.10	5417053	400000	
K	39	2	45	5.206	ppb	5.206	186.80	5071	400000	
Ca	40	1	45	29.524	ppb	29.524	0.89	349344	400000	
Ca	44	2	45	52.685	ppb	52.685	68.63	77	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.128	ppb	0.128	103.81	31	2000	
Cr	52	2	72	0.326	ppb	0.326	17.01	660	5000	
Mn	55	2	72	0.130	ppb	0.130	2.22	80	10000	
Fe	57	2	72	7.355	ppb	7.355	41.93	190	400000	
Co	59	2	72	0.014	ppb	0.014	83.91	37	2000	
Ni	60	2	72	0.042	ppb	0.042	106.78	63	5000	
Cu	63	2	72	0.063	ppb	0.063	83.32	1940	5000	
Zn	66	2	72	1.298	ppb	1.298	20.51	590	5000	
As	75	2	72	0.039	ppb	0.039	200.57	8	2000	
Se	78	1	72	-0.010	ppb	-0.010	-270.20	40	2000	
Sr	88	2	72	1.462	ppb	1.462	23.43	347	4000	
Zr	90	2	72	3.148	ppb	3.148	59.37	47	1000	
Nb	93	2	72	0.052	ppb	0.052	44.18	297	200	
Mo	95	2	115	0.037	ppb	0.037	90.25	47	2000	
Pd	105	2	115	0.005	ppb	0.005	346.28	33	100	
Ag	107	2	115	0.001	ppb	0.001	900.07	33	100	
Cd	111	2	115	0.022	ppb	0.022	173.21	7	2000	
Sn	120	2	115	0.045	ppb	0.045	131.15	100	2000	
Sb	121	2	115	0.010	ppb	0.010	243.71	13	1000	
Ba	137	2	115	0.194	ppb	0.194	78.49	47	5000	
W	182	2	165	0.026	ppb	0.026	82.36	520	100	
Pt	195	2	165	-0.002	ppb	-0.002	-255.86	103	100	
Tl	205	2	165	0.010	ppb	0.010	7.96	273	2000	
Pb	208	2	165	0.075	ppb	0.075	9.55	1850	5000	
Th	232	2	165	0.010	ppb	0.010	29.99	160	2000	
U	238	2	165	0.007	ppb	0.007	46.83	137	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	964658	0.94	1160179	83.15	60	120	
Sc (IS)	45	1	HMI H2	48776574	0.86	51895621	93.99	60	120	
Sc (IS)	45	2	HMI He	453180	0.73	430930	105.16	60	120	
Sc (IS)	45	3	No Gas	123513001	1.01	158101278	78.12	60	120	
Ge Internal Standard	72	1	HMI H2	23965298	0.26	25033284	95.73	60	120	
Ge Internal Standard	72	2	HMI He	710101	1.06	674189	105.33	60	120	
In Internal Standard	115	2	HMI He	1721900	1.25	1572457	109.50	60	120	
Ho-165	165	2	HMI He	14055599	0.68	13678393	102.76	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-1-D
Data File Name	154SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T01:57:28-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.810	ppb	-33.810	-11.20	112289	500000	
Li	7	2	45	-65.319	ppb	-65.319	-16.12	5301	500000	
Li	7	3	45	-44.338	ppb	-44.338	-5.43	5444109	50000	
Be	9	1	6	0.043	ppb	0.043	173.21	13	2000	
B	11	1	6	-385.479	ppb	-385.479	-0.40	21206	2000	
Na	23	1	45	5831.875	ppb	5831.875	0.19	24182166	2000	
Na	23	2	45	5270.789	ppb	5270.789	0.24	737767	400000	
Mg	24	2	45	935.335	ppb	935.335	2.79	52794	400000	
Al	27	2	45	86.007	ppb	86.007	19.33	897	400000	
K	39	1	45	-325.889	ppb	-325.889	-2.34	7988568	400000	
K	39	2	45	600.174	ppb	600.174	5.44	16361	400000	
Ca	40	1	45	851.741	ppb	851.741	0.45	6402101	400000	
Ca	44	2	45	855.948	ppb	855.948	14.01	1090	400000	
Ti	47	2	45	222.436	ppb	222.436	131.78	40	4000	
V	51	2	72	1.999	ppb	1.999	68.18	1695	2000	
Cr	52	2	72	36.698	ppb	36.698	1.01	43240	5000	
Mn	55	2	72	18.730	ppb	18.730	3.74	5528	10000	
Fe	57	2	72	718.495	ppb	718.495	4.47	14480	400000	
Co	59	2	72	0.351	ppb	0.351	24.25	933	2000	
Ni	60	2	72	1.333	ppb	1.333	9.53	1130	5000	
Cu	63	2	72	3.291	ppb	3.291	4.40	9743	5000	
Zn	66	2	72	1.629	ppb	1.629	16.98	650	5000	
As	75	2	72	0.073	ppb	0.073	49.78	12	2000	
Se	78	1	72	0.153	ppb	0.153	14.10	137	2000	
Sr	88	2	72	10.293	ppb	10.293	2.16	2354	4000	
Zr	90	2	72	17.090	ppb	17.090	112.36	160	1000	
Nb	93	2	72	0.124	ppb	0.124	20.77	547	200	
Mo	95	2	115	0.271	ppb	0.271	38.40	273	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-26.26	3	100	
Ag	107	2	115	-0.001	ppb	-0.001	-845.15	27	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.089	ppb	0.089	32.89	133	2000	
Sb	121	2	115	0.027	ppb	0.027	71.39	23	1000	
Ba	137	2	115	23.549	ppb	23.549	5.68	3887	5000	
W	182	2	165	0.028	ppb	0.028	7.90	540	100	
Pt	195	2	165	-0.003	ppb	-0.003	-147.38	100	100	
Tl	205	2	165	0.018	ppb	0.018	62.42	350	2000	
Pb	208	2	165	0.114	ppb	0.114	34.49	2320	5000	
Th	232	2	165	0.027	ppb	0.027	29.59	410	2000	
U	238	2	165	0.025	ppb	0.025	15.55	447	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	945783	1.46	1160179	81.52	60	120	
Sc (IS)	45	1	HMI H2	48960208	0.26	51895621	94.34	60	120	
Sc (IS)	45	2	HMI He	454404	0.85	430930	105.45	60	120	
Sc (IS)	45	3	No Gas	122172895	0.96	158101278	77.28	60	120	
Ge Internal Standard	72	1	HMI H2	24136846	0.58	25033284	96.42	60	120	
Ge Internal Standard	72	2	HMI He	708476	0.58	674189	105.09	60	120	
In Internal Standard	115	2	HMI He	1751526	0.17	1572457	111.39	60	120	
Ho-165	165	2	HMI He	14149321	0.34	13678393	103.44	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-2-B
Data File Name	155SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:01:14-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.941	ppb	-33.941	-11.11	112243	500000	
Li	7	2	45	-59.483	ppb	-59.483	-50.93	5461	500000	
Li	7	3	45	-44.499	ppb	-44.499	-5.91	5452059	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-396.084	ppb	-396.084	-0.42	17909	2000	
Na	23	1	45	1000.124	ppb	1000.124	1.43	4294106	2000	
Na	23	2	45	896.224	ppb	896.224	0.95	132329	400000	
Mg	24	2	45	440.983	ppb	440.983	3.75	25485	400000	
Al	27	2	45	35.523	ppb	35.523	44.64	393	400000	
K	39	1	45	-702.393	ppb	-702.393	-1.70	6359285	400000	
K	39	2	45	226.712	ppb	226.712	10.80	9336	400000	
Ca	40	1	45	834.031	ppb	834.031	1.22	6271829	400000	
Ca	44	2	45	882.640	ppb	882.640	2.53	1130	400000	
Ti	47	2	45	148.580	ppb	148.580	57.37	27	4000	
V	51	2	72	0.067	ppb	0.067	234.22	-24	2000	
Cr	52	2	72	0.035	ppb	0.035	168.28	320	5000	
Mn	55	2	72	2.523	ppb	2.523	19.36	787	10000	
Fe	57	2	72	9.098	ppb	9.098	43.71	227	400000	
Co	59	2	72	0.101	ppb	0.101	19.51	270	2000	
Ni	60	2	72	0.110	ppb	0.110	37.50	120	5000	
Cu	63	2	72	-0.093	ppb	-0.093	-53.11	1570	5000	
Zn	66	2	72	1.229	ppb	1.229	53.67	580	5000	
As	75	2	72	0.095	ppb	0.095	55.27	15	2000	
Se	78	1	72	0.285	ppb	0.285	23.74	216	2000	
Sr	88	2	72	5.207	ppb	5.207	8.92	1207	4000	
Zr	90	2	72	3.119	ppb	3.119	44.72	47	1000	
Nb	93	2	72	0.031	ppb	0.031	29.92	223	200	
Mo	95	2	115	0.040	ppb	0.040	113.31	50	2000	
Pd	105	2	115	0.001	ppb	0.001	814.58	27	100	
Ag	107	2	115	-0.006	ppb	-0.006	-49.93	7	100	
Cd	111	2	115	0.011	ppb	0.011	173.21	3	2000	
Sn	120	2	115	0.076	ppb	0.076	40.77	123	2000	
Sb	121	2	115	0.044	ppb	0.044	44.79	33	1000	
Ba	137	2	115	10.187	ppb	10.187	9.48	1683	5000	
W	182	2	165	0.022	ppb	0.022	41.45	497	100	
Pt	195	2	165	-0.007	ppb	-0.007	-70.72	63	100	
Tl	205	2	165	0.002	ppb	0.002	111.01	197	2000	
Pb	208	2	165	0.065	ppb	0.065	8.90	1737	5000	
Th	232	2	165	0.014	ppb	0.014	6.08	227	2000	
U	238	2	165	0.010	ppb	0.010	31.89	203	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	958690	0.63	1160179	82.63	60	120	
Sc (IS)	45	1	HMI H2	48962039	0.43	51895621	94.35	60	120	
Sc (IS)	45	2	HMI He	456955	0.17	430930	106.04	60	120	
Sc (IS)	45	3	No Gas	122421355	0.79	158101278	77.43	60	120	
Ge Internal Standard	72	1	HMI H2	24144075	0.28	25033284	96.45	60	120	
Ge Internal Standard	72	2	HMI He	713896	0.23	674189	105.89	60	120	
In Internal Standard	115	2	HMI He	1744782	0.82	1572457	110.96	60	120	
Ho-165	165	2	HMI He	14132309	1.34	13678393	103.32	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-3-B
Data File Name	156SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:05:01-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.324	ppb	-33.324	-21.28	111374	500000	
Li	7	2	45	-62.298	ppb	-62.298	-6.54	5328	500000	
Li	7	3	45	-48.314	ppb	-48.314	-7.10	5407593	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-264.434	ppb	-264.434	-1.40	62472	2000	
Na	23	1	45	2611.720	ppb	2611.720	0.28	10821093	2000	
Na	23	2	45	2344.347	ppb	2344.347	0.87	329733	400000	
Mg	24	2	45	2764.570	ppb	2764.570	0.83	153218	400000	
Al	27	2	45	418.498	ppb	418.498	13.79	4201	400000	
K	39	1	45	1511.113	ppb	1511.113	1.45	15783362	400000	
K	39	2	45	2329.435	ppb	2329.435	2.50	48776	400000	
Ca	40	1	45	27667.776	ppb	27667.776	0.71	201776070	400000	
Ca	44	2	45	25796.151	ppb	25796.151	3.15	32300	400000	
Ti	47	2	45	356.975	ppb	356.975	55.04	63	4000	
V	51	2	72	0.369	ppb	0.369	53.29	246	2000	
Cr	52	2	72	0.250	ppb	0.250	44.99	570	5000	
Mn	55	2	72	22.032	ppb	22.032	6.15	6498	10000	
Fe	57	2	72	43.175	ppb	43.175	4.55	910	400000	
Co	59	2	72	0.033	ppb	0.033	18.06	87	2000	
Ni	60	2	72	0.220	ppb	0.220	24.42	210	5000	
Cu	63	2	72	0.104	ppb	0.104	86.19	2037	5000	
Zn	66	2	72	0.463	ppb	0.463	106.43	433	5000	
As	75	2	72	0.136	ppb	0.136	58.50	20	2000	
Se	78	1	72	0.048	ppb	0.048	43.67	75	2000	
Sr	88	2	72	98.215	ppb	98.215	2.69	22355	4000	
Zr	90	2	72	29.706	ppb	29.706	11.44	263	1000	
Nb	93	2	72	0.038	ppb	0.038	9.11	247	200	
Mo	95	2	115	0.090	ppb	0.090	32.96	97	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-675.81	20	100	
Ag	107	2	115	-0.003	ppb	-0.003	-116.07	17	100	
Cd	111	2	115	0.011	ppb	0.011	173.21	3	2000	
Sn	120	2	115	0.006	ppb	0.006	730.79	73	2000	
Sb	121	2	115	0.028	ppb	0.028	95.35	23	1000	
Ba	137	2	115	16.405	ppb	16.405	7.05	2670	5000	
W	182	2	165	0.015	ppb	0.015	143.56	447	100	
Pt	195	2	165	-0.008	ppb	-0.008	-36.60	57	100	
Tl	205	2	165	0.022	ppb	0.022	69.95	387	2000	
Pb	208	2	165	0.083	ppb	0.083	6.45	1953	5000	
Th	232	2	165	0.055	ppb	0.055	8.40	810	2000	
U	238	2	165	0.018	ppb	0.018	5.01	323	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	959009	1.28	1160179	82.66	60	120	
Sc (IS)	45	1	HMI H2	48483343	0.62	51895621	93.42	60	120	
Sc (IS)	45	2	HMI He	450965	0.61	430930	104.65	60	120	
Sc (IS)	45	3	No Gas	123087655	0.34	158101278	77.85	60	120	
Ge Internal Standard	72	1	HMI H2	24088576	0.29	25033284	96.23	60	120	
Ge Internal Standard	72	2	HMI He	708934	0.63	674189	105.15	60	120	
In Internal Standard	115	2	HMI He	1723360	1.28	1572457	109.60	60	120	
Ho-165	165	2	HMI He	14135755	0.63	13678393	103.34	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-4-B
Data File Name	157SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:08:47-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-47.587	ppb	-47.587	-7.08	103366	500000	
Li	7	2	45	-73.334	ppb	-73.334	-4.49	4944	500000	
Li	7	3	45	-52.256	ppb	-52.256	-3.05	5217197	50000	
Be	9	1	6	0.048	ppb	0.048	173.21	13	2000	
B	11	1	6	2937.527	ppb	2937.527	0.29	1025752	2000	
Na	23	1	45	109287.354	ppb	109287.354	0.12	434520794	2000	>LDR
Na	23	2	45	96280.972	ppb	96280.972	0.63	12878225	400000	
Mg	24	2	45	31917.424	ppb	31917.424	1.79	1710825	400000	
Al	27	2	45	9.645	ppb	9.645	72.70	127	400000	
K	39	1	45	45568.939	ppb	45568.939	0.77	199495757	400000	
K	39	2	45	45121.545	ppb	45121.545	1.07	830050	400000	
Ca	40	1	45	179761.757	ppb	179761.757	0.35	1277591901	400000	
Ca	44	2	45	174568.885	ppb	174568.885	1.15	212426	400000	
Ti	47	2	45	39.063	ppb	39.063	173.21	7	4000	
V	51	2	72	0.632	ppb	0.632	37.46	460	2000	
Cr	52	2	72	2.002	ppb	2.002	11.88	2514	5000	
Mn	55	2	72	1021.593	ppb	1021.593	0.42	287302	10000	
Fe	57	2	72	33047.243	ppb	33047.243	0.64	637462	400000	
Co	59	2	72	0.357	ppb	0.357	8.91	910	2000	
Ni	60	2	72	1.038	ppb	1.038	5.47	850	5000	
Cu	63	2	72	-0.034	ppb	-0.034	-79.57	1633	5000	
Zn	66	2	72	0.373	ppb	0.373	127.29	400	5000	
As	75	2	72	5.908	ppb	5.908	3.33	650	2000	
Se	78	1	72	0.302	ppb	0.302	24.09	215	2000	
Sr	88	2	72	1237.571	ppb	1237.571	0.95	270028	4000	
Zr	90	2	72	80.540	ppb	80.540	19.91	650	1000	
Nb	93	2	72	0.014	ppb	0.014	84.77	157	200	
Mo	95	2	115	0.294	ppb	0.294	38.72	277	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-55.11	13	100	
Ag	107	2	115	-0.001	ppb	-0.001	-116.56	23	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.128	ppb	0.128	81.33	150	2000	
Sb	121	2	115	0.024	ppb	0.024	76.65	20	1000	
Ba	137	2	115	216.464	ppb	216.464	0.81	33221	5000	
W	182	2	165	0.023	ppb	0.023	23.44	483	100	
Pt	195	2	165	0.000	ppb	0.000	-40670.01	117	100	
Tl	205	2	165	-0.001	ppb	-0.001	-894.59	167	2000	
Pb	208	2	165	0.022	ppb	0.022	124.21	1187	5000	
Th	232	2	165	0.033	ppb	0.033	25.37	480	2000	
U	238	2	165	0.499	ppb	0.499	7.02	8166	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	858111	0.29	1160179	73.96	60	120	
Sc (IS)	45	1	HMI H2	47274014	0.41	51895621	91.09	60	120	
Sc (IS)	45	2	HMI He	438391	0.83	430930	101.73	60	120	
Sc (IS)	45	3	No Gas	120468198	0.62	158101278	76.20	60	120	
Ge Internal Standard	72	1	HMI H2	22989237	0.49	25033284	91.83	60	120	
Ge Internal Standard	72	2	HMI He	680109	1.21	674189	100.88	60	120	
In Internal Standard	115	2	HMI He	1634130	1.30	1572457	103.92	60	120	
Ho-165	165	2	HMI He	13695511	1.02	13678393	100.13	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	158_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:12:37-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	422.322	ppb	1.192	279343	500	84.5	90	110	>+\-10%
Li	7	2	45	339.382	ppb	4.888	13609	500	67.9	90	110	>+\-10%
Li	7	3	45	401.806	ppb	2.505	14484999	500	80.4	90	110	>+\-10%
Be	9	1	6	51.163	ppb	1.982	15751	50	102.3	90	110	
B	11	1	6	-286.068	ppb	-1.513	54390	50	-572.1	90	110	>+\-10%
Na	23	1	45	5134.707	ppb	0.351	20839214	5000	102.7	90	110	
Na	23	2	45	4664.640	ppb	0.434	625763	5000	93.3	90	110	
Mg	24	2	45	4778.344	ppb	0.431	254822	5000	95.6	90	110	
Al	27	2	45	4981.221	ppb	2.493	47837	5000	99.6	90	110	
K	39	1	45	5309.217	ppb	1.264	31656418	5000	106.2	90	110	
K	39	2	45	5069.702	ppb	0.919	96760	5000	101.4	90	110	
Ca	40	1	45	5217.871	ppb	0.272	37680568	5000	104.4	90	110	
Ca	44	2	45	5183.699	ppb	6.223	6268	5000	103.7	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	47.938	ppb	2.260	41174	50	95.9	90	110	
Cr	52	2	72	47.218	ppb	1.511	53621	50	94.4	90	110	
Mn	55	2	72	50.222	ppb	2.637	14243	50	100.4	90	110	
Fe	57	2	72	4829.736	ppb	2.008	93709	5000	96.6	90	110	
Co	59	2	72	46.861	ppb	1.212	120176	50	93.7	90	110	
Ni	60	2	72	46.201	ppb	1.621	36892	50	92.4	90	110	
Cu	63	2	72	46.455	ppb	1.310	110184	50	92.9	90	110	
Zn	66	2	72	50.093	ppb	6.110	9339	50	100.2	90	110	
As	75	2	72	49.575	ppb	1.663	5454	50	99.1	90	110	
Se	78	1	72	50.116	ppb	1.526	29196	50	100.2	90	110	
Sr	88	2	72	55.994	ppb	4.463	12295	50	112.0	90	110	>+\-10%
Zr	90	2	72	31.414	ppb	41.886	267	50	62.8	90	110	>+\-10%
Nb	93	2	72	95.928	ppb	0.756	322466	100	95.9	90	110	
Mo	95	2	115	47.047	ppb	1.067	42961	50	94.1	90	110	
Pd	105	2	115	48.294	ppb	0.244	85579	50	96.6	90	110	
Ag	107	2	115	46.716	ppb	1.579	173447	50	93.4	90	110	
Cd	111	2	115	48.853	ppb	1.748	14280	50	97.7	90	110	
Sn	120	2	115	49.574	ppb	1.424	33003	50	99.1	90	110	
Sb	121	2	115	50.393	ppb	4.673	28742	50	100.8	90	110	
Ba	137	2	115	52.243	ppb	2.371	8129	50	104.5	90	110	
W	182	2	165	48.121	ppb	0.683	335886	50	96.2	90	110	
Pt	195	2	165	46.793	ppb	1.696	351659	50	93.6	90	110	
Tl	205	2	165	48.834	ppb	1.015	439244	50	97.7	90	110	
Pb	208	2	165	49.514	ppb	1.162	568141	50	99.0	90	110	
Th	232	2	165	49.333	ppb	0.750	680286	50	98.7	90	110	
U	238	2	165	47.791	ppb	0.775	778678	50	95.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	945602	1.25	1160179	81.50	60	120	
Sc (IS)	45	1	HMI H2	47873268	0.70	51895621	92.25	60	120	
Sc (IS)	45	2	HMI He	434933	0.12	430930	100.93	60	120	
Sc (IS)	45	3	No Gas	125717598	0.76	158101278	79.52	60	120	
Ge Internal Standard	72	1	HMI H2	23625237	0.33	25033284	94.38	60	120	
Ge Internal Standard	72	2	HMI He	683861	1.07	674189	101.43	60	120	
In Internal Standard	115	2	HMI He	1654403	0.87	1572457	105.21	60	120	
Ho-165	165	2	HMI He	13665635	0.08	13678393	99.91	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	159_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:16:25-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-37.819	ppb	-3.4	5763302	10	
Be	9	1	6	0.042	ppb	113.8	13	0.5	
B	11	1	6	-387.108	ppb	-0.5	21076	0.5	
Na	23	1	45	156.174	ppb	1.4	813786	25	>RL
Na	23	2	45	150.707	ppb	11.5	27416	25	>RL
Mg	24	2	45	-8.833	ppb	-18.4	350	25	
Al	27	2	45	3.372	ppb	35.1	67	15	
K	39	1	45	104.778	ppb	13.3	9774703	50	>RL
K	39	2	45	12.505	ppb	157.8	5064	50	
Ca	40	1	45	11.016	ppb	4.6	212744	50	
Ca	44	2	45	5.311	ppb	236.4	17	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.049	ppb	-974.1	-122	1	
Cr	52	2	72	-0.062	ppb	-30.7	197	1	
Mn	55	2	72	-0.002	ppb	-8520.2	40	0.5	
Fe	57	2	72	4.757	ppb	33.6	133	25	
Co	59	2	72	0.018	ppb	101.8	47	0.5	
Ni	60	2	72	0.125	ppb	73.0	127	1	
Cu	63	2	72	-0.064	ppb	-39.4	1577	1	
Zn	66	2	72	-1.048	ppb	-22.1	147	5	
As	75	2	72	0.047	ppb	21.5	9	1	
Se	78	1	72	0.026	ppb	107.3	61	1	
Sr	88	2	72	0.091	ppb	127.5	33	0.5	
Zr	90	2	72	0.820	ppb	237.0	27	1	
Nb	93	2	72	1.170	ppb	1.6	4054	2	
Mo	95	2	115	0.038	ppb	64.2	47	0.5	
Pd	105	2	115	0.047	ppb	32.2	110	1	
Ag	107	2	115	0.010	ppb	98.6	67	1	
Cd	111	2	115	0.045	ppb	86.6	13	0.5	
Sn	120	2	115	0.112	ppb	62.8	143	1	
Sb	121	2	115	0.097	ppb	25.7	63	0.6	
Ba	137	2	115	-0.031	ppb	-202.9	10	0.5	
W	182	2	165	0.045	ppb	33.0	640	1	
Pt	195	2	165	0.008	ppb	120.9	180	1	
Tl	205	2	165	0.040	ppb	11.3	540	0.1	
Pb	208	2	165	0.011	ppb	164.6	1067	0.5	
Th	232	2	165	0.060	ppb	23.2	863	1	
U	238	2	165	0.022	ppb	7.5	383	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	964350	1.97	1160179	83.12	60	120	
Sc (IS)	45	1	HMI H2	48572651	0.58	51895621	93.60	60	120	
Sc (IS)	45	2	HMI He	440622	0.67	430930	102.25	60	120	
Sc (IS)	45	3	No Gas	126399161	1.39	158101278	79.95	60	120	
Ge Internal Standard	72	1	HMI H2	23944945	0.41	25033284	95.65	60	120	
Ge Internal Standard	72	2	HMI He	685620	0.79	674189	101.70	60	120	
In Internal Standard	115	2	HMI He	1686521	1.18	1572457	107.25	60	120	
Ho-165	165	2	HMI He	13780136	1.15	13678393	100.74	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-5-B
Data File Name	160SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:20:12-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-35.255	ppb	-35.255	-18.99	109489	500000	
Li	7	2	45	-55.032	ppb	-55.032	-17.34	5321	500000	
Li	7	3	45	-44.884	ppb	-44.884	-6.83	5545758	50000	
Be	9	1	6	0.111	ppb	0.111	105.99	33	2000	
B	11	1	6	-209.912	ppb	-209.912	-2.71	78442	2000	
Na	23	1	45	2286.176	ppb	2286.176	1.45	9394569	2000	
Na	23	2	45	2082.329	ppb	2082.329	1.03	284854	400000	
Mg	24	2	45	2790.404	ppb	2790.404	1.29	149983	400000	
Al	27	2	45	675.717	ppb	675.717	1.04	6555	400000	
K	39	1	45	10159.911	ppb	10159.911	1.77	52295303	400000	
K	39	2	45	10885.268	ppb	10885.268	1.19	203415	400000	
Ca	40	1	45	31088.345	ppb	31088.345	0.21	224337603	400000	
Ca	44	2	45	30606.637	ppb	30606.637	2.20	37166	400000	
Ti	47	2	45	58.131	ppb	58.131	173.21	10	4000	
V	51	2	72	0.176	ppb	0.176	110.27	72	2000	
Cr	52	2	72	0.324	ppb	0.324	29.91	640	5000	
Mn	55	2	72	134.712	ppb	134.712	0.98	38619	10000	
Fe	57	2	72	1187.994	ppb	1187.994	4.02	23376	400000	
Co	59	2	72	0.085	ppb	0.085	24.78	220	2000	
Ni	60	2	72	0.213	ppb	0.213	44.20	200	5000	
Cu	63	2	72	0.585	ppb	0.585	19.93	3127	5000	
Zn	66	2	72	0.098	ppb	0.098	331.45	357	5000	
As	75	2	72	1.694	ppb	1.694	11.88	193	2000	
Se	78	1	72	0.634	ppb	0.634	7.47	419	2000	
Sr	88	2	72	154.297	ppb	154.297	1.22	34305	4000	
Zr	90	2	72	5.778	ppb	5.778	75.02	67	1000	
Nb	93	2	72	0.601	ppb	0.601	17.81	2160	200	
Mo	95	2	115	0.622	ppb	0.622	18.69	593	2000	
Pd	105	2	115	0.003	ppb	0.003	499.05	30	100	
Ag	107	2	115	0.007	ppb	0.007	18.47	57	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.066	ppb	0.066	82.94	113	2000	
Sb	121	2	115	0.074	ppb	0.074	80.79	50	1000	
Ba	137	2	115	108.507	ppb	108.507	1.75	17306	5000	
W	182	2	165	0.034	ppb	0.034	6.87	567	100	
Pt	195	2	165	-0.003	ppb	-0.003	-80.81	93	100	
Tl	205	2	165	0.055	ppb	0.055	30.91	673	2000	
Pb	208	2	165	0.182	ppb	0.182	6.80	3050	5000	
Th	232	2	165	0.130	ppb	0.130	17.94	1830	2000	
U	238	2	165	0.304	ppb	0.304	3.09	5034	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	929608	1.02	1160179	80.13	60	120	
Sc (IS)	45	1	HMI H2	47976233	0.50	51895621	92.45	60	120	
Sc (IS)	45	2	HMI He	437373	0.09	430930	101.50	60	120	
Sc (IS)	45	3	No Gas	124684698	0.92	158101278	78.86	60	120	
Ge Internal Standard	72	1	HMI H2	23890861	0.49	25033284	95.44	60	120	
Ge Internal Standard	72	2	HMI He	692669	0.87	674189	102.74	60	120	
In Internal Standard	115	2	HMI He	1697859	1.81	1572457	107.97	60	120	
Ho-165	165	2	HMI He	13804099	1.47	13678393	100.92	60	120	

Sample Report

Sample Table

Sample Name	280-90413-C-6-B
Data File Name	161SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:23:59-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-44.779	ppb	-44.779	-5.54	106398	500000	
Li	7	2	45	-51.840	ppb	-51.840	-16.45	5418	500000	
Li	7	3	45	-51.227	ppb	-51.227	-5.56	5452548	50000	
Be	9	1	6	0.011	ppb	0.011	173.21	3	2000	
B	11	1	6	2233.197	ppb	2233.197	2.11	855427	2000	
Na	23	1	45	54069.756	ppb	54069.756	0.76	219187050	2000	>LDR
Na	23	2	45	48212.654	ppb	48212.654	1.24	6470648	400000	
Mg	24	2	45	12677.208	ppb	12677.208	0.94	682010	400000	
Al	27	2	45	42.911	ppb	42.911	20.54	450	400000	
K	39	1	45	32143.595	ppb	32143.595	0.48	146150218	400000	
K	39	2	45	32292.704	ppb	32292.704	0.79	597136	400000	
Ca	40	1	45	102210.251	ppb	102210.251	0.77	740428496	400000	
Ca	44	2	45	100151.868	ppb	100151.868	0.83	122225	400000	
Ti	47	2	45	76.813	ppb	76.813	86.60	13	4000	
V	51	2	72	0.823	ppb	0.823	12.59	631	2000	
Cr	52	2	72	2.083	ppb	2.083	12.98	2630	5000	
Mn	55	2	72	343.365	ppb	343.365	1.50	97549	10000	
Fe	57	2	72	5332.888	ppb	5332.888	1.37	103917	400000	
Co	59	2	72	0.391	ppb	0.391	0.70	1007	2000	
Ni	60	2	72	0.799	ppb	0.799	27.32	667	5000	
Cu	63	2	72	0.245	ppb	0.245	30.41	2304	5000	
Zn	66	2	72	1.093	ppb	1.093	19.73	533	5000	
As	75	2	72	3.999	ppb	3.999	4.09	446	2000	
Se	78	1	72	0.308	ppb	0.308	18.76	224	2000	
Sr	88	2	72	676.380	ppb	676.380	1.07	149061	4000	
Zr	90	2	72	15.946	ppb	15.946	39.43	147	1000	
Nb	93	2	72	0.369	ppb	0.369	12.33	1357	200	
Mo	95	2	115	1.369	ppb	1.369	6.64	1267	2000	
Pd	105	2	115	0.001	ppb	0.001	590.10	27	100	
Ag	107	2	115	-0.001	ppb	-0.001	-385.80	23	100	
Cd	111	2	115	0.011	ppb	0.011	173.21	3	2000	
Sn	120	2	115	0.124	ppb	0.124	29.35	150	2000	
Sb	121	2	115	0.058	ppb	0.058	121.39	40	1000	
Ba	137	2	115	96.218	ppb	96.218	1.21	15024	5000	
W	182	2	165	0.027	ppb	0.027	34.09	520	100	
Pt	195	2	165	-0.006	ppb	-0.006	-100.39	70	100	
Tl	205	2	165	0.022	ppb	0.022	41.00	380	2000	
Pb	208	2	165	0.072	ppb	0.072	17.46	1783	5000	
Th	232	2	165	0.066	ppb	0.066	14.89	947	2000	
U	238	2	165	0.564	ppb	0.564	4.28	9303	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	903748	1.99	1160179	77.90	60	120	
Sc (IS)	45	1	HMI H2	48182394	0.96	51895621	92.84	60	120	
Sc (IS)	45	2	HMI He	439650	0.81	430930	102.02	60	120	
Sc (IS)	45	3	No Gas	125439108	1.40	158101278	79.34	60	120	
Ge Internal Standard	72	1	HMI H2	23574988	0.78	25033284	94.17	60	120	
Ge Internal Standard	72	2	HMI He	686882	1.37	674189	101.88	60	120	
In Internal Standard	115	2	HMI He	1661605	1.30	1572457	105.67	60	120	
Ho-165	165	2	HMI He	13809097	1.58	13678393	100.96	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-2-A
Data File Name	162SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:27:44-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-27.483	ppb	-27.483	-2.72	112651	500000	
Li	7	2	45	-51.791	ppb	-51.791	-2.11	5408	500000	
Li	7	3	45	-39.400	ppb	-39.400	-1.72	5703858	50000	
Be	9	1	6	0.045	ppb	0.045	86.66	13	2000	
B	11	1	6	-282.844	ppb	-282.844	-2.27	53301	2000	
Na	23	1	45	99469.919	ppb	99469.919	0.45	402293261	2000	>LDR
Na	23	2	45	88946.307	ppb	88946.307	0.99	11910189	400000	
Mg	24	2	45	4201.983	ppb	4201.983	0.93	226198	400000	
Al	27	2	45	28.868	ppb	28.868	35.72	313	400000	
K	39	1	45	-553.226	ppb	-553.226	-1.99	6879504	400000	
K	39	2	45	361.300	ppb	361.300	7.14	11431	400000	
Ca	40	1	45	36264.650	ppb	36264.650	0.81	262265796	400000	
Ca	44	2	45	34200.418	ppb	34200.418	3.09	41666	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.293	ppb	0.293	97.08	173	2000	
Cr	52	2	72	0.132	ppb	0.132	51.81	420	5000	
Mn	55	2	72	3.517	ppb	3.517	16.29	1043	10000	
Fe	57	2	72	27.374	ppb	27.374	1.07	577	400000	
Co	59	2	72	0.030	ppb	0.030	42.55	77	2000	
Ni	60	2	72	0.124	ppb	0.124	56.08	127	5000	
Cu	63	2	72	0.074	ppb	0.074	72.73	1910	5000	
Zn	66	2	72	0.199	ppb	0.199	151.05	373	5000	
As	75	2	72	0.147	ppb	0.147	19.43	20	2000	
Se	78	1	72	0.636	ppb	0.636	12.92	416	2000	
Sr	88	2	72	32.475	ppb	32.475	2.54	7202	4000	
Zr	90	2	72	5.413	ppb	5.413	48.43	63	1000	
Nb	93	2	72	0.189	ppb	0.189	18.61	753	200	
Mo	95	2	115	1.214	ppb	1.214	8.86	1133	2000	
Pd	105	2	115	-0.001	ppb	-0.001	-553.82	23	100	
Ag	107	2	115	-0.002	ppb	-0.002	-401.74	23	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.128	ppb	0.128	49.93	153	2000	
Sb	121	2	115	0.023	ppb	0.023	262.14	20	1000	
Ba	137	2	115	0.690	ppb	0.690	37.69	123	5000	
W	182	2	165	0.021	ppb	0.021	40.62	480	100	
Pt	195	2	165	-0.001	ppb	-0.001	-9.56	110	100	
Tl	205	2	165	0.008	ppb	0.008	93.48	253	2000	
Pb	208	2	165	0.043	ppb	0.043	57.37	1460	5000	
Th	232	2	165	0.025	ppb	0.025	9.68	373	2000	
U	238	2	165	4.229	ppb	4.229	1.49	70243	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	909254	2.27	1160179	78.37	60	120	
Sc (IS)	45	1	HMI H2	48086661	0.76	51895621	92.66	60	120	
Sc (IS)	45	2	HMI He	438836	0.16	430930	101.83	60	120	
Sc (IS)	45	3	No Gas	125789525	0.62	158101278	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	23662621	1.13	25033284	94.52	60	120	
Ge Internal Standard	72	2	HMI He	690026	1.02	674189	102.35	60	120	
In Internal Standard	115	2	HMI He	1677150	1.19	1572457	106.66	60	120	
Ho-165	165	2	HMI He	13927469	0.74	13678393	101.82	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-3-A
Data File Name	163SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:31:31-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-34.176	ppb	-34.176	-11.60	110868	500000	
Li	7	2	45	-41.029	ppb	-41.029	-14.10	5611	500000	
Li	7	3	45	-35.528	ppb	-35.528	-7.98	5676589	50000	
Be	9	1	6	0.067	ppb	0.067	50.40	20	2000	
B	11	1	6	-351.847	ppb	-351.847	-0.32	31361	2000	
Na	23	1	45	46884.497	ppb	46884.497	0.61	190950604	2000	>LDR
Na	23	2	45	42358.530	ppb	42358.530	1.66	5647635	400000	
Mg	24	2	45	5430.617	ppb	5430.617	1.87	290645	400000	
Al	27	2	45	2311.255	ppb	2311.255	2.79	22301	400000	
K	39	1	45	-168.754	ppb	-168.754	-16.29	8569414	400000	
K	39	2	45	741.614	ppb	741.614	5.24	18297	400000	
Ca	40	1	45	63849.160	ppb	63849.160	0.92	464665486	400000	
Ca	44	2	45	60794.379	ppb	60794.379	1.05	73704	400000	
Ti	47	2	45	4411.848	ppb	4411.848	11.89	757	4000	
V	51	2	72	3.425	ppb	3.425	9.26	2914	2000	
Cr	52	2	72	3.922	ppb	3.922	5.65	4774	5000	
Mn	55	2	72	229.957	ppb	229.957	0.32	66116	10000	
Fe	57	2	72	1451.742	ppb	1451.742	2.07	28657	400000	
Co	59	2	72	0.422	ppb	0.422	7.06	1100	2000	
Ni	60	2	72	0.813	ppb	0.813	16.36	687	5000	
Cu	63	2	72	1.245	ppb	1.245	5.88	4704	5000	
Zn	66	2	72	7.338	ppb	7.338	10.59	1680	5000	
As	75	2	72	0.573	ppb	0.573	17.68	68	2000	
Se	78	1	72	0.025	ppb	0.025	125.14	60	2000	
Sr	88	2	72	84.114	ppb	84.114	1.00	18767	4000	
Zr	90	2	72	266.736	ppb	266.736	3.71	2154	1000	
Nb	93	2	72	0.430	ppb	0.430	19.38	1580	200	
Mo	95	2	115	0.908	ppb	0.908	3.12	843	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-122.24	10	100	
Ag	107	2	115	-0.002	ppb	-0.002	-200.28	20	100	
Cd	111	2	115	0.023	ppb	0.023	86.60	7	2000	
Sn	120	2	115	0.100	ppb	0.100	36.99	133	2000	
Sb	121	2	115	0.041	ppb	0.041	43.18	30	1000	
Ba	137	2	115	10.678	ppb	10.678	23.56	1680	5000	
W	182	2	165	0.030	ppb	0.030	22.87	543	100	
Pt	195	2	165	0.003	ppb	0.003	123.29	140	100	
Tl	205	2	165	0.028	ppb	0.028	33.25	433	2000	
Pb	208	2	165	0.886	ppb	0.886	6.03	11272	5000	
Th	232	2	165	0.563	ppb	0.563	5.86	7919	2000	
U	238	2	165	2.866	ppb	2.866	1.17	47524	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	914443	0.71	1160179	78.82	60	120	
Sc (IS)	45	1	HMI H2	48399839	0.44	51895621	93.26	60	120	
Sc (IS)	45	2	HMI He	436763	1.98	430930	101.35	60	120	
Sc (IS)	45	3	No Gas	123518431	0.30	158101278	78.13	60	120	
Ge Internal Standard	72	1	HMI H2	23717920	1.12	25033284	94.75	60	120	
Ge Internal Standard	72	2	HMI He	694969	0.79	674189	103.08	60	120	
In Internal Standard	115	2	HMI He	1661037	0.44	1572457	105.63	60	120	
Ho-165	165	2	HMI He	13900864	0.35	13678393	101.63	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-4-A
Data File Name	164SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:35:18-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-32.895	ppb	-32.895	-17.74	110425	500000	
Li	7	2	45	-50.403	ppb	-50.403	-6.87	5494	500000	
Li	7	3	45	-38.717	ppb	-38.717	-3.99	5629256	50000	
Be	9	1	6	0.022	ppb	0.022	173.21	7	2000	
B	11	1	6	-369.437	ppb	-369.437	-0.40	25742	2000	
Na	23	1	45	64515.969	ppb	64515.969	0.88	260509083	2000	>LDR
Na	23	2	45	57178.090	ppb	57178.090	1.70	7737147	400000	
Mg	24	2	45	6426.138	ppb	6426.138	0.99	349048	400000	
Al	27	2	45	78.364	ppb	78.364	18.05	800	400000	
K	39	1	45	47.909	ppb	47.909	7.80	9417629	400000	
K	39	2	45	967.027	ppb	967.027	1.63	22752	400000	
Ca	40	1	45	75972.206	ppb	75972.206	1.29	548278365	400000	
Ca	44	2	45	70398.405	ppb	70398.405	3.24	86641	400000	
Ti	47	2	45	227.366	ppb	227.366	88.85	40	4000	
V	51	2	72	1.167	ppb	1.167	18.89	937	2000	
Cr	52	2	72	1.044	ppb	1.044	8.49	1467	5000	
Mn	55	2	72	4.537	ppb	4.537	5.23	1340	10000	
Fe	57	2	72	83.374	ppb	83.374	4.05	1680	400000	
Co	59	2	72	0.042	ppb	0.042	40.80	110	2000	
Ni	60	2	72	0.172	ppb	0.172	20.93	167	5000	
Cu	63	2	72	0.280	ppb	0.280	34.26	2410	5000	
Zn	66	2	72	0.333	ppb	0.333	74.23	400	5000	
As	75	2	72	0.244	ppb	0.244	47.50	31	2000	
Se	78	1	72	35.008	ppb	35.008	1.51	20387	2000	
Sr	88	2	72	144.776	ppb	144.776	2.39	32184	4000	
Zr	90	2	72	25.022	ppb	25.022	22.40	220	1000	
Nb	93	2	72	0.067	ppb	0.067	54.20	340	200	
Mo	95	2	115	1.729	ppb	1.729	10.22	1613	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-32.91	7	100	
Ag	107	2	115	0.002	ppb	0.002	726.84	37	100	
Cd	111	2	115	0.022	ppb	0.022	173.21	7	2000	
Sn	120	2	115	0.082	ppb	0.082	78.65	123	2000	
Sb	121	2	115	0.052	ppb	0.052	128.26	37	1000	
Ba	137	2	115	4.989	ppb	4.989	19.71	803	5000	
W	182	2	165	0.012	ppb	0.012	37.35	410	100	
Pt	195	2	165	-0.009	ppb	-0.009	-36.47	47	100	
Tl	205	2	165	0.008	ppb	0.008	143.01	243	2000	
Pb	208	2	165	0.068	ppb	0.068	10.23	1740	5000	
Th	232	2	165	0.045	ppb	0.045	22.96	643	2000	
U	238	2	165	9.335	ppb	9.335	1.00	153817	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	916411	1.02	1160179	78.99	60	120	
Sc (IS)	45	1	HMI H2	47998511	0.34	51895621	92.49	60	120	
Sc (IS)	45	2	HMI He	443399	1.62	430930	102.89	60	120	
Sc (IS)	45	3	No Gas	123853648	1.59	158101278	78.34	60	120	
Ge Internal Standard	72	1	HMI H2	23600144	0.27	25033284	94.28	60	120	
Ge Internal Standard	72	2	HMI He	692823	2.10	674189	102.76	60	120	
In Internal Standard	115	2	HMI He	1681520	1.45	1572457	106.94	60	120	
Ho-165	165	2	HMI He	13819274	1.37	13678393	101.03	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-5-A
Data File Name	165SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:39:04-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-38.019	ppb	-38.019	-12.59	106081	500000	
Li	7	2	45	-45.925	ppb	-45.925	-5.37	5454	500000	
Li	7	3	45	-39.681	ppb	-39.681	-5.74	5565836	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-371.316	ppb	-371.316	-0.38	23602	2000	
Na	23	1	45	311749.225	ppb	311749.225	0.89	1229931182	2000	>LDR
Na	23	2	45	277293.828	ppb	277293.828	0.35	36594187	400000	
Mg	24	2	45	256.715	ppb	256.715	2.42	14386	400000	
Al	27	2	45	251.116	ppb	251.116	1.98	2430	400000	
K	39	1	45	-171.007	ppb	-171.007	-12.83	8298063	400000	
K	39	2	45	768.160	ppb	768.160	3.31	18610	400000	
Ca	40	1	45	48981.753	ppb	48981.753	0.48	345608088	400000	
Ca	44	2	45	46262.908	ppb	46262.908	2.11	55563	400000	
Ti	47	2	45	1183.151	ppb	1183.151	121.74	200	4000	
V	51	2	72	0.319	ppb	0.319	83.60	194	2000	
Cr	52	2	72	0.459	ppb	0.459	22.55	780	5000	
Mn	55	2	72	33.300	ppb	33.300	4.83	9393	10000	
Fe	57	2	72	185.273	ppb	185.273	5.60	3607	400000	
Co	59	2	72	0.046	ppb	0.046	14.08	117	2000	
Ni	60	2	72	0.105	ppb	0.105	22.24	110	5000	
Cu	63	2	72	-0.008	ppb	-0.008	-533.81	1690	5000	
Zn	66	2	72	0.566	ppb	0.566	36.65	433	5000	
As	75	2	72	0.340	ppb	0.340	54.66	41	2000	
Se	78	1	72	0.007	ppb	0.007	799.70	48	2000	
Sr	88	2	72	163.608	ppb	163.608	1.55	35654	4000	
Zr	90	2	72	24.706	ppb	24.706	16.83	213	1000	
Nb	93	2	72	0.078	ppb	0.078	19.56	370	200	
Mo	95	2	115	3.609	ppb	3.609	7.38	3217	2000	
Pd	105	2	115	-0.014	ppb	-0.014	0.00	0	100	
Ag	107	2	115	-0.003	ppb	-0.003	-137.40	17	100	
Cd	111	2	115	0.023	ppb	0.023	173.21	7	2000	
Sn	120	2	115	0.421	ppb	0.421	6.64	337	2000	
Sb	121	2	115	0.024	ppb	0.024	130.57	20	1000	
Ba	137	2	115	12.194	ppb	12.194	3.11	1857	5000	
W	182	2	165	0.354	ppb	0.354	8.30	2791	100	
Pt	195	2	165	-0.001	ppb	-0.001	-430.72	110	100	
Tl	205	2	165	0.005	ppb	0.005	43.68	217	2000	
Pb	208	2	165	0.084	ppb	0.084	10.82	1897	5000	
Th	232	2	165	0.041	ppb	0.041	27.24	587	2000	
U	238	2	165	0.027	ppb	0.027	15.62	470	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	860678	0.56	1160179	74.18	60	120	
Sc (IS)	45	1	HMI H2	46920871	0.36	51895621	90.41	60	120	
Sc (IS)	45	2	HMI He	432669	1.21	430930	100.40	60	120	
Sc (IS)	45	3	No Gas	122863882	0.31	158101278	77.71	60	120	
Ge Internal Standard	72	1	HMI H2	22972461	0.52	25033284	91.77	60	120	
Ge Internal Standard	72	2	HMI He	679041	1.23	674189	100.72	60	120	
In Internal Standard	115	2	HMI He	1610165	1.43	1572457	102.40	60	120	
Ho-165	165	2	HMI He	13651388	0.95	13678393	99.80	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-6-A
Data File Name	166SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:42:55-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-35.666	ppb	-35.666	-4.66	107998	500000	
Li	7	2	45	-45.470	ppb	-45.470	-36.72	5478	500000	
Li	7	3	45	-40.752	ppb	-40.752	-0.64	5540326	50000	
Be	9	1	6	0.012	ppb	0.012	173.21	3	2000	
B	11	1	6	-379.225	ppb	-379.225	-0.37	21813	2000	
Na	23	1	45	199812.924	ppb	199812.924	0.97	796139428	2000	>LDR
Na	23	2	45	176926.858	ppb	176926.858	0.08	23407220	400000	
Mg	24	2	45	112.314	ppb	112.314	10.97	6762	400000	
Al	27	2	45	8.716	ppb	8.716	15.46	117	400000	
K	39	1	45	-385.968	ppb	-385.968	-6.13	7479179	400000	
K	39	2	45	530.428	ppb	530.428	9.40	14353	400000	
Ca	40	1	45	18158.890	ppb	18158.890	0.56	129475411	400000	
Ca	44	2	45	17755.106	ppb	17755.106	0.34	21383	400000	
Ti	47	2	45	19.803	ppb	19.803	173.21	3	4000	
V	51	2	72	0.151	ppb	0.151	227.78	51	2000	
Cr	52	2	72	0.134	ppb	0.134	25.14	417	5000	
Mn	55	2	72	4.693	ppb	4.693	4.98	1360	10000	
Fe	57	2	72	18.810	ppb	18.810	25.09	403	400000	
Co	59	2	72	0.022	ppb	0.022	54.32	57	2000	
Ni	60	2	72	0.419	ppb	0.419	15.10	360	5000	
Cu	63	2	72	0.162	ppb	0.162	65.15	2090	5000	
Zn	66	2	72	1.550	ppb	1.550	5.71	610	5000	
As	75	2	72	0.628	ppb	0.628	10.93	73	2000	
Se	78	1	72	0.017	ppb	0.017	438.96	55	2000	
Sr	88	2	72	137.079	ppb	137.079	2.24	29937	4000	
Zr	90	2	72	1.694	ppb	1.694	86.42	33	1000	
Nb	93	2	72	0.045	ppb	0.045	49.15	260	200	
Mo	95	2	115	2.418	ppb	2.418	7.61	2224	2000	
Pd	105	2	115	-0.014	ppb	-0.014	0.00	0	100	
Ag	107	2	115	-0.006	ppb	-0.006	-26.55	7	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.080	ppb	0.080	130.84	120	2000	
Sb	121	2	115	0.041	ppb	0.041	1.70	30	1000	
Ba	137	2	115	10.742	ppb	10.742	17.80	1687	5000	
W	182	2	165	1.172	ppb	1.172	4.19	8486	100	
Pt	195	2	165	-0.003	ppb	-0.003	-217.37	97	100	
Tl	205	2	165	0.002	ppb	0.002	128.83	193	2000	
Pb	208	2	165	0.120	ppb	0.120	1.35	2307	5000	
Th	232	2	165	0.013	ppb	0.013	14.68	200	2000	
U	238	2	165	0.927	ppb	0.927	1.54	15121	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	885708	1.88	1160179	76.34	60	120	
Sc (IS)	45	1	HMI H2	47385404	1.34	51895621	91.31	60	120	
Sc (IS)	45	2	HMI He	433710	1.09	430930	100.65	60	120	
Sc (IS)	45	3	No Gas	122761705	0.89	158101278	77.65	60	120	
Ge Internal Standard	72	1	HMI H2	23466547	1.57	25033284	93.74	60	120	
Ge Internal Standard	72	2	HMI He	680389	1.01	674189	100.92	60	120	
In Internal Standard	115	2	HMI He	1657824	1.31	1572457	105.43	60	120	
Ho-165	165	2	HMI He	13651916	0.49	13678393	99.81	60	120	

Sample Report

Sample Table

Sample Name	280-90423-C-7-A
Data File Name	167SMPL.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:46:42-07:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	350915 6020
ISTD Ref FileName	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-34.849	ppb	-34.849	-19.50	106965	500000	
Li	7	2	45	-47.936	ppb	-47.936	-50.20	5324	500000	
Li	7	3	45	-32.414	ppb	-32.414	-6.71	5574640	50000	
Be	9	1	6	0.000	ppb	0.000	#DIV/0!	0	2000	
B	11	1	6	-370.802	ppb	-370.802	-0.70	22931	2000	
Na	23	1	45	406314.108	ppb	406314.108	0.88	1599006056	2000	>LDR
Na	23	2	45	361714.533	ppb	361714.533	0.55	46910706	400000	
Mg	24	2	45	516.388	ppb	516.388	3.77	27628	400000	
Al	27	2	45	39.890	ppb	39.890	11.25	407	400000	
K	39	1	45	146.514	ppb	146.514	10.88	9591515	400000	
K	39	2	45	1049.122	ppb	1049.122	1.89	23279	400000	
Ca	40	1	45	93924.126	ppb	93924.126	0.57	660977923	400000	
Ca	44	2	45	90558.112	ppb	90558.112	0.29	106893	400000	
Ti	47	2	45	78.440	ppb	78.440	173.21	13	4000	
V	51	2	72	0.556	ppb	0.556	17.78	388	2000	
Cr	52	2	72	0.697	ppb	0.697	13.34	1027	5000	
Mn	55	2	72	3.435	ppb	3.435	17.64	987	10000	
Fe	57	2	72	41.658	ppb	41.658	5.20	827	400000	
Co	59	2	72	0.060	ppb	0.060	22.64	150	2000	
Ni	60	2	72	1.575	ppb	1.575	7.55	1250	5000	
Cu	63	2	72	0.561	ppb	0.561	12.96	2954	5000	
Zn	66	2	72	1.639	ppb	1.639	24.34	613	5000	
As	75	2	72	0.251	ppb	0.251	37.58	31	2000	
Se	78	1	72	0.143	ppb	0.143	27.14	124	2000	
Sr	88	2	72	313.779	ppb	313.779	0.09	67090	4000	
Zr	90	2	72	7.439	ppb	7.439	44.41	77	1000	
Nb	93	2	72	0.038	ppb	0.038	66.15	233	200	
Mo	95	2	115	6.475	ppb	6.475	4.73	5721	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-29.24	3	100	
Ag	107	2	115	-0.002	ppb	-0.002	-269.63	20	100	
Cd	111	2	115	0.201	ppb	0.201	36.73	57	2000	
Sn	120	2	115	0.061	ppb	0.061	38.82	103	2000	
Sb	121	2	115	0.121	ppb	0.121	48.10	73	1000	
Ba	137	2	115	14.900	ppb	14.900	12.06	2250	5000	
W	182	2	165	0.073	ppb	0.073	25.02	820	100	
Pt	195	2	165	-0.005	ppb	-0.005	-51.20	77	100	
Tl	205	2	165	0.007	ppb	0.007	173.81	233	2000	
Pb	208	2	165	0.079	ppb	0.079	17.52	1813	5000	
Th	232	2	165	0.017	ppb	0.017	14.79	247	2000	
U	238	2	165	0.924	ppb	0.924	1.75	14831	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	830772	0.92	1160179	71.61	60	120	
Sc (IS)	45	1	HMI H2	46806839	0.73	51895621	90.19	60	120	
Sc (IS)	45	2	HMI He	425236	1.48	430930	98.68	60	120	
Sc (IS)	45	3	No Gas	120013448	0.59	158101278	75.91	60	120	
Ge Internal Standard	72	1	HMI H2	22741074	0.52	25033284	90.84	60	120	
Ge Internal Standard	72	2	HMI He	666305	0.87	674189	98.83	60	120	
In Internal Standard	115	2	HMI He	1598538	0.26	1572457	101.66	60	120	
Ho-165	165	2	HMI He	13448239	1.66	13678393	98.32	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-4242076
Data File Name	168_CCV.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:50:33-07:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	408.689	ppb	1.564	273441	500	81.7	90	110	>+\-10%
Li	7	2	45	354.582	ppb	1.279	13739	500	70.9	90	110	>+\-10%
Li	7	3	45	389.941	ppb	0.684	14256331	500	78.0	90	110	>+\-10%
Be	9	1	6	53.947	ppb	2.291	16178	50	107.9	90	110	
B	11	1	6	-365.949	ppb	-0.709	27004	50	-731.9	90	110	>+\-10%
Na	23	1	45	5188.725	ppb	0.554	20992973	5000	103.8	90	110	
Na	23	2	45	4752.024	ppb	0.797	628608	5000	95.0	90	110	
Mg	24	2	45	4781.512	ppb	1.042	251494	5000	95.6	90	110	
Al	27	2	45	5037.052	ppb	3.094	47710	5000	100.7	90	110	
K	39	1	45	5256.582	ppb	0.917	31339309	5000	105.1	90	110	
K	39	2	45	5129.330	ppb	0.461	96503	5000	102.6	90	110	
Ca	40	1	45	5166.524	ppb	0.698	37197430	5000	103.3	90	110	
Ca	44	2	45	5210.650	ppb	3.882	6215	5000	104.2	90	110	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	50	0.0	90	110	>+\-10%
V	51	2	72	46.978	ppb	3.872	39888	50	94.0	90	110	
Cr	52	2	72	47.455	ppb	1.915	53277	50	94.9	90	110	
Mn	55	2	72	48.974	ppb	1.553	13729	50	97.9	90	110	
Fe	57	2	72	4790.416	ppb	1.988	91883	5000	95.8	90	110	
Co	59	2	72	47.356	ppb	0.895	120055	50	94.7	90	110	
Ni	60	2	72	46.088	ppb	0.959	36378	50	92.2	90	110	
Cu	63	2	72	46.793	ppb	1.122	109710	50	93.6	90	110	
Zn	66	2	72	48.937	ppb	4.413	9026	50	97.9	90	110	
As	75	2	72	50.938	ppb	0.453	5540	50	101.9	90	110	
Se	78	1	72	49.097	ppb	0.951	28733	50	98.2	90	110	
Sr	88	2	72	54.104	ppb	3.361	11748	50	108.2	90	110	
Zr	90	2	72	34.318	ppb	35.177	287	50	68.6	90	110	>+\-10%
Nb	93	2	72	96.240	ppb	1.197	319822	100	96.2	90	110	
Mo	95	2	115	48.025	ppb	1.708	43131	50	96.0	90	110	
Pd	105	2	115	48.557	ppb	2.179	84625	50	97.1	90	110	
Ag	107	2	115	47.662	ppb	1.687	174063	50	95.3	90	110	
Cd	111	2	115	51.034	ppb	7.200	14663	50	102.1	90	110	
Sn	120	2	115	49.115	ppb	3.414	32158	50	98.2	90	110	
Sb	121	2	115	50.592	ppb	3.000	28385	50	101.2	90	110	
Ba	137	2	115	51.480	ppb	3.483	7879	50	103.0	90	110	
W	182	2	165	47.767	ppb	1.753	333180	50	95.5	90	110	
Pt	195	2	165	46.778	ppb	0.486	351324	50	93.6	90	110	
Tl	205	2	165	48.756	ppb	0.867	438256	50	97.5	90	110	
Pb	208	2	165	49.809	ppb	0.822	571149	50	99.6	90	110	
Th	232	2	165	49.668	ppb	1.252	684473	50	99.3	90	110	
U	238	2	165	47.701	ppb	0.720	776716	50	95.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	921426	2.19	1160179	79.42	60	120	
Sc (IS)	45	1	HMI H2	47727681	0.27	51895621	91.97	60	120	
Sc (IS)	45	2	HMI He	428973	0.41	430930	99.55	60	120	
Sc (IS)	45	3	No Gas	125777421	0.46	158101278	79.55	60	120	
Ge Internal Standard	72	1	HMI H2	23731783	0.18	25033284	94.80	60	120	
Ge Internal Standard	72	2	HMI He	676037	0.48	674189	100.27	60	120	
In Internal Standard	115	2	HMI He	1627427	1.39	1572457	103.50	60	120	
Ho-165	165	2	HMI He	13656929	0.53	13678393	99.84	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-4242019
Data File Name	169_CCB.d
Data Path Name	D:\MassHunter Data\Li111116.b
Acq Date Time	2016-11-12T02:54:22-07:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	011CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-44.663	ppb	-6.4	5652713	10	
Be	9	1	6	0.022	ppb	86.6	7	0.5	
B	11	1	6	-410.010	ppb	-0.3	13105	0.5	
Na	23	1	45	160.374	ppb	0.6	821727	25	>RL
Na	23	2	45	142.090	ppb	0.7	25816	25	>RL
Mg	24	2	45	-11.548	ppb	-1.5	200	25	
Al	27	2	45	-1.738	ppb	-92.6	17	15	
K	39	1	45	73.579	ppb	26.3	9533254	50	>RL
K	39	2	45	-2.485	ppb	-1247.7	4707	50	
Ca	40	1	45	7.326	ppb	1.2	183756	50	
Ca	44	2	45	-2.767	ppb	-174.4	7	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.064	ppb	319.5	-25	1	
Cr	52	2	72	-0.053	ppb	-127.3	207	1	
Mn	55	2	72	0.011	ppb	745.2	43	0.5	
Fe	57	2	72	3.420	ppb	22.8	107	25	
Co	59	2	72	0.018	ppb	53.6	47	0.5	
Ni	60	2	72	0.159	ppb	53.6	153	1	
Cu	63	2	72	-0.139	ppb	-18.1	1393	1	
Zn	66	2	72	-1.175	ppb	-10.4	123	5	
As	75	2	72	0.035	ppb	133.2	8	1	
Se	78	1	72	0.039	ppb	77.6	69	1	
Sr	88	2	72	0.090	ppb	104.6	33	0.5	
Zr	90	2	72	-0.859	ppb	-225.9	13	1	
Nb	93	2	72	1.157	ppb	9.1	3987	2	
Mo	95	2	115	0.054	ppb	56.1	60	0.5	
Pd	105	2	115	0.048	ppb	20.9	110	1	
Ag	107	2	115	0.006	ppb	49.3	50	1	
Cd	111	2	115	0.023	ppb	173.2	7	0.5	
Sn	120	2	115	0.073	ppb	82.3	117	1	
Sb	121	2	115	0.097	ppb	66.6	63	0.6	
Ba	137	2	115	-0.051	ppb	-71.9	7	0.5	
W	182	2	165	0.048	ppb	35.6	660	1	
Pt	195	2	165	0.005	ppb	42.4	153	1	
Tl	205	2	165	0.036	ppb	26.7	500	0.1	
Pb	208	2	165	0.011	ppb	34.9	1067	0.5	
Th	232	2	165	0.062	ppb	14.2	890	1	
U	238	2	165	0.023	ppb	14.3	403	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	952132	0.87	1160179	82.07	60	120	
Sc (IS)	45	1	HMI H2	48034868	0.99	51895621	92.56	60	120	
Sc (IS)	45	2	HMI He	433040	0.93	430930	100.49	60	120	
Sc (IS)	45	3	No Gas	126996248	0.18	158101278	80.33	60	120	
Ge Internal Standard	72	1	HMI H2	24111551	0.35	25033284	96.32	60	120	
Ge Internal Standard	72	2	HMI He	682186	1.10	674189	101.19	60	120	
In Internal Standard	115	2	HMI He	1672381	2.19	1572457	106.35	60	120	
Ho-165	165	2	HMI He	13744402	0.38	13678393	100.48	60	120	

Hg Data Review Checklist

LIMS Batch Number: 351251	Filename: 161111aa	Instrument ID (circle one): 033 (034)
Analyst/1st Reviewer/Date: Chris Henning 11/14/16	Method (circle): 245.1 (7470A) 7471A	QC Type (circle): Standard DoD Q4 (DoD Q5) QAPP_____ Other_____
Matrix (circle): (Water) Solid (Leachate)		Circle: Total PD (Dissolved)

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Calibrated with at least 5 standards and a blank	✓			✓	
2. Linearity and intercept: r ≥ 0.995 |x-intercept| < RL or < ½ RL (special projects)	✓			✓	
4. ICV: run before samples 95-105% recovery (245.1) 90-110% recovery (7470A/7471A)	✓			✓	If no, list details:
5. CCV: run before samples, 10% frequency & closing 90-110% recovery (245.1 & 7470A) 80-120% recovery (7471A)	✓			✓	If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < ½ RL (routine) Result < LOD (DoD or special project)	✓			✓	If no, list details:
7. RL-level check standard 50-150% recovery (routine) 80-120% recovery (DoD)	✓			✓	If no, list details:
B. Client Sample and QC Sample Results					
1. Samples with results > linear range diluted and reanalyzed?	✓			✓	Comments:
C. Preparation/Matrix QC					
1. Method Blank: one per preparation batch result < ½ RL (routine)	✓			✓	□ No analyte > RL in associated samples □ Sample results >10x blank □ Insufficient sample for reanalysis
2. LCS one per preparation batch Historical (routine) 85-115% recovery (245.1) Other (DoD or client specific)	✓			✓	□ Insufficient sample for reanalysis □ LCS %R > QC limits & samples < RL
3. MS/MSD or MS/Dup frequency: a pair per batch (routine) a pair per 10 samples (245.1)	✓			✓	□ Insufficient sample
4. MS/MSD recovery & RPD: 75-125% or historical 70-130% (245.1) 20% RPD		✓		✓	☒ LCS acceptable – matrix effects - 358129 □ Native analyte > 4x spike level □ Matrix effect and native analyte > 4x spike
5. If TCLP MS <50% and sample result 80-100% of toxicity characteristic limit, was MSA run?			✓	✓	Comments:
6. Serial dilution: Required only for DoD and only if MS/MSD fail run at 5x dilution of parent sample ≤ 10% difference *If no, list details*	✓				□ Sample result < 50 x RL

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
C. Preparation/Matrix QC (continued)					
7. Post digestion spike: Required only for DoD and only if MS/MSD fail 80-120% recovery *If no, list details:*	✓			✓	
D. Raw Data & TALS Data Entry					
1. TALS Sample List Tab				✓	
a. LIMS Sample IDs / Containers are correct	✓			✓	
b. Method and matrix are correct	✓			✓	
c. Date and time match raw data	✓			✓	
d. Dilutions are correct	✓			✓	
e. Correct suffix designated (where applicable)			✓	✓	
2. TALS Sample Results Tab				✓	
a. All reported analytes are marked Primary or Secondary	✓			✓	
b. All unused data are marked Rejected or Accepted. Unused data are clearly identified with reason not used	✓			✓	
c. Out of control QC is clearly identified	✓			✓	
d. Any data that has a qualifier is commented on with appropriate action taken (NCM if needed)			✓	✓	
e. The attached data file includes the filename, instrument, and analyst initials	✓			✓	
3. TALS Worksheet Tab is complete and correct	✓			✓	
4. TALS Reagent Tab is complete and correct	✓			✓	
5. TALS QC Links Tab is correct	✓			✓	
6. TALS Batch Information Screen documentation is complete	✓			✓	
7. TALS Status set to appropriate review level	✓			✓	
E. Final Report and NCMs (2nd level review only)				✓	
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	
5. Raw Data PDF attached as document				✓	

Comments: _____

2nd Reviewer: _____ **Review Date:** 11/14/16

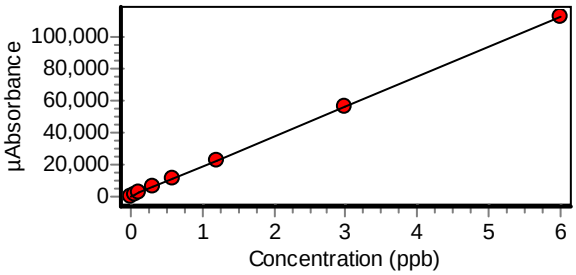
Report Generated By CETAC QuickTrace
Analyst: henningc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\2016\11-Nov\161111ba.wsz
Date Started: 11/11/2016 12:48:52 PM
Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
IC 280-351009/1-A	STD	11/11/16 03:24:16 pm	0.000	36	10.52		1.00	1.00	1.00
IC 280-351009/2-A	STD	11/11/16 03:26:30 pm	0.060	1181	0.18		1.00	1.00	1.00
IC 280-351009/3-A	STD	11/11/16 03:28:44 pm	0.120	2443	0.09		1.00	1.00	1.00
IC 280-351009/4-A	STD	11/11/16 03:30:58 pm	0.300	6087	0.12		1.00	1.00	1.00
IC 280-351009/5-A	STD	11/11/16 03:33:14 pm	0.600	11627	0.34		1.00	1.00	1.00
IC 280-351009/6-A	STD	11/11/16 03:35:30 pm	1.200	22843	0.38		1.00	1.00	1.00
IC 280-351009/7-A	STD	11/11/16 03:37:46 pm	3.000	57019	0.36		1.00	1.00	1.00
IC 280-351009/8-A	STD	11/11/16 03:40:03 pm	6.000	112932	0.37		1.00	1.00	1.00

Calibration

Equation: A = 245.116 + 18812.550C
R2: 0.99997
SEE: 216.7442
Flags:



ICV 280-351009/9-A	ICV	11/11/16 03:42:23 pm	2.408	45548	0.38		1.00	1.00	1.00
% Recovery 100.34									
ICB 280-351009/10-A	ICB	11/11/16 03:44:36 pm	-0.013	3	111.69		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.
							ODF	
CRA 280-351009/11-A	CRDL	11/11/16 03:46:50 pm	0.111	2326	0.18		1.00	1.00
% Recovery 92.17							1.00	
LLCRA	UNK	11/11/16 03:49:04 pm	0.050	1193	0.45		1.00	1.00
							1.00	
CCV 280-351009/12-A	CCV	11/11/16 03:51:20 pm	3.043	57487	0.49		1.00	1.00
% Recovery 101.42							1.00	
CCB 280-351009/13-A	CCB	11/11/16 03:53:33 pm	-0.013	8	37.14		1.00	1.00
							1.00	
MB 280-351001/1-A	UNK	11/11/16 03:55:45 pm	0.003	308	0.71		1.00	1.00
							1.00	
LCS 280-351001/2-A	UNK	11/11/16 03:57:58 pm	2.977	56249	0.31		1.00	1.00
							1.00	
280-90561-A-1-D	UNK	11/11/16 04:00:11 pm	0.002	287	1.27		1.00	1.00
							1.00	
280-90561-A-1-E MS	UNK	11/11/16 04:02:24 pm	2.973	56177	0.46		1.00	1.00
							1.00	
280-90561-A-1-F MSD	UNK	11/11/16 04:04:37 pm	3.064	57894	0.52		1.00	1.00
							1.00	
280-90561-A-2-B	UNK	11/11/16 04:06:51 pm	-0.009	73	0.64		1.00	1.00
							1.00	
280-90561-A-8-B	UNK	11/11/16 04:09:05 pm	0.013	489	1.15		1.00	1.00
							1.00	
280-90646-C-1-A	UNK	11/11/16 04:11:19 pm	0.027	759	0.77		1.00	1.00
							1.00	
280-90648-C-1-A	UNK	11/11/16 04:13:34 pm	0.038	965	0.74		1.00	1.00
							1.00	
MB 280-350466/1-A	UNK	11/11/16 04:15:49 pm	-0.006	137	2.85		1.00	1.00
							1.00	
CCV 280-351009/12-A	CCV	11/11/16 04:18:05 pm	2.977	56245	0.42		1.00	1.00
% Recovery 99.22							1.00	
CCB 280-351009/13-A	CCB	11/11/16 04:20:18 pm	-0.013	3	213.99		1.00	1.00
							1.00	
LCS 280-350466/2-A	UNK	11/11/16 04:22:33 pm	2.932	55407	0.41		1.00	1.00
							1.00	

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-90374-D-1-A	UNK	11/11/16 04:24:49 pm	0.035	897	0.38		1.00	1.00	1.00
280-90374-A-2-A	UNK	11/11/16 04:27:01 pm	-0.002	210	1.45		1.00	1.00	1.00
280-90485-J-1-A	UNK	11/11/16 04:29:13 pm	-0.005	145	2.77		1.00	1.00	1.00
280-90485-J-1-B MS	UNK	11/11/16 04:31:25 pm	2.453	46398	0.91		1.00	1.00	1.00
280-90485-J-1-C MSD	UNK	11/11/16 04:33:38 pm	2.482	46932	0.89		1.00	1.00	1.00
280-90554-A-1-D	UNK	11/11/16 04:35:51 pm	0.001	267	3.49		1.00	1.00	1.00
280-90554-A-2-A	UNK	11/11/16 04:38:04 pm	-0.004	166	3.83		1.00	1.00	1.00
280-90554-A-3-A	UNK	11/11/16 04:40:18 pm	-0.006	126	2.04		1.00	1.00	1.00
280-90581-D-3-A	UNK	11/11/16 04:42:32 pm	0.105	2220	0.52		1.00	1.00	1.00
CCV 280-351009/12-A % Recovery 100.86	CCV	11/11/16 04:44:49 pm	3.026	57170	0.34		1.00	1.00	1.00
CCB 280-351009/13-A	CCB	11/11/16 04:47:02 pm	-0.012	25	21.66		1.00	1.00	1.00
MB 280-351003/1-A	UNK	11/11/16 04:49:16 pm	-0.007	106	2.85		1.00	1.00	1.00
LCS 280-351003/2-A	UNK	11/11/16 04:51:30 pm	3.012	56909	0.33		1.00	1.00	1.00
280-90743-B-1-A	UNK	11/11/16 04:53:45 pm	-0.008	86	5.39		1.00	1.00	1.00
280-90743-C-2-A	UNK	11/11/16 04:56:00 pm	-0.007	120	2.36		1.00	1.00	1.00
280-90743-D-3-A	UNK	11/11/16 04:58:12 pm	-0.007	105	5.10	s	1.00	1.00	1.00
280-90743-B-4-A	UNK	11/11/16 05:00:25 pm	-0.007	112	2.31		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-90759-B-1-D	UNK	11/11/16 05:02:37 pm	-0.006	133	1.65		1.00	1.00	1.00
280-90759-B-1-E MS	UNK	11/11/16 05:04:50 pm	2.922	55217	0.40		1.00	1.00	1.00
280-90759-B-1-F MSD	UNK	11/11/16 05:07:03 pm	3.003	56746	0.47		1.00	1.00	1.00
280-90759-B-2-B	UNK	11/11/16 05:09:16 pm	-0.008	92	3.79		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 05:11:33 pm	3.065	57901	0.60		1.00	1.00	1.00
% Recovery 102.16									
CCB 280-351009/13-A	CCB	11/11/16 05:13:46 pm	-0.013	7	73.02		1.00	1.00	1.00
280-90759-B-3-B	UNK	11/11/16 05:16:00 pm	-0.007	122	1.52		1.00	1.00	1.00
280-90759-B-4-B	UNK	11/11/16 05:18:13 pm	-0.008	88	2.13		1.00	1.00	1.00
280-90759-B-5-A	UNK	11/11/16 05:20:28 pm	-0.007	113	4.15		1.00	1.00	1.00
MB 280-350470/1-A	UNK	11/11/16 05:22:42 pm	-0.008	85	3.44		1.00	1.00	1.00
LCS 280-350470/2-A	UNK	11/11/16 05:24:57 pm	3.214	60710	0.43		1.00	1.00	1.00
280-90400-H-1-B	UNK	11/11/16 05:27:12 pm	-0.009	78	2.70		1.00	1.00	1.00
280-90400-H-2-B	UNK	11/11/16 05:29:25 pm	-0.004	167	3.49		1.00	1.00	1.00
280-90400-C-11-A	UNK	11/11/16 05:31:37 pm	-0.007	105	0.39		1.00	1.00	1.00
280-90400-C-11-A SD@5	UNK	11/11/16 05:33:50 pm	0.002	283	1.04		1.00	1.00	1.00
280-90400-C-11-B MS	UNK	11/11/16 05:36:03 pm	2.957	55878	0.41		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 05:38:19 pm	3.015	56970	0.43		1.00	1.00	1.00
% Recovery 100.51									

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
CCB 280-351009/13-A	CCB	11/11/16 05:40:32 pm	-0.012	17	29.64		1.00	1.00	1.00
280-90400-C-11-C MSD	UNK	11/11/16 05:42:45 pm	2.991	56522	0.41		1.00	1.00	1.00
280-90400-C-11-A PDS	UNK	11/11/16 05:44:59 pm	2.997	56625	0.42		1.00	1.00	1.00
280-90409-E-1-B	UNK	11/11/16 05:47:12 pm	-0.012	17	11.96		1.00	1.00	1.00
280-90409-E-2-B	UNK	11/11/16 05:49:26 pm	-0.010	56	2.47		1.00	1.00	1.00
280-90409-A-3-B	UNK	11/11/16 05:51:40 pm	-0.010	64	7.48		1.00	1.00	1.00
280-90409-A-4-B	UNK	11/11/16 05:53:55 pm	-0.008	88	2.05		1.00	1.00	1.00
280-90415-E-1-B	UNK	11/11/16 05:56:10 pm	-0.009	82	2.67		1.00	1.00	1.00
280-90420-C-3-B	UNK	11/11/16 05:58:25 pm	-0.009	82	4.43		1.00	1.00	1.00
280-90420-C-4-B	UNK	11/11/16 06:00:38 pm	-0.009	67	5.15		1.00	1.00	1.00
280-90420-C-5-B	UNK	11/11/16 06:02:51 pm	-0.008	90	7.08		1.00	1.00	1.00
CCV 280-351009/12-A % Recovery 101.71	CCV	11/11/16 06:05:07 pm	3.051	57645	0.38		1.00	1.00	1.00
CCB 280-351009/13-A	CCB	11/11/16 06:07:20 pm	-0.012	25	25.50		1.00	1.00	1.00
280-90420-C-7-B	UNK	11/11/16 06:09:33 pm	-0.009	76	3.18		1.00	1.00	1.00
280-90420-E-8-B	UNK	11/11/16 06:11:46 pm	-0.007	121	2.79		1.00	1.00	1.00
MB 280-351002/1-A	UNK	11/11/16 06:13:59 pm	-0.009	74	7.89		1.00	1.00	1.00
LCS 280-351002/2-A	UNK	11/11/16 06:16:12 pm	3.233	61061	0.33		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
LCSD 280-351002/3-A	UNK	11/11/16 06:18:26 pm	3.201	60459	0.51		1.00	1.00	1.00
580-63887-J-2-D	UNK	11/11/16 06:20:40 pm	-0.010	55	4.05		1.00	1.00	1.00
280-90401-C-3-A	UNK	11/11/16 06:22:54 pm	-0.004	178	2.54		1.00	1.00	1.00
280-90401-C-4-A	UNK	11/11/16 06:25:09 pm	0.092	1971	0.89		1.00	1.00	1.00
280-90413-C-1-E	UNK	11/11/16 06:27:24 pm	-0.009	74	1.87		1.00	1.00	1.00
280-90413-C-1-F MS	UNK	11/11/16 06:29:39 pm	3.033	57301	0.38		1.00	1.00	1.00
CCV 280-351009/12-A % Recovery 101.64	CCV	11/11/16 06:31:56 pm	3.049	57606	0.38		1.00	1.00	1.00
CCB 280-351009/13-A	CCB	11/11/16 06:34:09 pm	-0.012	23	3.39		1.00	1.00	1.00
280-90413-C-1-G MSD	UNK	11/11/16 06:36:22 pm	2.990	56489	0.45		1.00	1.00	1.00
280-90413-C-2-C	UNK	11/11/16 06:38:35 pm	-0.010	60	10.76		1.00	1.00	1.00
280-90413-C-3-C	UNK	11/11/16 06:40:48 pm	-0.008	87	6.15		1.00	1.00	1.00
280-90413-C-4-C	UNK	11/11/16 06:43:02 pm	-0.007	118	3.60		1.00	1.00	1.00
280-90413-C-5-C	UNK	11/11/16 06:45:15 pm	0.016	546	0.50		1.00	1.00	1.00
280-90413-C-6-C	UNK	11/11/16 06:47:28 pm	-0.003	194	2.48		1.00	1.00	1.00
MB 280-350469/1-A	UNK	11/11/16 06:49:42 pm	-0.010	62	4.55		1.00	1.00	1.00
LCS 280-350469/2-A	UNK	11/11/16 06:51:56 pm	2.962	55967	0.42		1.00	1.00	1.00
LCSD 280-350469/3-A	UNK	11/11/16 06:54:10 pm	2.988	56456	0.53		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-90290-J-2-B	UNK	11/11/16 06:56:25 pm	-0.011	40	11.01		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 06:58:41 pm	3.041	57459	0.45		1.00	1.00	1.00
% Recovery 101.38									
CCB 280-351009/13-A	CCB	11/11/16 07:00:54 pm	-0.011	33	12.00		1.00	1.00	1.00
280-90290-J-3-B	UNK	11/11/16 07:03:09 pm	-0.004	174	3.64		1.00	1.00	1.00
280-90598-C-1-B	UNK	11/11/16 07:05:24 pm	0.180	3631	0.76		1.00	1.00	1.00
280-90598-C-2-B	UNK	11/11/16 07:07:38 pm	-0.005	150	2.07		1.00	1.00	1.00
280-90598-C-3-B	UNK	11/11/16 07:09:51 pm	-0.009	72	5.96		1.00	1.00	1.00
280-90598-C-4-B	UNK	11/11/16 07:12:05 pm	-0.002	198	2.13		1.00	1.00	1.00
280-90598-C-5-B	UNK	11/11/16 07:14:19 pm	-0.008	97	4.23		1.00	1.00	1.00
280-90598-C-6-B	UNK	11/11/16 07:16:32 pm	-0.005	159	2.50		1.00	1.00	1.00
280-90598-C-7-B	UNK	11/11/16 07:18:46 pm	0.027	758	1.27		1.00	1.00	1.00
280-90598-C-8-B	UNK	11/11/16 07:20:59 pm	0.022	668	0.83		1.00	1.00	1.00
280-90598-C-9-B	UNK	11/11/16 07:23:13 pm	-0.004	169	3.01		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 07:25:30 pm	3.115	58836	0.48		1.00	1.00	1.00
% Recovery 103.82									
CCB 280-351009/13-A	CCB	11/11/16 07:27:43 pm	-0.012	24	17.58		1.00	1.00	1.00
280-90598-C-10-B	UNK	11/11/16 07:29:57 pm	-0.007	121	2.27		1.00	1.00	1.00
280-90598-C-11-B	UNK	11/11/16 07:32:12 pm	-0.007	108	2.88		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-90598-C-12-B	UNK	11/11/16 07:34:27 pm	-0.003	182	3.02		1.00	1.00	1.00
280-90598-I-13-A	UNK	11/11/16 07:36:42 pm	0.124	2572	0.41		1.00	1.00	1.00
280-90598-I-13-B MS	UNK	11/11/16 07:38:55 pm	1.896	35909	3.83		1.00	1.00	1.00
280-90598-I-13-C MSD	UNK	11/11/16 07:41:09 pm	3.286	62070	0.45		1.00	1.00	1.00
280-90598-C-14-B	UNK	11/11/16 07:43:23 pm	-0.010	62	2.88		1.00	1.00	1.00
280-90598-C-15-B	UNK	11/11/16 07:45:37 pm	0.687	13163	0.46		1.00	1.00	1.00
280-90598-C-16-B	UNK	11/11/16 07:47:51 pm	-0.009	80	10.43		1.00	1.00	1.00
280-90598-C-17-B	UNK	11/11/16 07:50:04 pm	0.009	420	1.52		1.00	1.00	1.00
CCV 280-351009/12-A % Recovery 101.32	CCV	11/11/16 07:52:21 pm	3.039	57425	0.43		1.00	1.00	1.00
CCB 280-351009/13-A	CCB	11/11/16 07:54:34 pm	-0.011	32	11.95		1.00	1.00	1.00
280-90598-C-18-B	UNK	11/11/16 07:56:48 pm	0.123	2563	0.16		1.00	1.00	1.00
LB 280-350871/1-B	UNK	11/11/16 07:59:02 pm	-0.009	85	1.81		1.00	1.00	1.00
LCS 280-350871/2-B	UNK	11/11/16 08:01:16 pm	3.402	64252	0.35		1.00	1.00	1.00
280-90661-A-1-D	UNK	11/11/16 08:03:31 pm	-0.006	134	3.92		1.00	1.00	1.00
280-90661-A-1-E MS	UNK	11/11/16 08:05:46 pm	3.404	64275	0.35		1.00	1.00	1.00
280-90661-A-1-F MSD	UNK	11/11/16 08:08:01 pm	3.210	60636	0.42		1.00	1.00	1.00
280-90685-A-1-C	UNK	11/11/16 08:10:15 pm	-0.011	41	5.64		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
MB 280-350129/1-A	UNK	11/11/16 08:12:29 pm	-0.011	37	13.11		1.00	1.00	1.00
LCS 280-350129/2-A	UNK	11/11/16 08:14:43 pm	3.076	58110	0.33		1.00	1.00	1.00
280-90277-E-1-E@10	UNK	11/11/16 08:16:57 pm	0.042	1037	0.53		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 08:19:13 pm	3.210	60635	0.46		1.00	1.00	1.00
% Recovery 107.00									
CCB 280-351009/13-A	CCB	11/11/16 08:21:26 pm	-0.011	34	18.77		1.00	1.00	1.00
280-90277-E-2-E@10	UNK	11/11/16 08:23:40 pm	0.073	1611	0.75		1.00	1.00	1.00
280-90277-E-3-C@10	UNK	11/11/16 08:25:55 pm	0.916	17487	0.77		1.00	1.00	1.00
280-90277-E-4-C@10	UNK	11/11/16 08:28:09 pm	0.066	1483	0.40		1.00	1.00	1.00
280-90277-E-5-C	UNK	11/11/16 08:30:23 pm	-0.008	95	4.52		1.00	1.00	1.00
280-90277-E-5-D MS	UNK	11/11/16 08:32:37 pm	2.413	45641	0.69		1.00	1.00	1.00
280-90277-E-5-E MSD	UNK	11/11/16 08:34:52 pm	2.328	44043	0.94		1.00	1.00	1.00
280-90277-E-7-C	UNK	11/11/16 08:37:07 pm	-0.006	134	10.48	s	1.00	1.00	1.00
280-90283-E-1-C@10	UNK	11/11/16 08:39:22 pm	0.003	305	3.06		1.00	1.00	1.00
280-90283-E-2-C	UNK	11/11/16 08:41:36 pm	-0.005	157	2.87		1.00	1.00	1.00
MB 280-350130/1-A	UNK	11/11/16 08:43:51 pm	-0.013	0	682.82		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 08:46:07 pm	3.183	60132	0.31		1.00	1.00	1.00
% Recovery 106.11									
CCB 280-351009/13-A	CCB	11/11/16 08:48:20 pm	-0.013	-8	40.84		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
LCS 280-350130/2-A	UNK	11/11/16 08:50:35 pm	2.973	56174	0.40		1.00	1.00 1.00
280-90277-D-1-E@25	UNK	11/11/16 08:52:49 pm	7.746	145973	0.76	O	1.00	1.00 1.00
280-90277-D-2-E@25	UNK	11/11/16 08:57:57 pm	10.938	206017	0.62	O	1.00	1.00 1.00
280-90277-D-3-C@25	UNK	11/11/16 09:03:42 pm	7.053	132927	0.51	O	1.00	1.00 1.00
280-90277-D-4-C@25	UNK	11/11/16 09:08:05 pm	4.655	87820	0.60		1.00	1.00 1.00
280-90277-D-5-C	UNK	11/11/16 09:10:19 pm	1.118	21274	0.92		1.00	1.00 1.00
280-90277-D-6-C	UNK	11/11/16 09:12:34 pm	-0.013	-5	150.50		1.00	1.00 1.00
280-90277-D-6-D MS	UNK	11/11/16 09:14:48 pm	3.000	56690	0.36		1.00	1.00 1.00
280-90277-D-6-E MSD	UNK	11/11/16 09:17:03 pm	3.054	57690	0.48		1.00	1.00 1.00
280-90277-D-7-C@10	UNK	11/11/16 09:19:18 pm	0.260	5138	0.28		1.00	1.00 1.00
CCV 280-351009/12-A % Recovery 102.16	CCV	11/11/16 09:21:35 pm	3.065	57899	0.38		1.00	1.00 1.00
CCB 280-351009/13-A	CCB	11/11/16 09:23:48 pm	-0.014	-15	20.58		1.00	1.00 1.00
280-90283-D-1-E@25	UNK	11/11/16 09:26:03 pm	5.300	99945	0.45		1.00	1.00 1.00
280-90283-D-2-E	UNK	11/11/16 09:28:18 pm	0.007	374	0.70		1.00	1.00 1.00
280-90283-D-3-G	UNK	11/11/16 09:30:33 pm	-0.011	45	10.22		1.00	1.00 1.00
CCV 280-351009/12-A % Recovery 98.73	CCV	11/11/16 09:32:49 pm	2.962	55966	0.79		1.00	1.00 1.00
CCB 280-351009/13-A	CCB	11/11/16 09:35:02 pm	-0.014	-11	26.66		1.00	1.00 1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-90598-I-13-B MS	UNK	11/11/16 09:55:17 pm	3.077	58139	0.48		1.00	1.00	1.00
280-90598-I-13-C MSD	UNK	11/11/16 09:57:31 pm	3.136	59236	0.24		1.00	1.00	1.00
280-90277-E-1-E	UNK	11/11/16 09:59:45 pm	0.290	5703	0.74		1.00	1.00	1.00
280-90277-E-2-E	UNK	11/11/16 10:01:59 pm	0.445	8621	0.61		1.00	1.00	1.00
280-90277-E-4-C	UNK	11/11/16 10:04:14 pm	0.468	9047	0.65		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 10:06:30 pm	2.998	56649	0.49		1.00	1.00	1.00
% Recovery 99.94									
CCB 280-351009/13-A	CCB	11/11/16 10:08:43 pm	-0.012	20	16.67		1.00	1.00	1.00
280-90283-E-1-C	UNK	11/11/16 10:10:59 pm	0.037	942	1.30		1.00	1.00	1.00
280-90277-D-1-E@125	UNK	11/11/16 10:13:13 pm	1.741	32994	0.81		1.00	1.00	1.00
280-90277-D-2-E@125	UNK	11/11/16 10:15:27 pm	2.416	45687	0.54		1.00	1.00	1.00
280-90277-D-3-C@125	UNK	11/11/16 10:17:42 pm	1.439	27310	0.54		1.00	1.00	1.00
280-90277-D-7-C	UNK	11/11/16 10:19:57 pm	2.419	45751	0.62		1.00	1.00	1.00
CCV 280-351009/12-A	CCV	11/11/16 10:22:13 pm	3.213	60693	0.49		1.00	1.00	1.00
% Recovery 107.10									
CCB 280-351009/13-A	CCB	11/11/16 10:24:26 pm	-0.012	28	17.48		1.00	1.00	1.00

Analysis Parameters

Instrument M-7500 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	35.00	90.00	56.00	4	1.50	50	253.65

ASX Pump Rate (%)
35

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
20.00	24.00		

Standby Mode

Enabled: Yes

Standby Options: pump off, gas off, lamp off

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ppb)
0.0600

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICB

Concentration (ppb)
0.0600

Failure flag: Z

Error action for manually inserted QC: Stop analysis

CCV

Concentration (ppb)	Low Limit %	High Limit %
3.0000	80.0000	120.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ppb)	Low Limit %	High Limit %
2.4000	94.6000	105.4000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

CRDL

Concentration (ppb)	Low Limit %	High Limit %
0.1200	50.0000	150.0000

Failure flag: Y

Error action for manually inserted QC: Stop analysis

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG No.:

Project: Ravenna, OH, LL2/Fuze and Booster Quarry

Client Sample ID	Lab Sample ID
LL2mw-271-110116-GW	280-90409-1
LL2mw-261-103116-GW	280-90409-2
FBQmw-175-110116-GW	280-90409-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL2mw-271-110116-GW
Lab Sample ID: 280-90409-1
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 11/01/2016 10:13
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	3.5	10	5.0	2.0	ug/L	J		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL2mw-261-103116-GW
Lab Sample ID: 280-90409-2
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 10/31/2016 14:40
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	2.7	10	5.0	2.0	ug/L	J	B	1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: FBQmw-175-110116-GW
Lab Sample ID: 280-90409-4
Lab Name: TestAmerica Denver
Job No.: 280-90409-1
SDG ID.:
Matrix: Water
Date Sampled: 11/01/2016 16:12
Reporting Basis: WET
Date Received: 11/02/2016 10:00

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	5.0	10	5.0	2.0	ug/L	U		1	9012B
Chromium, hexavalent	39	40	8.0	8.0	ug/L	J	D	2	7196A
Sulfide	1900	4000	1900	790	ug/L	U		1	9034
Nitrate as N	1300	500	100	42	ug/L			1	9056A
Sulfate	33000	5000	500	230	ug/L			1	9056A
Nitrite as N	100	500	100	49	ug/L	U		1	9056A
Alkalinity	24	5.0	3.2	1.1	mg/L		B	1	SM 2320B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: JML Batch Start Date: 11/11/2016

Reporting Units: mg/L Analytical Batch No.: 351049

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	12:20	Cyanide, Total	0.0960	0.100	96	90-110		CN ICV Daily_00940
15	ICB	12:22	Cyanide, Total	0.0050				U	
29	CCV	12:43	Cyanide, Total	0.196	0.200	98	90-110		CN CAL 1 ppm_01176
30	CCB	12:45	Cyanide, Total	0.0050				U	
44	CCV	13:06	Cyanide, Total	0.196	0.200	98	90-110		CN CAL 1 ppm_01176
45	CCB	13:07	Cyanide, Total	0.0050				U	
59	CCV	13:28	Cyanide, Total	0.200	0.200	100	90-110		CN CAL 1 ppm_01176
60	CCB	13:30	Cyanide, Total	0.0050				U	
74	CCV	13:51	Cyanide, Total	0.201	0.200	100	90-110		CN CAL 1 ppm_01176
75	CCB	13:52	Cyanide, Total	0.0050				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: IEU Batch Start Date: 11/02/2016

Reporting Units: mg/L Analytical Batch No.: 349415

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
6	ICV	11:13	Chromium, hexavalent	0.0481	0.0500	96	90-110		CR6 ICV int_01146
7	ICB	11:13	Chromium, hexavalent	0.0040				U	
18	CCV	11:13	Chromium, hexavalent	0.0900	0.100	90	90-110		CR6 ICV int_01146
19	CCB	11:13	Chromium, hexavalent	0.0040				U	
21	CCV	12:14	Chromium, hexavalent	0.0907	0.100	91	90-110		CR6 ICV int_01146
22	CCB	12:14	Chromium, hexavalent	0.0040				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: AFB Batch Start Date: 10/07/2016

Reporting Units: mg/L Analytical Batch No.: 345473

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	11:33	Nitrate as N	4.07	4.00	102	90-110		IC ICV 5_00158
			Nitrite as N	4.14	4.00	104	90-110		IC ICV 5_00158
9	ICB	11:50	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: AFB Batch Start Date: 10/07/2016

Reporting Units: mg/L Analytical Batch No.: 345474

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	11:33	Sulfate	81.2	80.0	102	90-110		IC SO4 ICV_00016
9	ICB	11:50	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: AFB Batch Start Date: 11/02/2016

Reporting Units: mg/L Analytical Batch No.: 349376

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:20	Nitrate as N	5.02	5.00	100	90-110		IC LCS_00736
			Nitrite as N	5.18	5.00	104	90-110		IC LCS_00736
2	CCB	09:37	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	
28	CCV	19:17	Nitrate as N	5.06	5.00	101	90-110		IC LCS_00736
			Nitrite as N	5.27	5.00	105	90-110		IC LCS_00736
29	CCB	19:34	Nitrate as N	0.10				U	
			Nitrite as N	0.10				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: AFB Batch Start Date: 11/02/2016

Reporting Units: mg/L Analytical Batch No.: 349377

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:20	Sulfate	99.7	100	100	90-110		IC LCS_00736
2	CCB	09:37	Sulfate	0.50				U	
17	CCV	15:49	Sulfate	99.9	100	100	90-110		IC LCS_00736
18	CCB	16:06	Sulfate	0.50				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Analyst: MMC Batch Start Date: 11/13/2016

Reporting Units: mg/L Analytical Batch No.: 351255

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
13	CCV	15:15	Alkalinity	972	1000	97	90-110		Alk high lcs_00161
14	CCB	15:18	Alkalinity	5.80					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 349415 Date: 11/02/2016 11:13							
7196A	MB 280-349415/10	Chromium, hexavalent	4.0	U	ug/L	20	1
Batch ID: 351049 Date: 11/11/2016 12:29 Prep Batch: 350982 Date: 11/11/2016 08:29							
9012B	MB 280-350982/4-A	Cyanide, Total	5.29	J	ug/L	10	1
Batch ID: 351049 Date: 11/11/2016 13:15 Prep Batch: 351026 Date: 11/11/2016 10:27							
9012B	MB 280-351026/4-A	Cyanide, Total	5.0	U	ug/L	10	1
Batch ID: 349511 Date: 11/02/2016 16:50 Prep Batch: 349505 Date: 11/02/2016 16:30							
9034	MB 280-349505/2-A	Sulfide	1900	U	ug/L	4000	1
Batch ID: 349376 Date: 11/02/2016 10:44							
9056A	MB 280-349376/6	Nitrate as N	100	U	ug/L	500	1
9056A	MB 280-349376/6	Nitrite as N	100	U	ug/L	500	1
Batch ID: 349377 Date: 11/02/2016 10:44							
9056A	MB 280-349377/6	Sulfate	500	U	ug/L	5000	1
Batch ID: 351255 Date: 11/13/2016 14:41							
SM 2320B	MB 280-351255/5	Alkalinity	6.07		mg/L	5.0	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 349376 Date: 11/02/2016 13:35											
9056A	280-90409-4	Nitrate as N	1300		ug/L						
9056A	280-90409-4 MS	Nitrate as N	6350		ug/L	5000	102	88-111			
9056A	280-90409-4	Nitrite as N	100	U	ug/L						
9056A	280-90409-4 MS	Nitrite as N	5400		ug/L	5000	108	87-111			
Batch ID: 349377 Date: 11/02/2016 13:35											
9056A	280-90409-4	Sulfate	33000		ug/L						
9056A	280-90409-4 MS	Sulfate	58600		ug/L	25000	102	87-112			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 349376 Date: 11/02/2016 13:51											
9056A	280-90409-4 MSD	Nitrate as N	6390		ug/L	5000	102	88-111	1	10	
9056A	280-90409-4 MSD	Nitrite as N	5440		ug/L	5000	109	87-111	1	10	
Batch ID: 349377 Date: 11/02/2016 13:51											
9056A	280-90409-4 MSD	Sulfate	58800		ug/L	25000	103	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 349376 Date: 11/02/2016 13:18								
9056A	FBQmw-175-110116-GW	280-90409-4	Nitrate as N	1300	ug/L			
9056A	FBQmw-175-110116-GW	280-90409-4 DU	Nitrate as N	1260	ug/L	0.06	10	
9056A	FBQmw-175-110116-GW	280-90409-4	Nitrite as N	100	ug/L			U
9056A	FBQmw-175-110116-GW	280-90409-4 DU	Nitrite as N	100	ug/L	NC	10	U
Batch ID: 349377 Date: 11/02/2016 13:18								
9056A	FBQmw-175-110116-GW	280-90409-4	Sulfate	33000	ug/L			
9056A	FBQmw-175-110116-GW	280-90409-4 DU	Sulfate	33000	ug/L	0.05	10	
Batch ID: 351255 Date: 11/13/2016 14:53								
SM 2320B	FBQmw-175-110116-GW	280-90409-4	Alkalinity	24	mg/L			
SM 2320B	FBQmw-175-110116-GW	280-90409-4 DU	Alkalinity	11.7	mg/L	67	10	J

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 349415	Date: 11/02/2016 11:13										
						LCS Source: CR6 spike sou_00757					
7196A	LCS 280-349415/8	Chromium, hexavalent	92.2		ug/L	100	92	90-111	2	20	
Batch ID: 351049	Date: 11/11/2016 12:28	Prep Batch: 350982	Date: 11/11/2016 08:29								
						LCS Source: CN ICV Int_00407					
9012B	LCS 280-350982/3-A	Cyanide, Total	99.1		ug/L	100	99	83-116			
Batch ID: 351049	Date: 11/11/2016 13:13	Prep Batch: 351026	Date: 11/11/2016 10:27								
						LCS Source: CN ICV Int_00407					
9012B	LCS 280-351026/3-A	Cyanide, Total	99.6		ug/L	100	100	83-116			
Batch ID: 349511	Date: 11/02/2016 16:50	Prep Batch: 349505	Date: 11/02/2016 16:30								
						LCS Source: SFD CAL INT_01294					
9034	LCS 280-349505/1-A	Sulfide	16000		ug/L	19900	80	50-106			
Batch ID: 349376	Date: 11/02/2016 10:10										
						LCS Source: IC LCS_00736					
9056A	LCS 280-349376/4	Nitrate as N	5030		ug/L	5000	101	88-111	0	10	
9056A	LCS 280-349376/4	Nitrite as N	5250		ug/L	5000	105	87-111	0	10	
Batch ID: 349377	Date: 11/02/2016 10:10										
						LCS Source: IC LCS_00736					
9056A	LCS 280-349377/4	Sulfate	100000		ug/L	100000	100	87-112	0	10	
Batch ID: 351255	Date: 11/13/2016 14:37										
						LCS Source: Alk high lcs_00161					
SM 2320B	LCS 280-351255/4	Alkalinity	984		mg/L	1000	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 349415	Date: 11/02/2016 11:13										
						LCSD Source: CR6 spike sou_00757					
7196A	LCSD 280-349415/9	Chromium, hexavalent	90.7		ug/L	100	91	90-111	2	20	
Batch ID: 349376	Date: 11/02/2016 10:27										
						LCSD Source: IC LCS_00736					
9056A	LCSD 280-349376/5	Nitrate as N	5030		ug/L	5000	101	88-111	0	10	
9056A	LCSD 280-349376/5	Nitrite as N	5260		ug/L	5000	105	87-111	0	10	
Batch ID: 349377	Date: 11/02/2016 10:27										
						LCSD Source: IC LCS_00736					
9056A	LCSD 280-349377/5	Sulfate	99900		ug/L	100000	100	87-112	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LOW LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 351049	Date: 11/11/2016 12:26		Prep Batch: 350982			Date: 11/11/2016 08:29					
						LCS Source: CN 10ppm_00228					
9012B	LLCS 280-350982/2-A	Cyanide, Total	101		ug/L	100	101	44-167			
Batch ID: 351049	Date: 11/11/2016 13:12		Prep Batch: 351026			Date: 11/11/2016 10:27					
						LCS Source: CN 10ppm_00228					
9012B	LLCS 280-351026/2-A	Cyanide, Total	101		ug/L	100	101	44-167			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
HIGH LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 351049	Date: 11/11/2016 12:25		Prep Batch: 350982			Date: 11/11/2016 08:29					
						LCS Source: CN 10ppm_00228					
9012B	HLCS 280-350982/1-A	Cyanide, Total	408		ug/L	400	102	90-110			
Batch ID: 351049	Date: 11/11/2016 13:10		Prep Batch: 351026			Date: 11/11/2016 10:27					
						LCS Source: CN 10ppm_00228					
9012B	HLCS 280-351026/1-A	Cyanide, Total	415		ug/L	400	104	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 349376	Date: 11/02/2016 09:54										
						LCS Source: IC Cal low_00241					
9056A	MRL 280-349376/3	Nitrate as N	0.205	J	mg/L	0.200	103	50-150			
9056A	MRL 280-349376/3	Nitrite as N	0.179	J	mg/L	0.200	90	50-150			
Batch ID: 349377	Date: 11/02/2016 09:54										
						LCS Source: IC CAL cl/so4_00123					
9056A	MRL 280-349377/3	Sulfate	2.50	J	mg/L	2.50	100	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B DL Date: 02/16/2014 00:00

Prep Method: 9012B

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_HSPEC_7196

Method: 7196A DL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Chromium, hexavalent		0.02	0.004

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_HSPEC_7196

Method: 7196A XMDL Date: 05/16/2013 14:49

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chromium, hexavalent		0.02	0.004

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: NoEquip

Method: 9034 DL Date: 03/28/2011 13:37

Prep Method: 9030B

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Sulfide		4	0.793

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: NoEquip

Method: 9034 XMDL Date: 03/28/2011 13:37

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		4	0.793

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom8

Method: 9056A DL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Nitrate as N		0.5	0.042
Nitrite as N		0.5	0.049
Sulfate		5	0.232

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC_IonChrom8

Method: 9056A XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate as N		0.5	0.042
Nitrite as N		0.5	0.049
Sulfate		5	0.232

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC-AT3

Method: SM 2320B DL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Alkalinity		5	1.07

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-90409-1

SDG Number:

Matrix: Water Instrument ID: WC-AT3

Method: SM 2320B XMDL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
HLCS 280-350982/1-A	11/11/2016 08:29	350982		50	50
LLCS 280-350982/2-A	11/11/2016 08:29	350982		50	50
LCS 280-350982/3-A	11/11/2016 08:29	350982		50	50
MB 280-350982/4-A	11/11/2016 08:29	350982		50	50
280-90409-2	11/11/2016 08:29	350982		50	50

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
HLCS 280-351026/1-A	11/11/2016 10:27	351026		50	50
LLCS 280-351026/2-A	11/11/2016 10:27	351026		50	50
LCS 280-351026/3-A	11/11/2016 10:27	351026		50	50
MB 280-351026/4-A	11/11/2016 10:27	351026		50	50
280-90409-1	11/11/2016 10:27	351026		50	50
280-90409-4	11/11/2016 10:27	351026		50	50

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Prep Method: 9030B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
LCS 280-349505/1-A	11/02/2016 16:30	349505		50	50
MB 280-349505/2-A	11/02/2016 16:30	349505		50	50
280-90409-4	11/02/2016 16:30	349505		50	50

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/11/2016 12:01 End Date: 11/11/2016 13:54

Lab Sample Id	D/F	Type	Time	Analytes
				CN
ZZZZZZ			12:01	
ZZZZZZ			12:02	
ZZZZZZ			12:04	
ZZZZZZ			12:05	
IC 280-351049/5			12:07	X
IC 280-351049/6			12:08	X
IC 280-351049/7			12:10	X
IC 280-351049/8			12:11	X
IC 280-351049/9			12:13	X
IC 280-351049/10			12:14	X
IC 280-351049/11			12:16	X
ZZZZZZ			12:17	
ZZZZZZ			12:19	
ICV 280-351049/14	1		12:20	X
ICB 280-351049/15	1		12:22	X
ZZZZZZ			12:23	
HLCS 280-350982/1-A	2	T	12:25	X
LLCS 280-350982/2-A	1	T	12:26	X
LCS 280-350982/3-A	1	T	12:28	X
MB 280-350982/4-A	1	T	12:29	X
ZZZZZZ			12:31	
ZZZZZZ			12:32	
ZZZZZZ			12:34	
ZZZZZZ			12:35	
ZZZZZZ			12:37	
ZZZZZZ			12:39	
ZZZZZZ			12:40	
ZZZZZZ			12:42	
CCV 280-351049/29	1		12:43	X
CCB 280-351049/30	1		12:45	X
ZZZZZZ			12:46	
ZZZZZZ			12:48	
ZZZZZZ			12:49	
280-90409-2	1	T	12:51	X
ZZZZZZ			12:52	
ZZZZZZ			12:54	
ZZZZZZ			12:55	
ZZZZZZ			12:57	
ZZZZZZ			12:58	
ZZZZZZ			13:00	
ZZZZZZ			13:01	
ZZZZZZ			13:03	

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/11/2016 12:01 End Date: 11/11/2016 13:54

Lab Sample Id	D/F	Type	Time	Analytes
				CN
ZZZZZZ			13:04	
CCV 280-351049/44	1		13:06	X
CCB 280-351049/45	1		13:07	X
ZZZZZZ			13:09	
HLCS 280-351026/1-A	2	T	13:10	X
LLCS 280-351026/2-A	1	T	13:12	X
LCS 280-351026/3-A	1	T	13:13	X
MB 280-351026/4-A	1	T	13:15	X
ZZZZZZ			13:16	
ZZZZZZ			13:18	
ZZZZZZ			13:19	
ZZZZZZ			13:21	
ZZZZZZ			13:22	
ZZZZZZ			13:24	
ZZZZZZ			13:25	
ZZZZZZ			13:27	
CCV 280-351049/59	1		13:28	X
CCB 280-351049/60	1		13:30	X
ZZZZZZ			13:31	
ZZZZZZ			13:33	
ZZZZZZ			13:34	
ZZZZZZ			13:36	
ZZZZZZ			13:37	
ZZZZZZ			13:39	
280-90409-1	1	T	13:40	X
280-90409-4	1	T	13:42	X
ZZZZZZ			13:43	
ZZZZZZ			13:45	
ZZZZZZ			13:46	
ZZZZZZ			13:48	
ZZZZZZ			13:49	
CCV 280-351049/74	1		13:51	X
CCB 280-351049/75	1		13:52	X
ZZZZZZ			13:54	

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_HSPEC_7196 Analysis Method: 7196A

Start Date: 11/02/2016 11:13 End Date: 11/02/2016 12:14

Lab Sample Id	D/F	Type	Time	Analytes																								
				Cr6																								
IC 280-349415/1	1		11:13	X																								
IC 280-349415/2	1		11:13	X																								
IC 280-349415/3	1		11:13	X																								
IC 280-349415/4	1		11:13	X																								
IC 280-349415/5	1		11:13	X																								
ICV 280-349415/6	1		11:13	X																								
ICB 280-349415/7	1		11:13	X																								
LCS 280-349415/8	1	T	11:13	X																								
LCSD 280-349415/9	1	T	11:13	X																								
MB 280-349415/10	1	T	11:13	X																								
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
ZZZZZZ			11:13																									
CCV 280-349415/18	1		11:13	X																								
CCB 280-349415/19	1		11:13	X																								
280-90409-4	2	T	11:13	X																								
CCV 280-349415/21	1		12:14	X																								
CCB 280-349415/22	1		12:14	X																								
ZZZZZZ			12:14																									
ZZZZZZ			12:14																									
ZZZZZZ			12:14																									

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: NoEquip Analysis Method: 9034

Start Date: 11/02/2016 16:50 End Date: 11/02/2016 16:50

Lab Sample Id	D/F	Type	Time	Analytes																								
				S2																								
LCS 280-349505/1-A	1	T	16:50	X																								
MB 280-349505/2-A	1	T	16:50	X																								
ZZZZZZ			16:50																									
280-90409-4	1	T	16:50	X																								
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									
ZZZZZZ			16:50																									

Prep Types:
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 10/07/2016 09:25 End Date: 10/08/2016 04:22

Lab Sample Id	D/F	Type	Time	Analytes																										
				N-No2	NO3																									
RTC 280-345473/1			09:25																											
STD 280-345473/2 IC	1		09:42	X	X																									
STD 280-345473/3 IC	1		09:59	X	X																									
STD 280-345473/4 IC	1		10:15	X	X																									
STD 280-345473/5 IC	1		10:32	X	X																									
STD 280-345473/6 IC	1		10:49	X	X																									
STD 280-345473/7 IC	1		11:06	X	X																									
ICV 280-345473/8	1		11:33	X	X																									
ICB 280-345473/9	1		11:50	X	X																									
ZZZZZZ			12:07																											
ZZZZZZ			12:23																											
ZZZZZZ			12:40																											
ZZZZZZ			12:57																											
ZZZZZZ			15:46																											
ZZZZZZ			16:03																											
ZZZZZZ			16:20																											
ZZZZZZ			16:36																											
ZZZZZZ			16:53																											
ZZZZZZ			17:10																											
ZZZZZZ			17:27																											
ZZZZZZ			17:44																											
ZZZZZZ			18:00																											
CCV 280-345473/23			18:17																											
CCB 280-345473/24			18:34																											
ZZZZZZ			18:51																											
ZZZZZZ			19:08																											
ZZZZZZ			19:24																											
ZZZZZZ			19:41																											
ZZZZZZ			19:58																											
ZZZZZZ			20:15																											
ZZZZZZ			20:32																											
ZZZZZZ			20:48																											
ZZZZZZ			21:05																											
ZZZZZZ			21:22																											
CCV 280-345473/35			21:39																											
CCB 280-345473/36			21:56																											
ZZZZZZ			22:12																											
ZZZZZZ			22:29																											
ZZZZZZ			22:46																											

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 10/07/2016 09:25 End Date: 10/08/2016 04:22

Lab Sample Id	D/F	Type	Time	Analytes																										
				N-No2	NO3																									
ZZZZZZ			23:03																											
ZZZZZZ			23:20																											
ZZZZZZ			23:36																											
ZZZZZZ			23:53																											
ZZZZZZ			00:10																											
ZZZZZZ			00:27																											
CCV 280-345473/46			00:44																											
CCB 280-345473/47			01:00																											
ZZZZZZ			01:17																											
ZZZZZZ			01:34																											
ZZZZZZ			01:51																											
ZZZZZZ			02:08																											
ZZZZZZ			02:25																											
ZZZZZZ			02:41																											
ZZZZZZ			02:58																											
ZZZZZZ			03:15																											
ZZZZZZ			03:32																											
ZZZZZZ			03:49																											
CCV 280-345473/58			04:05																											
CCB 280-345473/59			04:22																											

Prep Types:
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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 10/07/2016 09:25 End Date: 10/08/2016 04:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
RTC 280-345474/1			09:25																									
STD 280-345474/2 IC	1		09:42	X																								
STD 280-345474/3 IC	1		09:59	X																								
STD 280-345474/4 IC	1		10:15	X																								
STD 280-345474/5 IC	1		10:32	X																								
STD 280-345474/6 IC	1		10:49	X																								
STD 280-345474/7 IC	1		11:06	X																								
ICV 280-345474/8	1		11:33	X																								
ICB 280-345474/9	1		11:50	X																								
ZZZZZZ			12:07																									
ZZZZZZ			12:23																									
ZZZZZZ			12:40																									
ZZZZZZ			12:57																									
ZZZZZZ			15:46																									
ZZZZZZ			16:03																									
ZZZZZZ			16:20																									
ZZZZZZ			16:36																									
ZZZZZZ			17:10																									
ZZZZZZ			17:27																									
ZZZZZZ			17:44																									
ZZZZZZ			18:00																									
CCV 280-345474/23			18:17																									
CCB 280-345474/24			18:34																									
ZZZZZZ			18:51																									
ZZZZZZ			19:08																									
ZZZZZZ			19:24																									
ZZZZZZ			19:41																									
ZZZZZZ			19:58																									
ZZZZZZ			20:15																									
ZZZZZZ			20:32																									
ZZZZZZ			20:48																									
ZZZZZZ			21:05																									
ZZZZZZ			21:22																									
CCV 280-345474/35			21:39																									
CCB 280-345474/36			21:56																									
ZZZZZZ			22:12																									
ZZZZZZ			22:29																									
ZZZZZZ			22:46																									
ZZZZZZ			23:03																									
ZZZZZZ			23:20																									
ZZZZZZ			23:36																									

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 10/07/2016 09:25 End Date: 10/08/2016 04:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			23:53																									
ZZZZZZ			00:10																									
ZZZZZZ			00:27																									
CCV 280-345474/46			00:44																									
CCB 280-345474/47			01:00																									
ZZZZZZ			01:17																									
ZZZZZZ			01:34																									
ZZZZZZ			01:51																									
ZZZZZZ			02:08																									
ZZZZZZ			02:25																									
ZZZZZZ			02:41																									
ZZZZZZ			02:58																									
ZZZZZZ			03:15																									
ZZZZZZ			03:32																									
ZZZZZZ			03:49																									
CCV 280-345474/58			04:05																									
CCB 280-345474/59			04:22																									

Prep Types:
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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 11/02/2016 09:20 End Date: 11/03/2016 05:43

Lab Sample Id	D/F	Type	Time	Analytes																										
				N-No2	NO3																									
CCV 280-349376/1	1		09:20	X	X																									
CCB 280-349376/2	1		09:37	X	X																									
MRL 280-349376/3	1	T	09:54	X	X																									
LCS 280-349376/4	1	T	10:10	X	X																									
LCSD 280-349376/5	1	T	10:27	X	X																									
MB 280-349376/6	1	T	10:44	X	X																									
280-90409-4	1	T	13:01	X	X																									
280-90409-4 DU	1	T	13:18	X	X																									
280-90409-4 MS	1	T	13:35	X	X																									
280-90409-4 MSD	1	T	13:51	X	X																									
ZZZZZZ			16:46																											
ZZZZZZ			17:03																											
ZZZZZZ			17:20																											
ZZZZZZ			17:37																											
ZZZZZZ			17:53																											
ZZZZZZ			18:10																											
ZZZZZZ			18:27																											
ZZZZZZ			18:44																											
ZZZZZZ			19:01																											
CCV 280-349376/28	1		19:17	X	X																									
CCB 280-349376/29	1		19:34	X	X																									
ZZZZZZ			23:50																											
ZZZZZZ			00:07																											
ZZZZZZ			00:24																											
ZZZZZZ			00:41																											
ZZZZZZ			00:58																											
ZZZZZZ			01:14																											
ZZZZZZ			01:31																											
ZZZZZZ			01:48																											
ZZZZZZ			02:05																											
ZZZZZZ			02:22																											
CCV 280-349376/40			02:38																											
CCB 280-349376/41			02:55																											
ZZZZZZ			03:12																											
ZZZZZZ			03:29																											
ZZZZZZ			03:46																											
ZZZZZZ			04:02																											
ZZZZZZ			04:19																											
ZZZZZZ			04:36																											

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 11/02/2016 09:20 End Date: 11/03/2016 05:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				N-No2	NO3																							
ZZZZZZ			04:53																									
ZZZZZZ			05:10																									
CCV 280-349376/50			05:26																									
CCB 280-349376/51			05:43																									

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 11/02/2016 09:20 End Date: 11/03/2016 05:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 280-349377/1	1		09:20	X																								
CCB 280-349377/2	1		09:37	X																								
MRL 280-349377/3	1	T	09:54	X																								
LCS 280-349377/4	1	T	10:10	X																								
LCSD 280-349377/5	1	T	10:27	X																								
MB 280-349377/6	1	T	10:44	X																								
280-90409-4	1	T	13:01	X																								
280-90409-4 DU	1	T	13:18	X																								
280-90409-4 MS	1	T	13:35	X																								
280-90409-4 MSD	1	T	13:51	X																								
ZZZZZZ			14:08																									
ZZZZZZ			14:25																									
ZZZZZZ			14:42																									
ZZZZZZ			14:59																									
ZZZZZZ			15:15																									
ZZZZZZ			15:32																									
CCV 280-349377/17	1		15:49	X																								
CCB 280-349377/18	1		16:06	X																								
ZZZZZZ			16:46																									
ZZZZZZ			17:03																									
ZZZZZZ			17:20																									
ZZZZZZ			17:37																									
ZZZZZZ			17:53																									
ZZZZZZ			18:10																									
ZZZZZZ			18:27																									
ZZZZZZ			18:44																									
ZZZZZZ			19:01																									
CCV 280-349377/28			19:17																									
CCB 280-349377/29			19:34																									
ZZZZZZ			23:50																									
ZZZZZZ			00:07																									
ZZZZZZ			00:24																									
ZZZZZZ			00:41																									
ZZZZZZ			00:58																									
ZZZZZZ			01:14																									
ZZZZZZ			01:31																									
ZZZZZZ			01:48																									
ZZZZZZ			02:05																									
ZZZZZZ			02:22																									
CCV 280-349377/40			02:38																									
CCB 280-349377/41			02:55																									

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC_IonChrom8 Analysis Method: 9056A

Start Date: 11/02/2016 09:20 End Date: 11/03/2016 05:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			03:12																									
ZZZZZZ			03:29																									
ZZZZZZ			03:46																									
ZZZZZZ			04:02																									
ZZZZZZ			04:19																									
ZZZZZZ			04:36																									
ZZZZZZ			04:53																									
ZZZZZZ			05:10																									
CCV 280-349377/50			05:26																									
CCB 280-349377/51			05:43																									

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Instrument ID: WC-AT3 Analysis Method: SM 2320B

Start Date: 11/13/2016 14:26 End Date: 11/13/2016 15:18

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
RINSE 280-351255/1			14:26																									
ZZZZZZ			14:29																									
ZZZZZZ			14:33																									
LCS 280-351255/4	1	T	14:37	X																								
MB 280-351255/5	1	T	14:41	X																								
ZZZZZZ			14:46																									
280-90409-4	1	T	14:49	X																								
280-90409-4 DU	1	T	14:53	X																								
ZZZZZZ			14:57																									
ZZZZZZ			15:00																									
ZZZZZZ			15:06																									
ZZZZZZ			15:10																									
CCV 280-351255/13	1		15:15	X																								
CCB 280-351255/14	1		15:18	X																								

Prep Types:
T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 350982 Batch Start Date: 11/11/16 08:29 Batch Analyst: Lehman, Jeffrey M

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	DistillpHCheck	SulfideCheck	ChlorineCheck	CN 10ppm 00228
HLCS 280-350982/1		9012B, 9012B		50 mL	50 mL	>12	N	N	2 mL
LLCS 280-350982/2		9012B, 9012B		50 mL	50 mL	>12	N	N	0.5 mL
LCS 280-350982/3		9012B, 9012B		50 mL	50 mL	>12	N	N	
MB 280-350982/4		9012B, 9012B		50 mL	50 mL	>12	N	N	
280-90409-H-2	LL2mw-261-103116-GW	9012B, 9012B	T	50 mL	50 mL	>12	N	N	

Lab Sample ID	Client Sample ID	Method Chain	Basis	CN ICV Int 00407					
HLCS 280-350982/1		9012B, 9012B							
LLCS 280-350982/2		9012B, 9012B							
LCS 280-350982/3		9012B, 9012B		0.5 mL					
MB 280-350982/4		9012B, 9012B							
280-90409-H-2	LL2mw-261-103116-GW	9012B, 9012B	T						

Batch Notes	

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351026 Batch Start Date: 11/11/16 10:27 Batch Analyst: Lehman, Jeffrey M

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	DistillpHCheck	SulfideCheck	ChlorineCheck	CN 10ppm 00228
HLCS 280-351026/1		9012B, 9012B		50 mL	50 mL	>12	N	N	2 mL
LLCS 280-351026/2		9012B, 9012B		50 mL	50 mL	>12	N	N	0.5 mL
LCS 280-351026/3		9012B, 9012B		50 mL	50 mL	>12	N	N	
MB 280-351026/4		9012B, 9012B		50 mL	50 mL	>12	N	N	
280-90409-H-1	LL2mw-271-110116 -GW	9012B, 9012B	T	50 mL	50 mL	>12	N	N	
280-90409-C-4	FBQmw-175-110116 -GW	9012B, 9012B	T	50 mL	50 mL	>12	N	N	

Lab Sample ID	Client Sample ID	Method Chain	Basis	CN ICV Int 00407					
HLCS 280-351026/1		9012B, 9012B							
LLCS 280-351026/2		9012B, 9012B							
LCS 280-351026/3		9012B, 9012B		0.5 mL					
MB 280-351026/4		9012B, 9012B							
280-90409-H-1	LL2mw-271-110116 -GW	9012B, 9012B	T						
280-90409-C-4	FBQmw-175-110116 -GW	9012B, 9012B	T						

Batch Notes	

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351049 Batch Start Date: 11/11/16 12:01 Batch Analyst: Lehman, Jeffrey M

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CN CAL 1 ppm 01176	CN ICV Daily 00940		
ICV 280-351049/14		9012B		50 mL	50 mL		50 mL		
ICB 280-351049/15		9012B		50 mL	50 mL				
HLCS 280-350982/1-A		9012B		50 mL	50 mL				
LLCS 280-350982/2-A		9012B		50 mL	50 mL				
LCS 280-350982/3-A		9012B		50 mL	50 mL				
MB 280-350982/4-A		9012B		50 mL	50 mL				
CCV 280-351049/29		9012B		50 mL	50 mL	10 mL			
CCB 280-351049/30		9012B		50 mL	50 mL				
280-90409-H-2-A	LL2mw-261-103116-GW	9012B	T	50 mL	50 mL				
CCV 280-351049/44		9012B		50 mL	50 mL	10 mL			
CCB 280-351049/45		9012B		50 mL	50 mL				
HLCS 280-351026/1-A		9012B		50 mL	50 mL				
LLCS 280-351026/2-A		9012B		50 mL	50 mL				
LCS 280-351026/3-A		9012B		50 mL	50 mL				
MB 280-351026/4-A		9012B		50 mL	50 mL				
CCV 280-351049/59		9012B		50 mL	50 mL	10 mL			
CCB 280-351049/60		9012B		50 mL	50 mL				
280-90409-H-1-A	LL2mw-271-110116-GW	9012B	T	50 mL	50 mL				
280-90409-C-4-A	FBQmw-175-110116-GW	9012B	T	50 mL	50 mL				
CCV 280-351049/74		9012B		50 mL	50 mL	10 mL			
CCB 280-351049/75		9012B		50 mL	50 mL				

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351049 Batch Start Date: 11/11/16 12:01 Batch Analyst: Lehman, Jeffrey M

Batch Method: 9012B Batch End Date:

Batch Notes	
Buffer Reagent ID Number	CN Buffer_00087
Chloramine-T ID	CN Chloro-T_00714
Pipette ID	WC 5000ELJ WC 1000NXN
Pyridine-Barbituric Acid ID	CN Pyr/barb_00147

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349415 Batch Start Date: 11/02/16 11:13 Batch Analyst: Uge, Ikem E

Batch Method: 7196A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	Initial pH	Final pH
IC 280-349415/1		7196A		10 mL	10 mL				
IC 280-349415/2		7196A		10 mL	10 mL				
IC 280-349415/3		7196A		10 mL	10 mL				
IC 280-349415/4		7196A		10 mL	10 mL				
IC 280-349415/5		7196A		10 mL	10 mL				
ICV 280-349415/6		7196A		10 mL	10 mL				
ICB 280-349415/7		7196A		10 mL	10 mL				
LCS 280-349415/8		7196A		10 mL	10 mL				
LCSD 280-349415/9		7196A		10 mL	10 mL				
MB 280-349415/10		7196A		10 mL	10 mL				
CCV 280-349415/18		7196A		10 mL	10 mL				
CCB 280-349415/19		7196A		10 mL	10 mL				
280-90409-D-4	FBQmw-175-110116-GW	7196A	T	10 mL	10 mL	0.044 Absorbance	0.070 Absorbance	4.5 SU	1.0 SU
CCV 280-349415/21		7196A		10 mL	10 mL				
CCB 280-349415/22		7196A		10 mL	10 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	CR6 ICV int 01146	CR6 Int cal 00735	CR6 spike sou 00757			
IC 280-349415/1		7196A			0.1 mL				
IC 280-349415/2		7196A			0.2 mL				
IC 280-349415/3		7196A			0.5 mL				
IC 280-349415/4		7196A			1 mL				
IC 280-349415/5		7196A			2 mL				
ICV 280-349415/6		7196A		0.5 mL					
ICB 280-349415/7		7196A							

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349415 Batch Start Date: 11/02/16 11:13 Batch Analyst: Uge, Ikem E

Batch Method: 7196A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CR6 ICV int 01146	CR6 Int cal 00735	CR6 spike sou 00757			
LCS 280-349415/8		7196A				0.1 mL			
LCSD 280-349415/9		7196A				0.1 mL			
MB 280-349415/10		7196A							
CCV 280-349415/18		7196A		1 mL					
CCB 280-349415/19		7196A							
280-90409-D-4	FBQmw-175-110116 -GW	7196A	T						
CCV 280-349415/21		7196A		1 mL					
CCB 280-349415/22		7196A							

Batch Notes	
Acid Used for pH Adjustment ID	50%H2SO4_00026
Color Reagent ID	CR^6ColorR_00264
pH Paper ID	hc689794
Pipette ID	100ix, 1000iu, 5000iu

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349505 Batch Start Date: 11/02/16 16:29 Batch Analyst: Fortman, Nicholas J

Batch Method: 9030B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Final pH	SFD CAL INT 01294	
LCS 280-349505/1		9030B, 9034		50 mL	50 mL			1 mL	
MB 280-349505/2		9030B, 9034		50 mL	50 mL				
280-90409-B-4	FBQmw-175-110116-GW	9030B, 9034	T	50 mL	50 mL	>13 SU	<2 SU		

Batch Notes	
Formaldehyde ID	form_00085
Pipette ID	5000IU
Zinc Acetate Buffer ID	znac_00090

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349511 Batch Start Date: 11/02/16 16:50 Batch Analyst: Fortman, Nicholas J

Batch Method: 9034 Batch End Date: 11/02/16 18:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	IodineAmount	BuretStart1	BuretStop1	TitrantVolume1	CalcMsg
LCS 280-349505/1-A		9034		50 mL	3 mL	0.0 mL	1.0 mL	1 mL	OK
MB 280-349505/2-A		9034		50 mL	1 mL	1.0 mL	2.0 mL	1 mL	OK
280-90409-B-4-A	FBQmw-175-110116-GW	9034	T	50 mL	1 mL	3.0 mL	3.95 mL	0.95 mL	OK

Batch Notes	
HCl Concentration	1:1
Lot # of hydrochloric acid	hcl sol 00137
Iodine Lot Number	2605A37
Iodine Vendor	Ricca
Normality of Iodine Solution	0.025 N
Sodium Thiosulfate Reagent ID Number	na thio 00104
Pipette ID	5000iu, 1000iu
Perform Calculation (0=No, 1=Yes)	1
Starch Lot Number	1512A09
Starch Vendor	Ricca
Normality of First Titrant	0.025 N
Zinc Acetate Buffer ID	znac 00090

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 345473 Batch Start Date: 10/07/16 09:25 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	IC CAL cl/so4 00120	IC Cal low 00235	IC CL ICV 00013
STD 280-345473/2 IC		9056A		5 mL	5 mL	OK	0.02 mL	0.02 mL	
STD 280-345473/3 IC		9056A		5 mL	5 mL	OK	0.05 mL	0.05 mL	
STD 280-345473/4 IC		9056A		5 mL	5 mL	OK	0.1 mL	0.1 mL	
STD 280-345473/5 IC		9056A		5 mL	5 mL	OK	1.2 mL	0.4 mL	
STD 280-345473/6 IC		9056A		5 mL	5 mL	OK	2.4 mL	0.8 mL	
STD 280-345473/7 IC		9056A		5 mL	5 mL	OK	4 mL	1 mL	
ICV 280-345473/8		9056A		5 mL	5 mL	OK			0.4 mL
ICB 280-345473/9		9056A		5 mL	5 mL	OK			

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC ICV 5 00158	IC SO4 ICV 00016				
STD 280-345473/2 IC		9056A							
STD 280-345473/3 IC		9056A							
STD 280-345473/4 IC		9056A							
STD 280-345473/5 IC		9056A							
STD 280-345473/6 IC		9056A							
STD 280-345473/7 IC		9056A							
ICV 280-345473/8		9056A		0.4 mL	0.4 mL				
ICB 280-345473/9		9056A							

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 345473 Batch Start Date: 10/07/16 09:25 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Batch Notes	
Batch Comment	pipettes: 100-C, 1000-D, 5000IC
Regeneration Solution ID	160870572019
Perform Calculation (0=No, 1=Yes)	1

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 345474 Batch Start Date: 10/07/16 09:25 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00120	IC Cal low 00235	IC CL ICV 00013	IC ICV 5 00158
STD 280-345474/2 IC		9056A		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-345474/3 IC		9056A		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-345474/4 IC		9056A		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-345474/5 IC		9056A		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-345474/6 IC		9056A		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-345474/7 IC		9056A		5 mL	5 mL	4 mL	1 mL		
ICV 280-345474/8		9056A		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-345474/9		9056A		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00016					
STD 280-345474/2 IC		9056A							
STD 280-345474/3 IC		9056A							
STD 280-345474/4 IC		9056A							
STD 280-345474/5 IC		9056A							
STD 280-345474/6 IC		9056A							
STD 280-345474/7 IC		9056A							
ICV 280-345474/8		9056A		0.4 mL					
ICB 280-345474/9		9056A							

Batch Notes	
Pipette ID	100-C, 1000-D, 5000IC
Regeneration Solution ID	160870572019

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 345474 Batch Start Date: 10/07/16 09:25 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Basis	Basis Description

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349376 Batch Start Date: 11/02/16 09:20 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	IC CAL cl/so4 00123	IC Cal low 00241	IC LCS 00736
CCV 280-349376/1		9056A		5 mL	5 mL	OK			5 mL
CCB 280-349376/2		9056A		5 mL	5 mL	OK			
MRL 280-349376/3		9056A		5 mL	5 mL	OK	0.05 mL	0.02 mL	
LCS 280-349376/4		9056A		5 mL	5 mL	OK			5 mL
LCSD 280-349376/5		9056A		5 mL	5 mL	OK			5 mL
MB 280-349376/6		9056A		5 mL	5 mL	OK			
280-90409-E-4	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL	OK			
280-90409-E-4 DU	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL	OK			
280-90409-E-4 MS	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL	OK			
280-90409-E-4 MSD	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL	OK			
CCV 280-349376/28		9056A		5 mL	5 mL	OK			5 mL
CCB 280-349376/29		9056A		5 mL	5 mL	OK			

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICMS/MSD WEEK 00428					
CCV 280-349376/1		9056A							
CCB 280-349376/2		9056A							
MRL 280-349376/3		9056A							
LCS 280-349376/4		9056A							
LCSD 280-349376/5		9056A							
MB 280-349376/6		9056A							
280-90409-E-4	FBQmw-175-110116-GW	9056A	T						
280-90409-E-4 DU	FBQmw-175-110116-GW	9056A	T						

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349376 Batch Start Date: 11/02/16 09:20 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICMS/MSD WEEK 00428					
280-90409-E-4 MS	FBQmw-175-110116 -GW	9056A	T	0.05 mL					
280-90409-E-4 MSD	FBQmw-175-110116 -GW	9056A	T	0.05 mL					
CCV 280-349376/28		9056A							
CCB 280-349376/29		9056A							

Batch Notes	
Batch Comment	pipettes: 100-C, 1000-D, 5000IC
Regeneration Solution ID	160870572019
Perform Calculation (0=No, 1=Yes)	1

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 349377 Batch Start Date: 11/02/16 09:20 Batch Analyst: Benson, Alex F

Batch Method: 9056A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00123	IC Cal low 00241	IC LCS 00736	ICMS/MSD WEEK 00428
CCV 280-349377/1		9056A		5 mL	5 mL			5 mL	
CCB 280-349377/2		9056A		5 mL	5 mL				
MRL 280-349377/3		9056A		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-349377/4		9056A		5 mL	5 mL			5 mL	
LCSD 280-349377/5		9056A		5 mL	5 mL			5 mL	
MB 280-349377/6		9056A		5 mL	5 mL				
280-90409-E-4	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL				
280-90409-E-4 DU	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL				
280-90409-E-4 MS	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL				0.05 mL
280-90409-E-4 MSD	FBQmw-175-110116-GW	9056A	T	5 mL	5 mL				0.05 mL
CCV 280-349377/17		9056A		5 mL	5 mL			5 mL	
CCB 280-349377/18		9056A		5 mL	5 mL				

Batch Notes	
Pipette ID	100-C, 1000-D, 5000IC
Regeneration Solution ID	160870572019

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.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-90409-1

SDG No.:

Batch Number: 351255 Batch Start Date: 11/13/16 14:26 Batch Analyst: Carter, Melynda M

Batch Method: SM 2320B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk high lcs 00161				
LCS 280-351255/4		SM 2320B		InitialAmount is blank	1 mL				
MB 280-351255/5		SM 2320B		InitialAmount is blank					
280-90409-E-4	FBQmw-175-110116-GW	SM 2320B	T	InitialAmount is blank					
280-90409-E-4 DU	FBQmw-175-110116-GW	SM 2320B	T	InitialAmount is blank					
CCV 280-351255/13		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-351255/14		SM 2320B		InitialAmount is blank					

Batch Notes	
pH Buffer 1 ID	pH2buffer_00055
pH Buffer 2 ID	pH4buffer_00142
pH Buffer 3 ID	pH7buffer_00192
pH Buffer 4 ID	pH10buffer_00117
pH Buffer 5 ID	pH12buffer_00109
pH Buffer 6 ID	pH7buffer_00190
Sulfuric Acid Lot Number	0.1NH2SO4_00004
Sulfuric Acid Vendor	Ricca
Nominal Amount Used	10 mL
Pipette ID	5MLBB
Probe ID	PCE 86 pH1105 sep15
Normality of First Titrant	0.1 N

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.

Run Results Report

Facility Name
Facility Location
Department
Operator Name JML
Operator ID JML
Platform FS III/IV/3100
Software Rev Code 222
Data system ID 57

Result path C:\FLOW_4\C111116A.RST
Sample table path C:\FLOW_4\c111116a.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 11-Nov-16
Time acquired 13:59

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
11-Nov-16	12:01	107	Sync	318156	393.765	
11-Nov-16	12:02	0	Carryover	254	-0.361	LO
11-Nov-16	12:04	0	Carryover	53	-0.610	LO
11-Nov-16	12:05	0	Baseline	0	-0.675	BL
11-Nov-16	12:07	101	CAL 0.00 ppb	198	-0.430	LO
11-Nov-16	12:08	102	CAL 10.0 ppb	8266	9.572	
11-Nov-16	12:10	103	CAL 20.0 ppb	16390	19.645	
11-Nov-16	12:11	104	CAL 50.0 ppb	40670	49.746	
11-Nov-16	12:13	105	CAL 100 ppb	82051	101.049	
11-Nov-16	12:14	106	Cal 200 ppb	162865	201.239	
11-Nov-16	12:16	107	Cal 400 ppb	322522	399.178	
11-Nov-16	12:17	0	BLK	-64	-0.754	LO
11-Nov-16	12:19	0	Baseline	0	-0.675	BL
11-Nov-16	12:20	108	ICV 100 ppb	77989	96.013	
11-Nov-16	12:22	0	ICB	-98	-0.797	LO
11-Nov-16	12:23	0	Baseline	0	-0.675	BL
11-Nov-16	12:25	113	hlcs 280-350982/1-a	165169	408.193	
11-Nov-16	12:26	114	llcs 280-350982/2-a	81732	100.654	
11-Nov-16	12:28	115	lcs 280-350982/3-a	80509	99.137	
11-Nov-16	12:29	116	mb 280-350982/4-a	4813	5.292	
11-Nov-16	12:31	117	280-90337-d-1-a	2901	2.921	
11-Nov-16	12:32	118	280-90337-d-1-b ms	80986	99.728	
11-Nov-16	12:34	119	280-90337-d-1-c msd	78878	97.115	
11-Nov-16	12:35	120	280-90337-h-2-a	7580	8.723	
11-Nov-16	12:37	121	280-90337-h-3-a	5139	5.696	
11-Nov-16	12:39	122	280-90337-h-4-a	3242	3.343	
11-Nov-16	12:40	0	BLK	18	-0.653	LO
11-Nov-16	12:42	0	baseline	0	-0.675	BL
11-Nov-16	12:43	109	CCV 200PPB	158411	195.717	
11-Nov-16	12:45	0	CCB	-20	-0.700	LO
11-Nov-16	12:46	0	Baseline	0	-0.675	BL
11-Nov-16	12:48	123	280-90337-j-5-a	3855	4.104	
11-Nov-16	12:49	124	280-90348-n-1-a	3154	3.235	
11-Nov-16	12:51	125	280-90409-h-2-a	2688	2.657	
11-Nov-16	12:52	126	280-90399-c-1-a	4510	4.916	
11-Nov-16	12:54	127	280-90351-h-1-a	8396	9.734	
11-Nov-16	12:55	128	280-90351-h-2-a	4506	4.910	
11-Nov-16	12:57	129	280-90351-h-3-a	2161	2.004	
11-Nov-16	12:58	130	280-90351-h-4-a	1628	1.342	
11-Nov-16	13:00	131	280-90351-h-4-b ms	79976	98.477	
11-Nov-16	13:01	132	280-90351-h-4-c msd	79436	97.807	
11-Nov-16	13:03	0	BLK	25	-0.644	LO
11-Nov-16	13:04	0	baseline	0	-0.675	BL
11-Nov-16	13:06	109	CCV 200PPB	158936	196.369	
11-Nov-16	13:07	0	CCB	-125	-0.830	LO
11-Nov-16	13:09	0	Baseline	0	-0.675	BL

Result path	C:\FLOW_4\C111116A.RST
Sample table path	C:\FLOW_4\c111116a.tbl
Method path	C:\FLOW_4\cyanide.mth
Date acquired	11-Nov-16
Time acquired	13:59

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
11-Nov-16	13:10	133	hlcs 280-351026/1-a	167724	414.528	
11-Nov-16	13:12	134	llcs 280-351026/2-a	82387	101.466	
11-Nov-16	13:13	135	lcs 280-351026/3-a	80913	99.638	
11-Nov-16	13:15	136	mb 280-351026/4-a	501	-0.054	LO
11-Nov-16	13:16	137	280-90388-a-1-a	3935	4.203	
11-Nov-16	13:18	138	280-90388-a-1-b ms	97671	120.415	
11-Nov-16	13:19	139	280-90388-a-1-c msd	80378	98.975	
11-Nov-16	13:21	140	280-90420-g-2-a	2764	2.751	
11-Nov-16	13:22	141	280-90420-j-3-a	3361	3.492	
11-Nov-16	13:24	142	280-90420-j-4-a	2155	1.996	
11-Nov-16	13:25	0	BLK	77	-0.580	LO
11-Nov-16	13:27	0	baseline	0	-0.675	BL
11-Nov-16	13:28	109	CCV 200PPB	161662	199.748	
11-Nov-16	13:30	0	CCB	28	-0.641	LO
11-Nov-16	13:31	0	Baseline	0	-0.675	BL
11-Nov-16	13:33	143	280-90420-h-5-a	10124	11.876	
11-Nov-16	13:34	144	280-90420-g-6-a	3250	3.354	
11-Nov-16	13:36	145	280-90420-h-7-a	7865	9.076	
11-Nov-16	13:37	146	280-90420-j-8-a	44677	54.713	
11-Nov-16	13:39	147	280-90420-g-9-a	231825	286.734	
11-Nov-16	13:40	148	280-90409-h-1-a	3335	3.460	
11-Nov-16	13:42	149	280-90409-c-4-a	2058	1.876	
11-Nov-16	13:43	150	280-90415-k-1-a	2258	2.124	
11-Nov-16	13:45	151	280-90415-k-1-b ms	84030	103.503	
11-Nov-16	13:46	152	280-90415-k-1-c msd	84253	103.779	
11-Nov-16	13:48	0	BLK	10	-0.663	LO
11-Nov-16	13:49	0	baseline	0	-0.675	BL
11-Nov-16	13:51	109	CCV 200PPB	162295	200.533	
11-Nov-16	13:52	0	CCB	-52	-0.740	LO
11-Nov-16	13:54	0	Baseline	0	-0.675	BL

Peak Table:Cyanide, Total

File name: C:\FLOW_4\C111116A.RST
Date: 11-Nov-16
Operator: JML

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
1	107	Sync	1	SYNC	1	1	318156	393.765198	
2	0	Carryover	1	CO	1	1	254	-0.360822	LO
3	0	Carryover	2	CO	1	1	53	-0.609755	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
5	101	CAL 0.00 ppb	1	C	1	1	198	-0.429905	LO
6	102	CAL 10.0 ppb	1	C	1	1	8266	9.572230	
7	103	CAL 20.0 ppb	1	C	1	1	16390	19.644976	
8	104	CAL 50.0 ppb	1	C	1	1	40670	49.745758	
9	105	CAL 100 ppb	1	C	1	1	82051	101.049446	
10	106	Cal 200 ppb	1	C	1	1	162865	201.239243	
11	107	Cal 400 ppb	1	C	1	1	322522	399.178223	
12	0	BLK	1	BLNK	1	1	-64	-0.754245	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
14	108	ICV 100 ppb	1	CCV	1	1	77989	96.012573	
15	0	ICB	1	U	1	1	-98	-0.797163	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
17	113	hlcs 280-350982/1-a	1	U	2	1	165169	408.193176	
18	114	llcs 280-350982/2-a	1	U	1	1	81732	100.654091	
19	115	lcs 280-350982/3-a	1	U	1	1	80509	99.137016	
20	116	mb 280-350982/4-a	1	U	1	1	4813	5.292097	
21	117	280-90337-d-1-a	1	U	1	1	2901	2.920600	
22	118	280-90337-d-1-b ms	1	U	1	1	80986	99.728142	
23	119	280-90337-d-1-c msd	1	U	1	1	78878	97.115158	
24	120	280-90337-h-2-a	1	U	1	1	7580	8.722678	
25	121	280-90337-h-3-a	1	U	1	1	5139	5.696133	
26	122	280-90337-h-4-a	1	U	1	1	3242	3.343363	
27	0	BLK	1	BLNK	1	1	18	-0.652821	LO
B	0	baseline	1	RB	1	1	0	-0.675383	BL
29	109	CCV 200PPB	1	CCV	1	1	158411	195.717453	
30	0	CCB	1	U	1	1	-20	-0.699841	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
32	123	280-90337-j-5-a	1	U	1	1	3855	4.104399	
33	124	280-90348-n-1-a	1	U	1	1	3154	3.234870	
34	125	280-90409-h-2-a	1	U	1	1	2688	2.657063	
35	126	280-90399-c-1-a	1	U	1	1	4510	4.916323	
36	127	280-90351-h-1-a	1	U	1	1	8396	9.733596	
37	128	280-90351-h-2-a	1	U	1	1	4506	4.910457	
38	129	280-90351-h-3-a	1	U	1	1	2161	2.004339	
39	130	280-90351-h-4-a	1	U	1	1	1628	1.342485	
40	131	280-90351-h-4-b ms	1	U	1	1	79976	98.476624	
41	132	280-90351-h-4-c msd	1	U	1	1	79436	97.806595	
42	0	BLK	1	BLNK	1	1	25	-0.644119	LO
B	0	baseline	1	RB	1	1	0	-0.675383	BL
44	109	CCV 200PPB	1	CCV	1	1	158936	196.369049	
45	0	CCB	1	U	1	1	-125	-0.830434	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
47	133	hlcs 280-351026/1-a	1	U	2	1	167724	414.528320	
48	134	llcs 280-351026/2-a	1	U	1	1	82387	101.466179	
49	135	lcs 280-351026/3-a	1	U	1	1	80913	99.637810	
50	136	mb 280-351026/4-a	1	U	1	1	501	-0.053729	LO
51	137	280-90388-a-1-a	1	U	1	1	3935	4.202521	
52	138	280-90388-a-1-b ms	1	U	1	1	97671	120.414536	
53	139	280-90388-a-1-c msd	1	U	1	1	80378	98.975197	
54	140	280-90420-g-2-a	1	U	1	1	2764	2.750910	
55	141	280-90420-j-3-a	1	U	1	1	3361	3.492045	
56	142	280-90420-j-4-a	1	U	1	1	2155	1.996428	
57	0	BLK	1	BLNK	1	1	77	-0.580014	LO
B	0	baseline	1	RB	1	1	0	-0.675383	BL
59	109	CCV 200PPB	1	CCV	1	1	161662	199.748276	
60	0	CCB	1	U	1	1	28	-0.640831	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL
62	143	280-90420-h-5-a	1	U	1	1	10124	11.875505	
63	144	280-90420-g-6-a	1	U	1	1	3250	3.354342	
64	145	280-90420-h-7-a	1	U	1	1	7865	9.075588	
65	146	280-90420-j-8-a	1	U	1	1	44677	54.713364	
66	147	280-90420-g-9-a	1	U	1	1	231825	286.734100	
67	148	280-90409-h-1-a	1	U	1	1	3335	3.459753	
68	149	280-90409-c-4-a	1	U	1	1	2058	1.876481	
69	150	280-90415-k-1-a	1	U	1	1	2258	2.123600	
70	151	280-90415-k-1-b ms	1	U	1	1	84030	103.503067	

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
71	152	280-90415-k-1-c msd 1		U	1	1	84253	103.779190	
72	0	BLK	1	BLNK	1	1	10	-0.663480	LO
B	0	baseline	1	RB	1	1	0	-0.675383	BL
74	109	CCV 200PPB	1	CCV	1	1	162295	200.532852	
75	0	CCB	1	U	1	1	-52	-0.739829	LO
B	0	Baseline	1	RB	1	1	0	-0.675383	BL

Cyanide, Total:Calibration 1: Peak 5-76

File name: C:\FLOW_4\C111116A.RST
Date: 11-Nov-16
Operator: JML

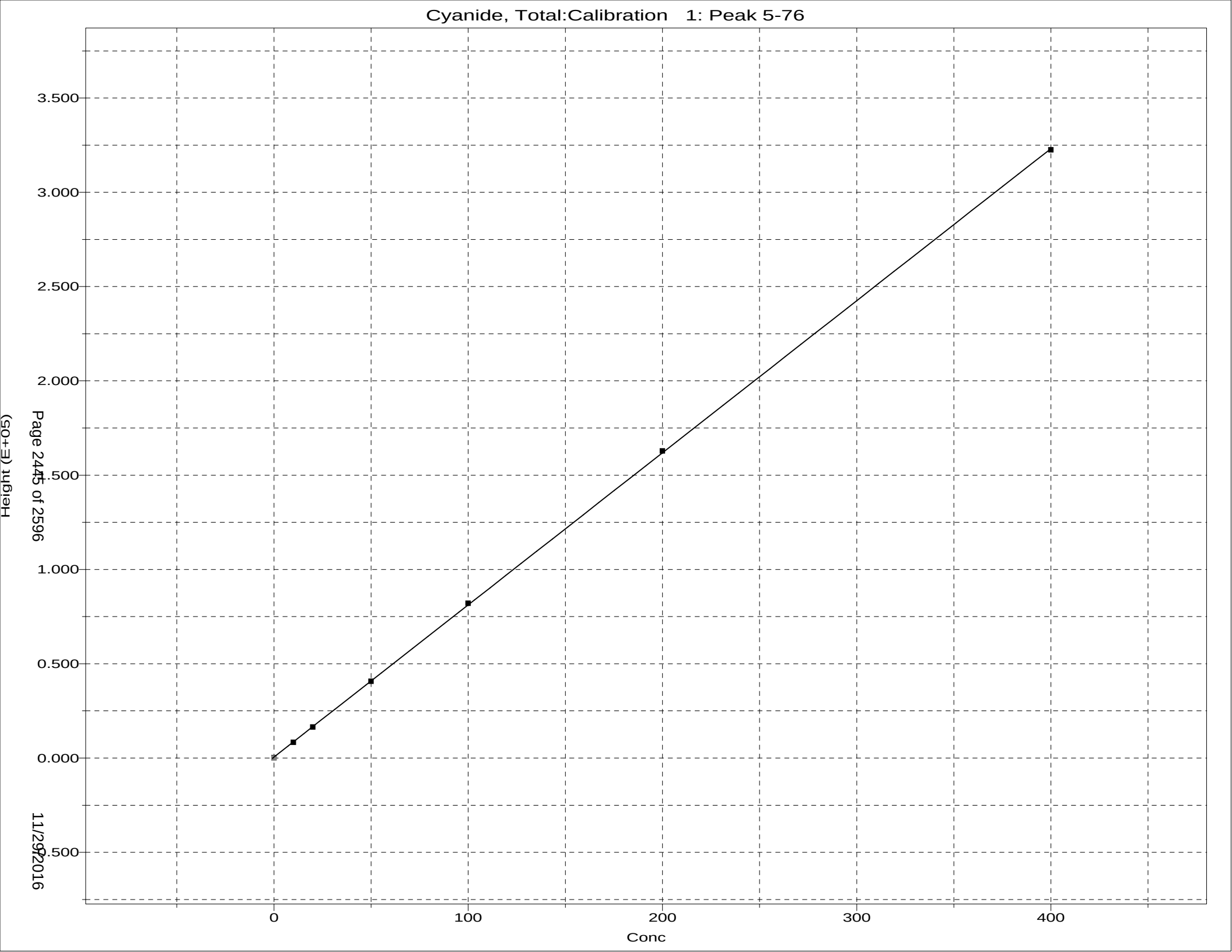
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*	CAL 0.00 ppb	0.000000	198.003235
*	CAL 10.0 ppb	10.000000	8265.734375
*	CAL 20.0 ppb	20.000000	16390.419922
*	CAL 50.0 ppb	50.000000	40669.742188
*	CAL 100 ppb	100.000000	82051.343750
*	Cal 200 ppb	200.000000	162864.531250
*	Cal 400 ppb	400.000000	322522.312500

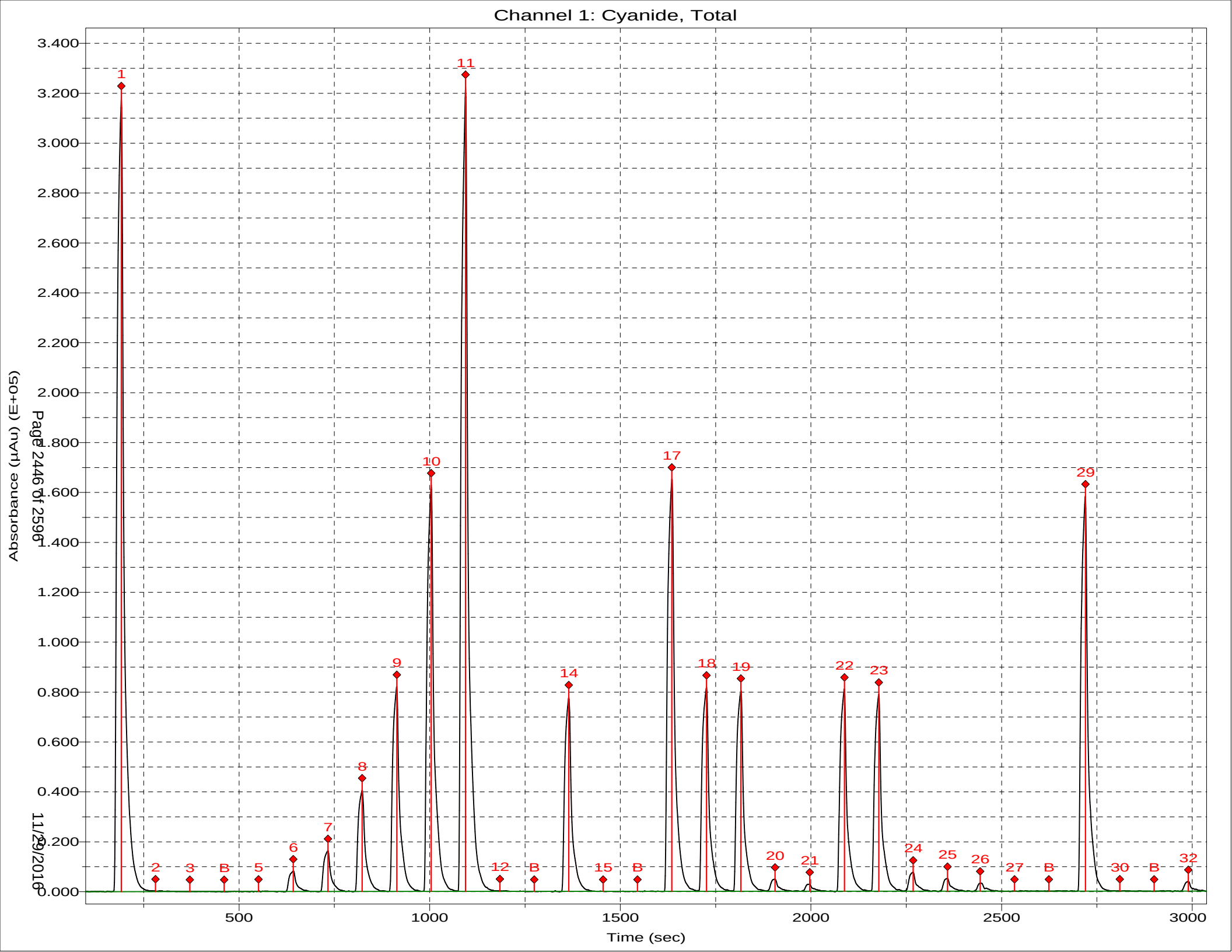
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a: (intercept) 5.4476e+02
b: 8.0660e+02

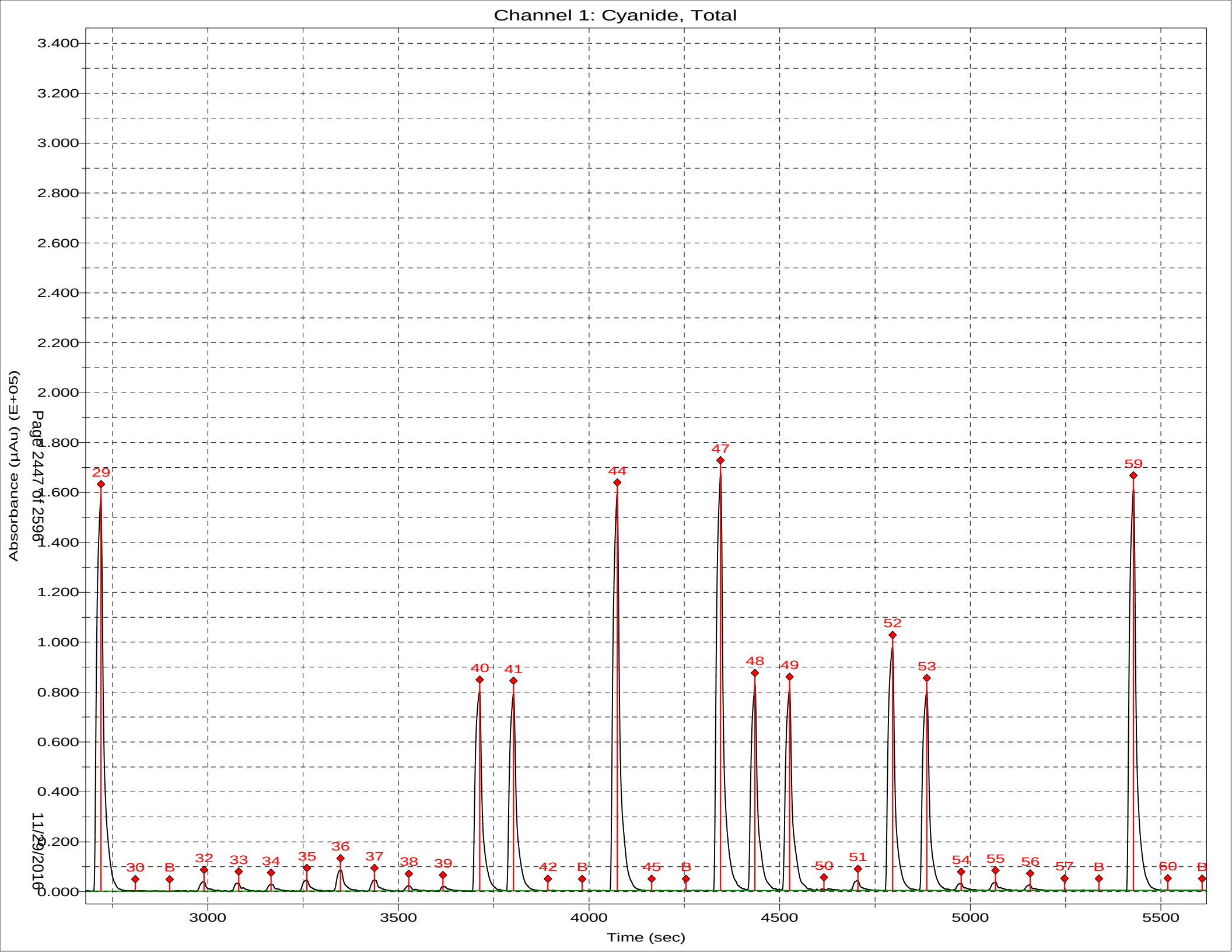
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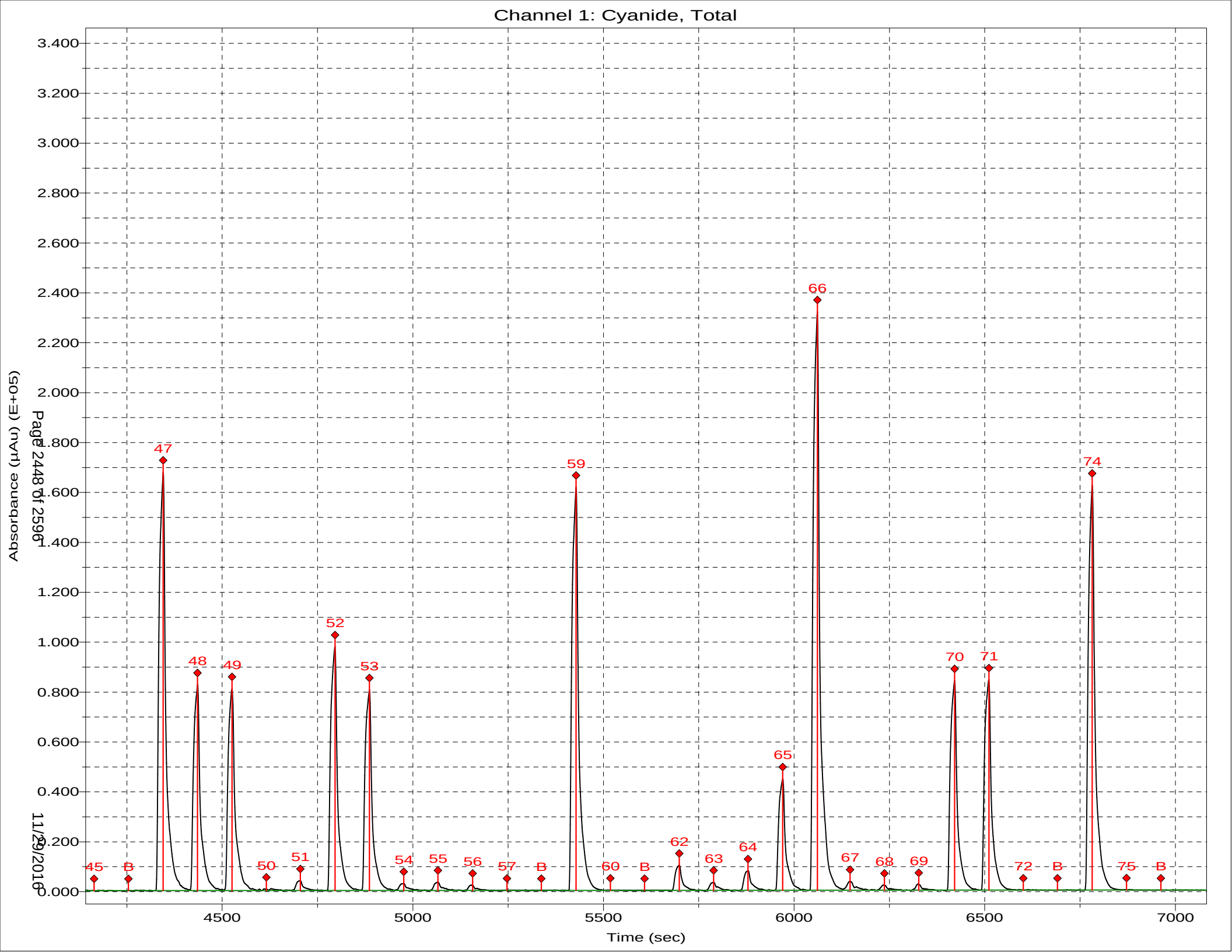
Carryover: 0.0797%

No Drift Peaks


Cyanide, Total:Calibration 1: Peak 5-76
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
-0.500
Height (E+05)
0
100
200
300
400
Conc


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
3.400
3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
500
1000
1500
2000
2500
3000
1
2
3
B
5
6
7
8
9
10
11
12
B
14
15
B
17
18
19
20
21
22
23
24
25
26
27
B
29
30
B
32


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
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3.400
3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
3000
3500
4000
4500
5000
5500
29
30
B
32
33
34
35
36
37
38
39
40
41
42
B
44
45
B
47
48
49
50
51
52
53
54
55
56
57
B
59
60
B

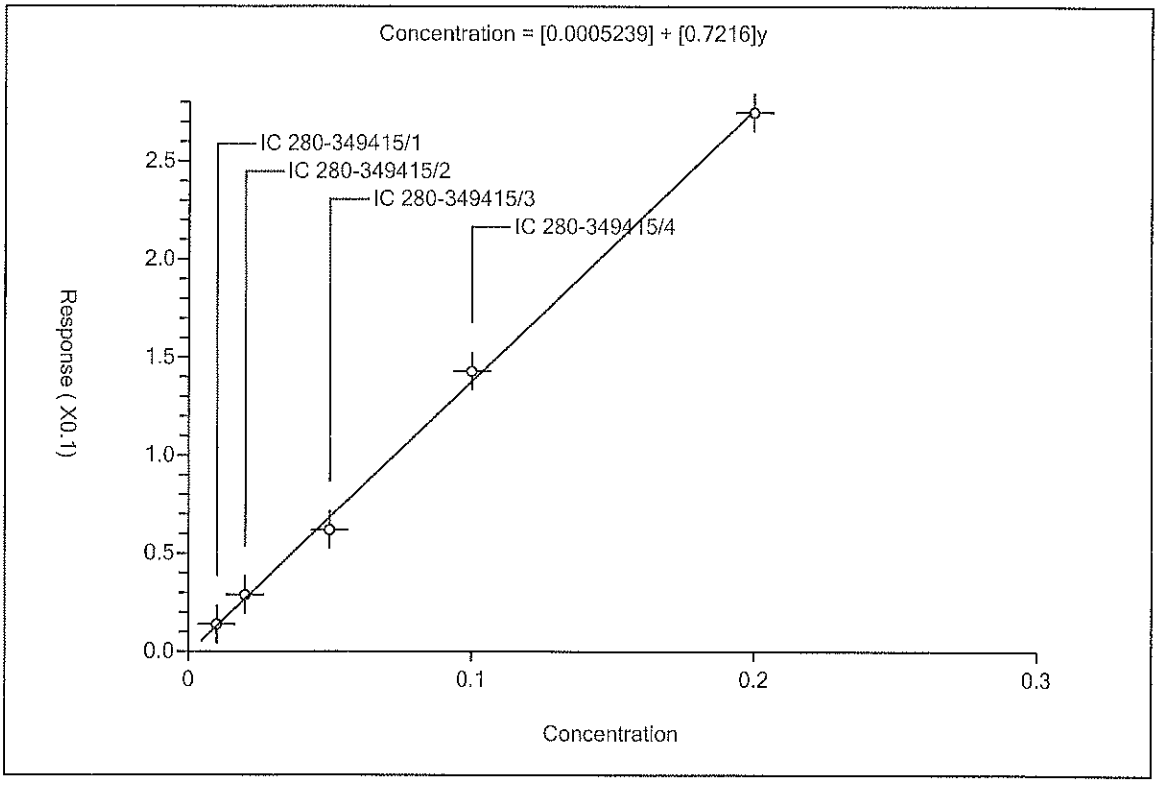

Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
3.400
3.200
3.000
2.800
2.600
2.400
2.200
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
4500
5000
5500
6000
6500
7000
45
B
47
48
49
50
51
52
53
54
55
56
57
B
59
60
B
62
63
64
65
66
67
68
69
70
71
72
B
74
75
B
Page 2448 of 2596
11/29/2016

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
RF Rounding:	0

Curve Coefficients	
Intercept:	0.0005239
Slope:	0.7216

Error Coefficients	
Standard Error:	0.003642
Relative Standard Error:	8.073
Correlation Coefficient:	0.9992
Coefficient of Determination (Adjusted):	0.9984 (0.9984)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-349415/1	0.01	0.014			1.4	Y
2	IC 280-349415/2	0.02	0.029			1.45	Y
3	IC 280-349415/3	0.05	0.062			1.24	Y
4	IC 280-349415/4	0.1	0.143			1.43	Y
5	IC 280-349415/5	0.2	0.275			1.375	Y



TALS Raw Data Report

Job Number: 280-90407-1
LIMS Batch: 349415
Equipment: WC_HSPEC_7196

Laboratory: TestAmerica Denver

RS# 6 Lab ID: **ICV 280-349415/6** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.066	.04814950 mg/L	mg/L	96	90 110		

RS# 7 Lab ID: **ICB 280-349415/7** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	mg/L				

RS# 8 Lab ID: **LCS 280-349415/8** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.127	.09216710 mg/L	mg/L	92	85 115		

RS# 9 Lab ID: **LCSD 280-349415/9** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.125	.09072390 mg/L	mg/L	91	85 115	2	20

RS# 10 Lab ID: **MB 280-349415/10** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.001	001245500 mg/L	mg/L				

RS# 11 Lab ID: **280-90407-G-1** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0260	019285500 mg/L	mg/L				

RS# 12 Lab ID: **280-90407-G-1 DU** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0210	015677500 mg/L	mg/L			21	20

RS# 13 Lab ID: **280-90407-G-1 MS** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	mg/L	51	85 115		

RS# 14 Lab ID: **280-90407-G-1 MSD** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	mg/L	51	85 115	0	20

RS# 18 Lab ID: **CCV 280-349415/18** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.124	.09000230 mg/L	mg/L	90	90 110		

RS# 19 Lab ID: **CCB 280-349415/19** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	mg/L				

TALS Raw Data Report

Job Number: 280-90408-1
LIMS Batch: 349415
Equipment: WC_HSPEC_7196

Laboratory: TestAmerica Denver

RS# 6 Lab ID: **ICV 280-349415/6** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.066	.04814950 mg/L	mg/L	96	90 110		

RS# 7 Lab ID: **ICB 280-349415/7** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	mg/L				

RS# 8 Lab ID: **LCS 280-349415/8** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.127	.09216710 mg/L	mg/L	92	85 115		

RS# 9 Lab ID: **LCSD 280-349415/9** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.125	.09072390 mg/L	mg/L	91	85 115	2	20

RS# 10 Lab ID: **MB 280-349415/10** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.001	001245500 mg/L	mg/L				

RS# 11 Lab ID: **280-90407-G-1** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0260	019285500 mg/L	0.19 J mg/L				

RS# 12 Lab ID: **280-90407-G-1 DU** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0210	015677500 mg/L	0.157 J mg/L			21	20

RS# 13 Lab ID: **280-90407-G-1 MS** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	mg/L	51	85 115		

RS# 14 Lab ID: **280-90407-G-1 MSD** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	mg/L	51	85 115	0	20

RS# 15 Lab ID: **280-90408-M-4** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	-0.0170	011743300 mg/L	mg/L				

RS# 16 Lab ID: **280-90408-M-2** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	-0.0050	003084100 mg/L	mg/L				

RS# 17 Lab ID: **280-90408-M-1** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0010	001245500 mg/L	mg/L				

RS# 18 Lab ID: **CCV 280-349415/18** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt

Cr (VI)	0.124	.09000230	mg/L	mg/L	90	90 110	

RS# 19 Lab ID: **CCB 280-349415/19** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	mg/L				

TALS Raw Data Report

Job Number: 280-90409-1
LIMS Batch: 349415
Equipment: WC_HSPEC_7196

Laboratory: TestAmerica Denver

RS# 6 Lab ID: **ICV 280-349415/6** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.066	.04814950 mg/L	mg/L	96	90 110		

RS# 7 Lab ID: **ICB 280-349415/7** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	.0040 U mg/L				

RS# 8 Lab ID: **LCS 280-349415/8** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.127	.09216710 mg/L	ug/L	92	90 111		

RS# 9 Lab ID: **LCSD 280-349415/9** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.125	.09072390 mg/L	ug/L	91	90 111	2	20

RS# 10 Lab ID: **MB 280-349415/10** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.001	001245500 mg/L	4.0 U ug/L				

RS# 11 Lab ID: **280-90407-G-1** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0260	019285500 mg/L	190 J ug/L				

RS# 12 Lab ID: **280-90407-G-1 DU** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0210	015677500 mg/L	157 J ug/L			21	20

RS# 13 Lab ID: **280-90407-G-1 MS** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	ug/L	51	90 111		

RS# 14 Lab ID: **280-90407-G-1 MSD** Inj Date: 11/2/2016 11:13:09AM Dil: 10 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0970	070519100 mg/L	ug/L	51	90 111	0	20

RS# 18 Lab ID: **CCV 280-349415/18** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.124	.09000230 mg/L	mg/L	90	90 110		

RS# 19 Lab ID: **CCB 280-349415/19** Inj Date: 11/2/2016 11:13:09AM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.000	000523900 mg/L	.0040 U mg/L				

RS# 20 Lab ID: **280-90409-D-4** Inj Date: 11/2/2016 11:13:09AM Dil: 2 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.0260	019285500 mg/L	39 J ug/L				

RS# 21 Lab ID: **CCV 280-349415/21** Inj Date: 11/2/2016 12:14:45PM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt

Cr (VI)	0.125	.09072390	mg/L	mg/L	91	90	110

RS# 22 Lab ID: **CCB 280-349415/22** Inj Date: 11/2/2016 12:14:45PM Dil: 1.0 Meth: 7196A_DOD5

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Cr (VI)	0.001	001245500 mg/L	.0040 U mg/L				

TestAmerica
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Calibration Data Review Checklist

Note: Includes all methods (except IC, CN) that utilize initial calibration)

SOP No. WC-0021		Instrument ID: HACH
LIMS Prep Batch#: NA	LIMS Analytical Batch# 349415	ICAL Batch 349415
Analyst(s)/1st Reviewer/Date: EM 11/02/16		QC Type (circle): Standard (LCSD) DOD Q4 DoD Q5 QAPP_____ Other_____
Method (circle): 3500-Cr B 3500-Cr D 3500-Fe B 3500-Fe D 350.1 351.2 353.2 365.1 410.4 420.1 420.4 4500-NO_2 B 4500-S^{2-} D (7196A) 9060 5310B		
Matrix (circle): (Water) Solid Waste Leachate		Circle all that apply: Total Field Filtered Lab Filtered

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable? (List NCM #)
A. Calibration/Instrument Run QC					
1. Verify intermediate standards for correct concentration stated in SOP (ICAL pts at correct concentration)	✓			✓	
2. Number of Points: 1st order: 5 standards; 2nd order: 6 standards	✓			✓	
3. Linearity and intercept: $r \geq 0.995$ ($r^2 \geq 0.99$) |x-intercept| < ½ RL	✓			✓	
4. ICV, second source: run before samples 90-110% recovery	✓			✓	
5. CCV: 10% frequency & closing 90-110% recovery	✓			✓	
6. Cadmium Column Efficiency Check (353.2): 85-115% NO_2 recovery	✓			✓	
7. ICB: run before samples, CCB: 10% frequency, & closing Result < ½ RL (410.4 Result <RL)	✓			✓	
B. Client Sample and QC Sample Results					
8. Samples with results > linear range diluted and reanalyzed?	✓			✓	Comments:
9. On-instrument response of diluted sample is >10X |MB| on-instrument response	✓			✓	Comments:
C. Preparation/Matrix QC					
10. If samples are lab filtered, QC samples filtered?	✓			✓	
11. Method Blank: one per preparation batch Result < ½ RL (410.4 Result <RL)	✓			✓	*If no, list blank ID & explain:*
12. LCS: one per preparation batch 90-110% recovery Lab limits (3500-x, 4500-x, 7196A); (7196 DOD5: 90-111% recovery)	✓			✓	*If no, list LCS ID & explain:*
13. MS/MSD or MS/Dup frequency (Determine correct frequency by method or reference SOP) A pair per 20 samples or a pair per 10 samples Lab limits (3500-x, 4500-x, 7196A);Others (90-110%)	✓			✓	*If no, list QC ID & explain:*

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
D. Raw Data & TALS Data Entry					
14. Raw Data/Run Log					
a. Unused data is clearly identified and reason not used is stated	✓			✓	
b. All cross outs are initialed and dated	✓			✓	
c. Out of control QC is clearly identified	✓			✓	
d. Any data that has a qualifier is commented on with appropriate action taken	✓			✓	
e. The first page of the run includes the filename, instrument, and analyst initials/signature f. Analyst initials/signature provided	✓			✓	
15. TALS Sample List	•				
a. LIMS Sample IDs / Containers are correct	✓			✓	
b. Method and matrix are correct	✓			✓	
c. Date and time match raw data	✓			✓	
d. Dilutions are correct	✓			✓	
e. Correct suffix (DU, MS, MSD) designated (where applicable)	✓			✓	
16. TALS Worksheet Tab is complete and correct	✓			✓	
17. Sample pH, presence of chlorine/sulfide recorded?	✓			✓	
18. NCM written for any samples needing preservation at the bench?	✓			✓	
19. TALS Reagent Tab is complete and correct	✓			✓	
20. TALS QC Links Tab is correct	✓			✓	
21. TALS Sample Results Tab					
a. All unused data are marked Rejected or Accepted	✓			✓	
b. All reported analytes are marked Primary or Secondary	✓			✓	
22. TALS Batch Information Screen documentation is complete	✓			✓	
23. Historical Data Checker: Check historical data. Print charts for outliers. Take corrective action as appropriate	✓			✓	
24. TALS Status set to appropriate review level	✓			✓	
E. Final Report and NCMs (2nd level review only)					
25. Were all job/project requirements met?				✓	
26. Results for samples and QC correct on final report?				✓	
27. Are all necessary scanned documents in TALS?				✓	
28. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	

Comments: _____

Sve 11/9/16

2nd Reviewer: Scott H Elmore **Review Date:** 11/9/16

Sulfide by Titration

Analyst:	NJF	Buret		SOP Information:		Rep. / Detection Limits	
Date:	11/2/2016	Solution 1:	Iodine	Number:	DV-WC-54	MDL	0.007
		Source:	Ricca	Revision:	3.1	Rep. Limit	0.05
	----	STD #:	iod_00164	Calibration Information			
ICV Information		Normality:	0.025	SFD CAL INT_01285			
SFD ICV INT_01229		Exp. Date:	5/31/2017	Prep Date:	10/14/2016	Starch Indicator	
Prep Date:	10/14/2016	Solution 2:	Na2S2O3	Made By:	NJF	Lab Chem	
Made By:	NJF	Source:	RICCA	Concentration:	996	STD#	_00035
Concentration:	1068	STD #:	NA Thio_00104	Expiration Date:	1/14/2017	EXP: 11/30/17	
Expiration Date:	1/14/2017	Normality:	0.025	DCS/CCV True Value:	0.498		
ICV True Value:	0.3204	Exp. Date:	9/30/2017	Spike True Value:	0.498		

Lot Number	Work Order	Sample	Buret Start	Buret Stop	mL Iodine	Final mL	Concentratn mg/L	Prep D.F.	Analyt. D.F.	Final Conc mg/L, mg/kg	
2	CAL	5	13.30	21.00	20	7.70	984.000	1	1	984.00	
2	CAL	5	21.00	28.40	20	7.40	1008.000	1	1	1008.00	
1	ICV	5	0.00	6.60	20	6.60	1072.000	1	1	1072.00	
1	ICV	5	6.60	13.30	20	6.70	1064.000	1	1	1064.00	

Specbch.xls

* MS/MSD chosen by analyst

HCL Sol_ 00135
Expiration Date: 05/31/2017

TALS Raw Data Report

Job Number: 280-23100-1
LIMS Batch: 349511
Equipment: NoEquip

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **LCS 280-349505/1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		16 mg/L	ug/L	80	50 106		
Sulfide as H2S		17 mg/L	ug/L				

RS# 2 Lab ID: **MB 280-349505/2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	1890 U ug/L				
Sulfide as H2S		0 mg/L	2000 U ug/L				

RS# 8 Lab ID: **280-90413-D-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1890 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 9 Lab ID: **280-90413-D-2-B MS** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.6 mg/L	ug/L	68	50 106		
Sulfide as H2S		14.45 mg/L	ug/L				

RS# 10 Lab ID: **280-90413-D-2-C MSD** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12.8 mg/L	ug/L	64	50 106	6	20
Sulfide as H2S		13.6 mg/L	ug/L				

RS# 14 Lab ID: **320-23100-G-1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1890 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 15 Lab ID: **320-23100-G-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1890 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 16 Lab ID: **320-23100-G-4-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1890 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 17 Lab ID: **320-23100-G-5-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		1.2 mg/L	1200 J ug/L				
Sulfide as H2S		1.275 mg/L	1280 J ug/L				

TALS Raw Data Report

Job Number: 280-90337-1
LIMS Batch: 349511
Equipment: NoEquip

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **LCS 280-349505/1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		16 mg/L	ug/L	80	50 106		
Sulfide as H2S		17 mg/L	ug/L				

RS# 2 Lab ID: **MB 280-349505/2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	1900 U ug/L				
Sulfide as H2S		0 mg/L	2000 U ug/L				

RS# 7 Lab ID: **280-90337-M-5-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1900 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 8 Lab ID: **280-90413-D-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1900 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 9 Lab ID: **280-90413-D-2-B MS** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.6 mg/L	ug/L	68	50 106		
Sulfide as H2S		14.45 mg/L	ug/L				

RS# 10 Lab ID: **280-90413-D-2-C MSD** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12.8 mg/L	ug/L	64	50 106	6	20
Sulfide as H2S		13.6 mg/L	ug/L				

TALS Raw Data Report

Job Number: 280-90368-1
LIMS Batch: 349511
Equipment: NoEquip

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **LCS 280-349505/1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		16 mg/L	ug/L	80	50 106		
Sulfide as H2S		17 mg/L	ug/L				

RS# 2 Lab ID: **MB 280-349505/2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	1900 U ug/L				
Sulfide as H2S		0 mg/L	2000 U ug/L				

RS# 5 Lab ID: **280-90368-P-1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	1900 U ug/L				
Sulfide as H2S		0 mg/L	2000 U ug/L				

RS# 8 Lab ID: **280-90413-D-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1900 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 9 Lab ID: **280-90413-D-2-B MS** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.6 mg/L	ug/L	68	50 106		
Sulfide as H2S		14.45 mg/L	ug/L				

RS# 10 Lab ID: **280-90413-D-2-C MSD** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12.8 mg/L	ug/L	64	50 106	6	20
Sulfide as H2S		13.6 mg/L	ug/L				

TALS Raw Data Report

Job Number: 280-90409-1
LIMS Batch: 349511
Equipment: NoEquip

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **LCS 280-349505/1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		16 mg/L	ug/L	80	50 106		
Sulfide as H2S		17 mg/L	ug/L				

RS# 2 Lab ID: **MB 280-349505/2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	1900 U ug/L				
Sulfide as H2S		0 mg/L	2000 U ug/L				

RS# 4 Lab ID: **280-90409-B-4-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1900 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 8 Lab ID: **280-90413-D-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	1900 U ug/L				
Sulfide as H2S		0.425 mg/L	2000 U ug/L				

RS# 9 Lab ID: **280-90413-D-2-B MS** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.6 mg/L	ug/L	68	50 106		
Sulfide as H2S		14.45 mg/L	ug/L				

RS# 10 Lab ID: **280-90413-D-2-C MSD** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12.8 mg/L	ug/L	64	50 106	6	20
Sulfide as H2S		13.6 mg/L	ug/L				

TALS Raw Data Report

Job Number: 280-90413-1
LIMS Batch: 349511
Equipment: NoEquip

Laboratory: TestAmerica Denver

RS# 1 Lab ID: **LCS 280-349505/1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		16 mg/L	mg/L	80	50 106		
Sulfide as H2S		17 mg/L	mg/L				

RS# 2 Lab ID: **MB 280-349505/2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	0.79 U mg/L				
Sulfide as H2S		0 mg/L	0.84 U mg/L				

RS# 3 Lab ID: **280-90413-D-6-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	0.79 U mg/L				
Sulfide as H2S		0 mg/L	0.84 U mg/L				

RS# 6 Lab ID: **280-90413-D-5-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	0.79 U mg/L				
Sulfide as H2S		0.425 mg/L	0.84 U mg/L				

RS# 8 Lab ID: **280-90413-D-2-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	0.79 U mg/L				
Sulfide as H2S		0.425 mg/L	0.84 U mg/L				

RS# 9 Lab ID: **280-90413-D-2-B MS** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		13.6 mg/L	mg/L	68	50 106		
Sulfide as H2S		14.45 mg/L	mg/L				

RS# 10 Lab ID: **280-90413-D-2-C MSD** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		12.8 mg/L	mg/L	64	50 106	6	20
Sulfide as H2S		13.6 mg/L	mg/L				

RS# 11 Lab ID: **280-90413-D-1-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	0.79 U mg/L				
Sulfide as H2S		0 mg/L	0.84 U mg/L				

RS# 12 Lab ID: **280-90413-D-3-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0 mg/L	0.79 U mg/L				
Sulfide as H2S		0 mg/L	0.84 U mg/L				

RS# 13 Lab ID: **280-90413-D-4-A** Inj Date: 11/2/2016 4:50:00PM Dil: 1.0 Meth: 9034

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Sulfide		0.4 mg/L	0.79 U mg/L				
Sulfide as H2S		0.425 mg/L	0.84 U mg/L				

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\02.0000.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Oct-2016 09:42:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-002 Temporary sequence for manual data acquisition
Misc. Info.: 29476
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:33 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

First Level Reviewer: bensona Date: 07-Oct-2016 10:07:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	6286408	0.2000	0.1843	
2 Chloride	3.483	3.433	0.050	18297919	1.00	1.04	
3 Nitrite as N	4.100	4.083	0.017	8504643	0.2000	0.1758	
4 Bromide	6.825	6.758	0.067	1396738	0.2000	0.2039	
5 Nitrate as N	7.617	7.375	0.242	8540749	0.2000	0.2030	
6 Sulfate	11.683	11.483	0.200	14314652	1.00	1.01	
7 Orthophosphate as P	12.842	12.792	0.050	6078789	0.2000	0.2151	

Reagents:

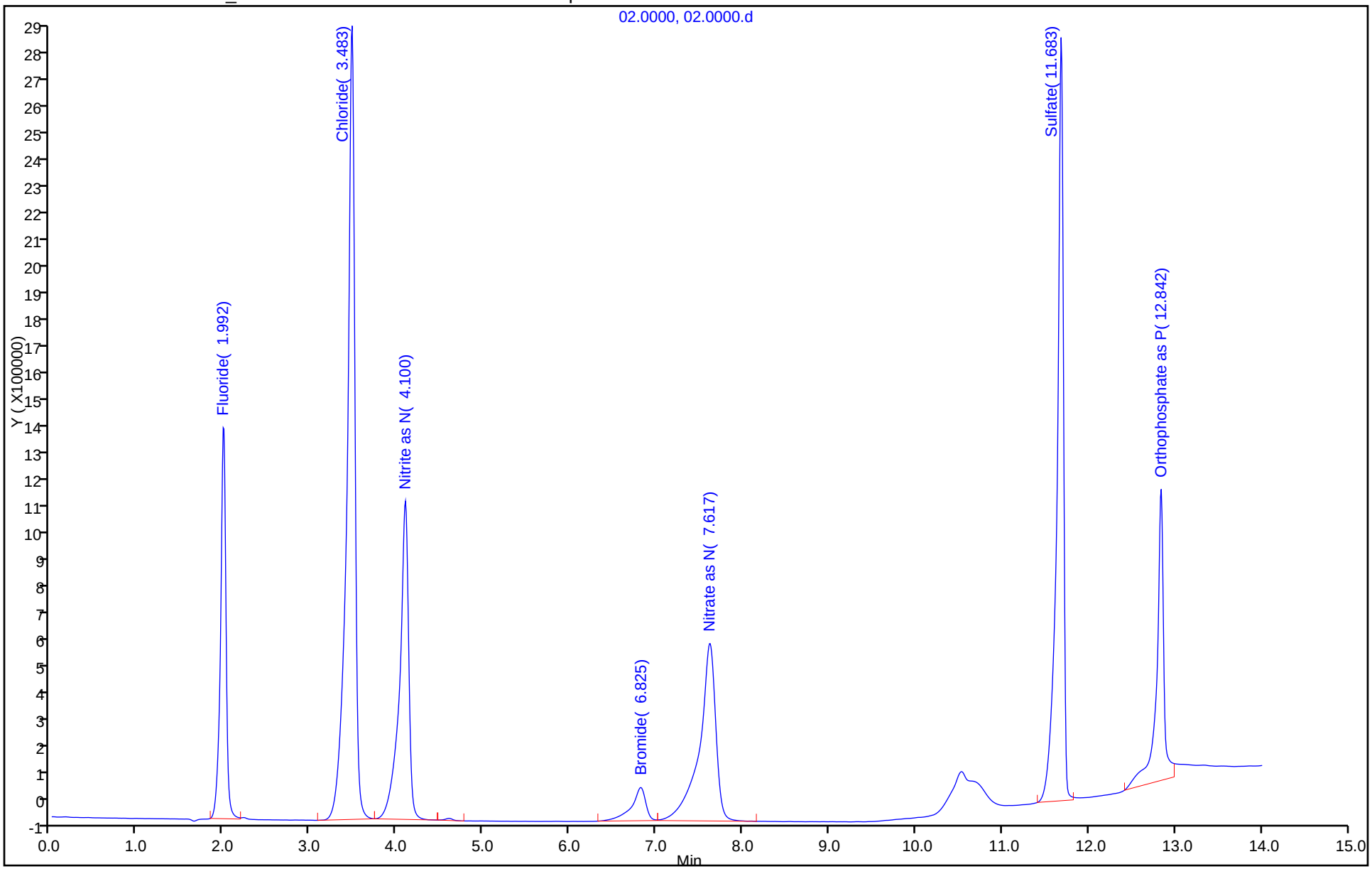
IC CAL cl/so4_00120 Amount Added: 0.02 Units: mL
IC Cal low_00235 Amount Added: 0.02 Units: mL

Report Date: 08-Oct-2016 08:50:34 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\02.0000.d

Injection Date:	07-Oct-2016 09:42:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\02.0000.d
Lims ID: std L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Oct-2016 09:42:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-002 Temporary sequence for manual data acquisition
Misc. Info.: 29476
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:33 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

First Level Reviewer: bensona Date: 07-Oct-2016 10:07:00

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	6286408	0.2000	0.1843	
2 Chloride	3.483	3.433	0.050	18297919	1.00	1.04	
3 Nitrite as N	4.100	4.083	0.017	8504643	0.2000	0.1758	
4 Bromide	6.825	6.758	0.067	1396738	0.2000	0.2039	
5 Nitrate as N	7.617	7.375	0.242	8540749	0.2000	0.2030	
6 Sulfate	11.683	11.483	0.200	14314652	1.00	1.01	
7 Orthophosphate as P	12.842	12.792	0.050	6078789	0.2000	0.2151	

Reagents:

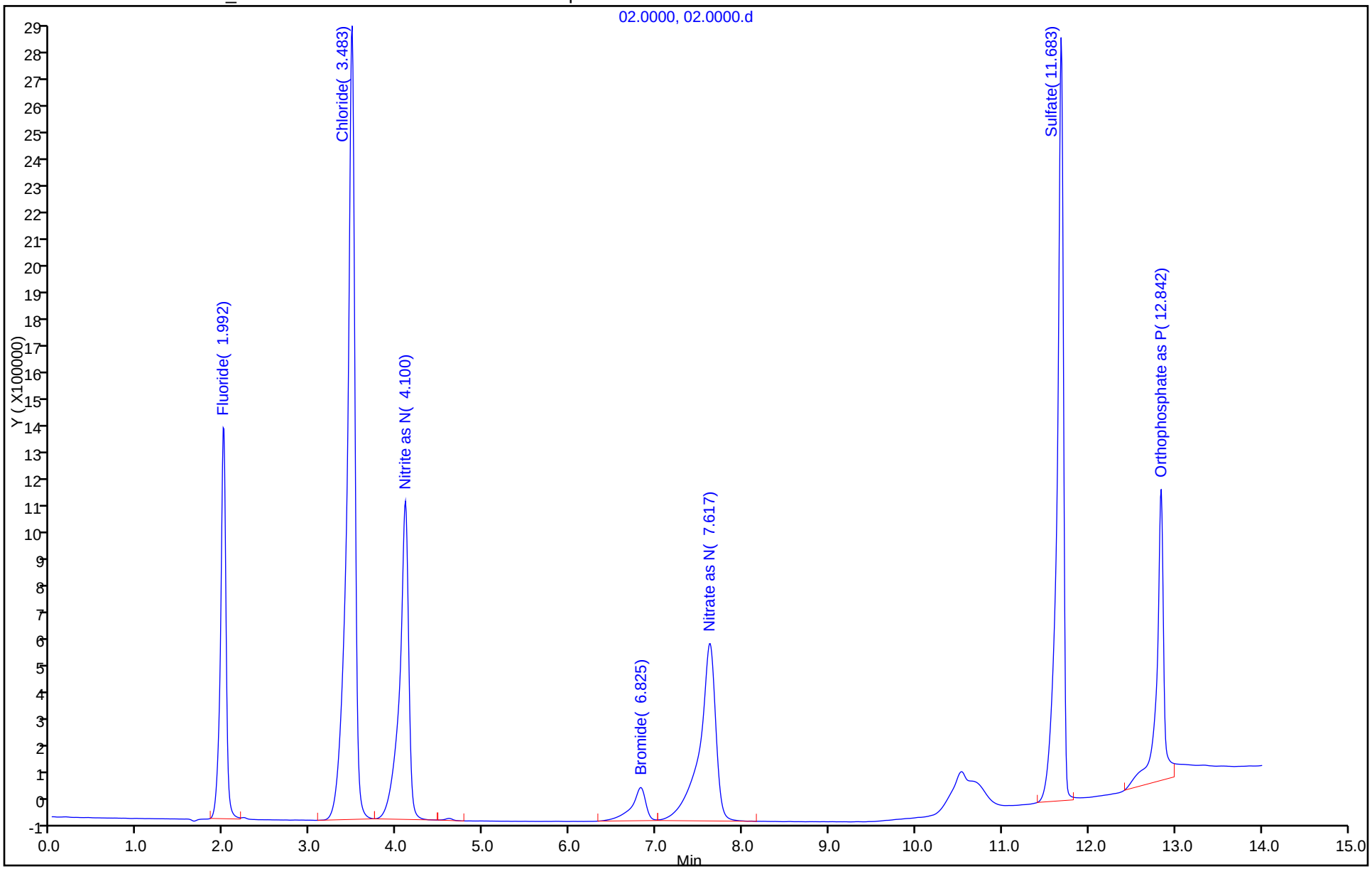
IC CAL cl/so4_00120 Amount Added: 0.02 Units: mL
IC Cal low_00235 Amount Added: 0.02 Units: mL

Report Date: 08-Oct-2016 08:50:34 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\02.0000.d

Injection Date:	07-Oct-2016 09:42:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L1			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\03.0000.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Oct-2016 09:59:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-003 Temporary sequence for manual data acquisition
Misc. Info.: 25084
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:35 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	15864175	0.5000	0.5082	
2 Chloride	3.483	3.433	0.050	44595772	2.50	2.45	
3 Nitrite as N	4.100	4.083	0.017	21629344	0.5000	0.5135	
4 Bromide	6.817	6.758	0.059	3595056	0.5000	0.4935	
5 Nitrate as N	7.600	7.375	0.225	21916058	0.5000	0.4948	
6 Sulfate	11.675	11.483	0.192	33847265	2.50	2.46	
7 Orthophosphate as P	12.833	12.792	0.041	11356370	0.5000	0.4925	

Reagents:

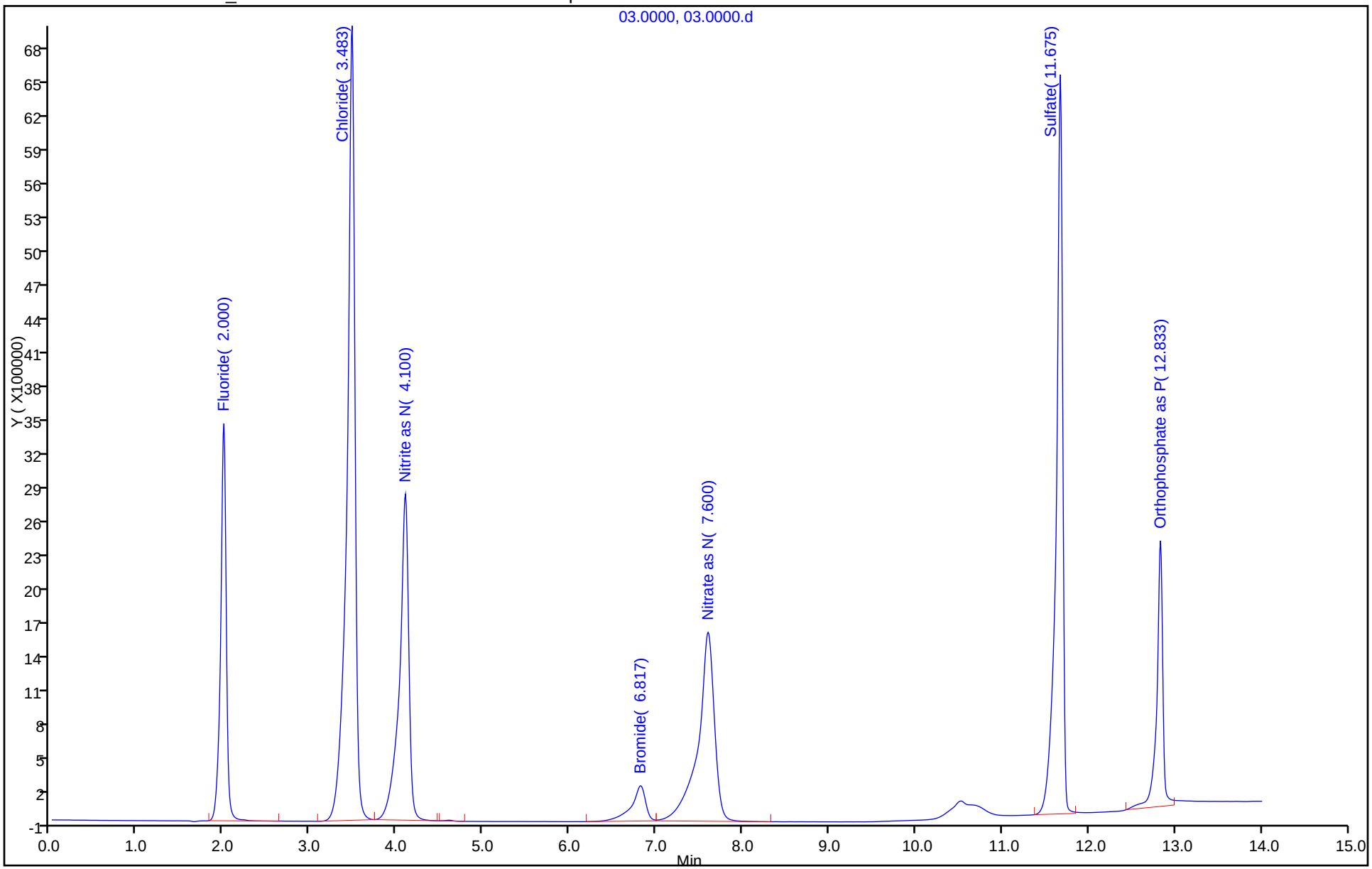
IC CAL cl/so4_00120 Amount Added: 0.05 Units: mL
IC Cal low_00235 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2016 08:50:35 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\03.0000.d

Injection Date:	07-Oct-2016 09:59:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\03.0000.d
Lims ID: std L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Oct-2016 09:59:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-003 Temporary sequence for manual data acquisition
Misc. Info.: 25084
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:35 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	15864175	0.5000	0.5082	
2 Chloride	3.483	3.433	0.050	44595772	2.50	2.45	
3 Nitrite as N	4.100	4.083	0.017	21629344	0.5000	0.5135	
4 Bromide	6.817	6.758	0.059	3595056	0.5000	0.4935	
5 Nitrate as N	7.600	7.375	0.225	21916058	0.5000	0.4948	
6 Sulfate	11.675	11.483	0.192	33847265	2.50	2.46	
7 Orthophosphate as P	12.833	12.792	0.041	11356370	0.5000	0.4925	

Reagents:

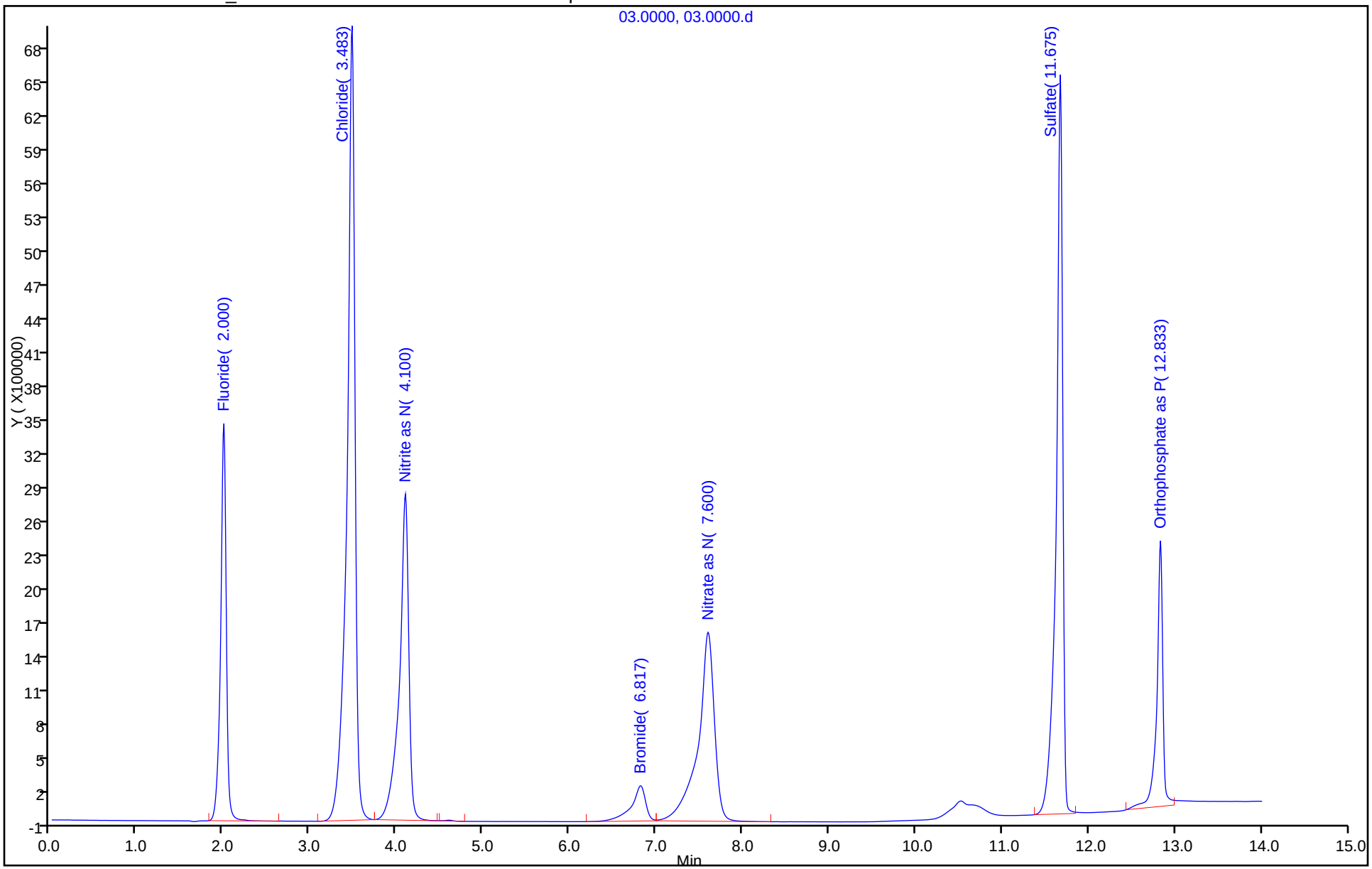
IC CAL cl/so4_00120 Amount Added: 0.05 Units: mL
IC Cal low_00235 Amount Added: 0.05 Units: mL

Report Date: 08-Oct-2016 08:50:36 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\03.0000.d

Injection Date:	07-Oct-2016 09:59:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L2			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\04.0000.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 07-Oct-2016 10:15:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-004 Temporary sequence for manual data acquisition
Misc. Info.: 2182
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:37 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	31740076	1.00	1.05	
2 Chloride	3.475	3.433	0.042	89809352	5.00	4.87	
3 Nitrite as N	4.100	4.083	0.017	43428473	1.00	1.07	
4 Bromide	6.817	6.758	0.059	7345719	1.00	0.9875	
5 Nitrate as N	7.567	7.375	0.192	44710294	1.00	0.99	
6 Sulfate	11.675	11.483	0.192	67455260	5.00	4.95	
7 Orthophosphate as P	12.833	12.792	0.041	19826599	1.00	0.9377	

Reagents:

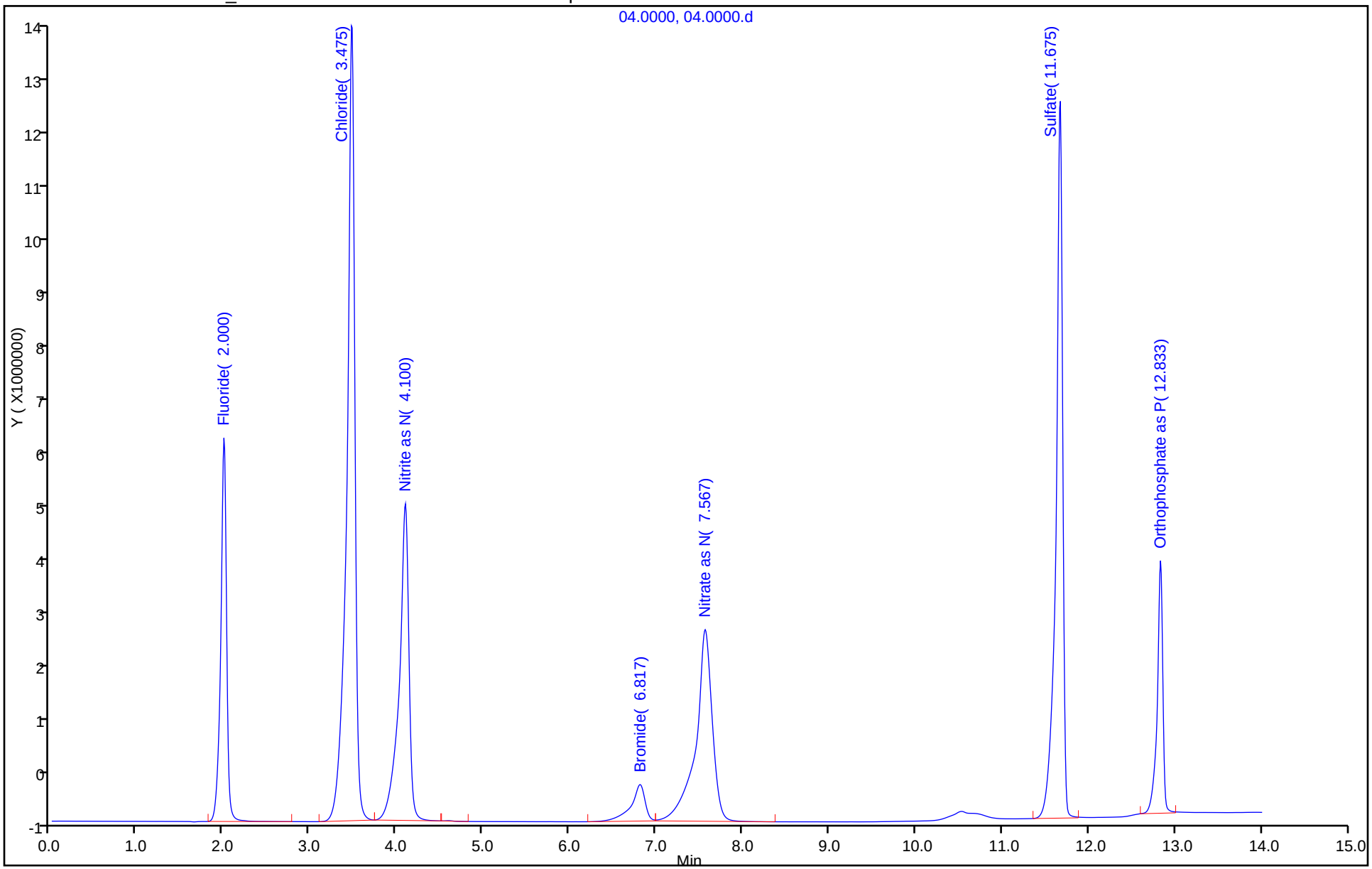
IC CAL cl/so4_00120 Amount Added: 0.10 Units: mL
IC Cal low_00235 Amount Added: 0.10 Units: mL

Report Date: 08-Oct-2016 08:50:37 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\04.0000.d

Injection Date:	07-Oct-2016 10:15:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\04.0000.d
Lims ID: std L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 07-Oct-2016 10:15:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-004 Temporary sequence for manual data acquisition
Misc. Info.: 2182
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:37 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.008	-0.008	31740076	1.00	1.05	
2 Chloride	3.475	3.433	0.042	89809352	5.00	4.87	
3 Nitrite as N	4.100	4.083	0.017	43428473	1.00	1.07	
4 Bromide	6.817	6.758	0.059	7345719	1.00	0.9875	
5 Nitrate as N	7.567	7.375	0.192	44710294	1.00	0.99	
6 Sulfate	11.675	11.483	0.192	67455260	5.00	4.95	
7 Orthophosphate as P	12.833	12.792	0.041	19826599	1.00	0.9377	

Reagents:

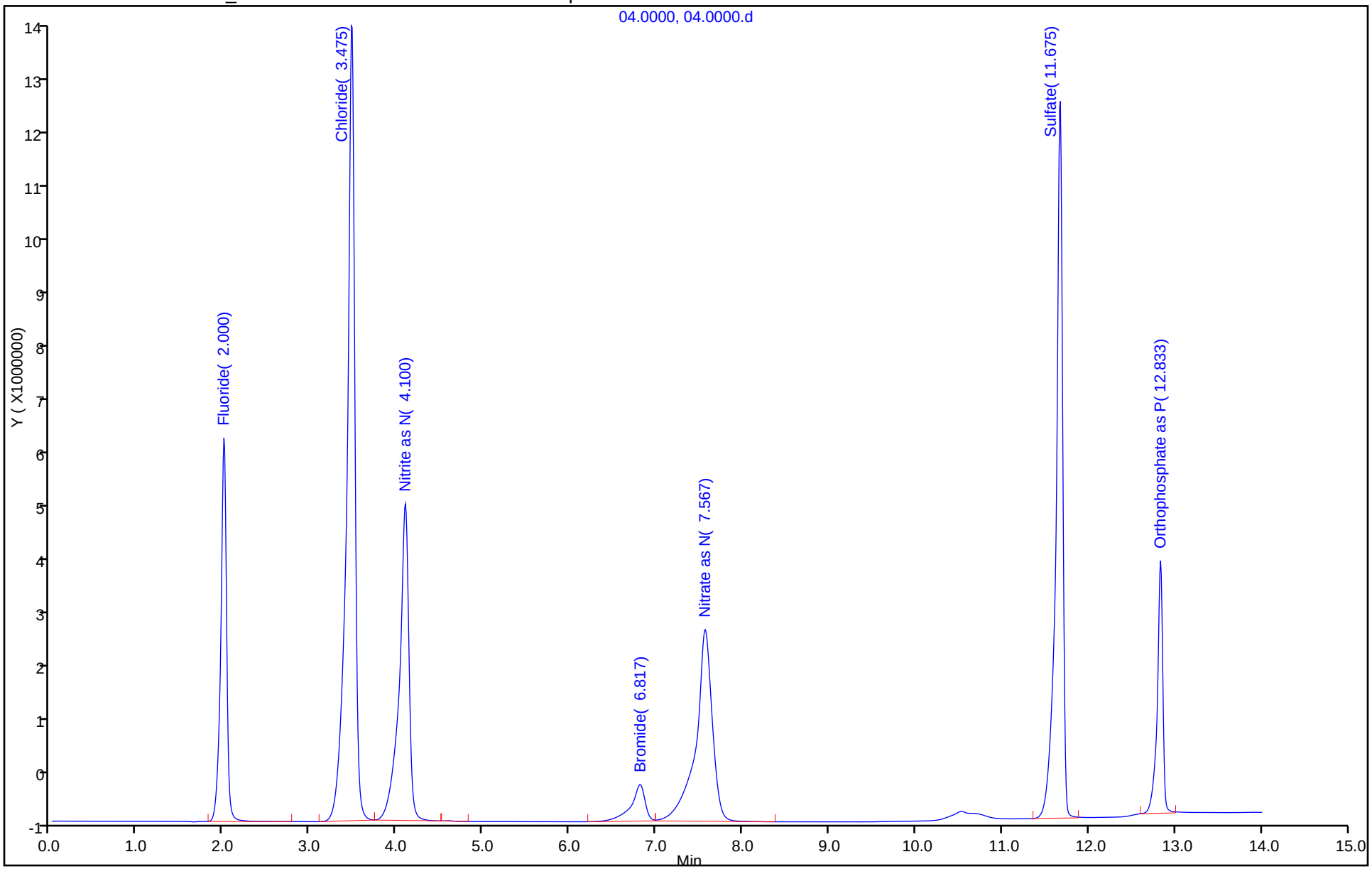
IC CAL cl/so4_00120 Amount Added: 0.10 Units: mL
IC Cal low_00235 Amount Added: 0.10 Units: mL

Report Date: 08-Oct-2016 08:50:37 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\04.0000.d

Injection Date:	07-Oct-2016 10:15:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L3			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\05.0000.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Oct-2016 10:32:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-005 Temporary sequence for manual data acquisition
Misc. Info.: 24354
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:39 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	123236930	4.00	4.14	
2 Chloride	3.442	3.442	0.000	1129842185	60.0	60.6	
3 Nitrite as N	4.083	4.083	0.000	163946726	4.00	4.18	
4 Bromide	6.767	6.767	0.000	30414430	4.00	4.03	
5 Nitrate as N	7.408	7.408	0.000	183098879	4.00	4.01	
6 Sulfate	11.542	11.542	0.000	824224951	60.0	60.9	
7 Orthophosphate as P	12.800	12.800	0.000	77484373	4.00	3.97	

Reagents:

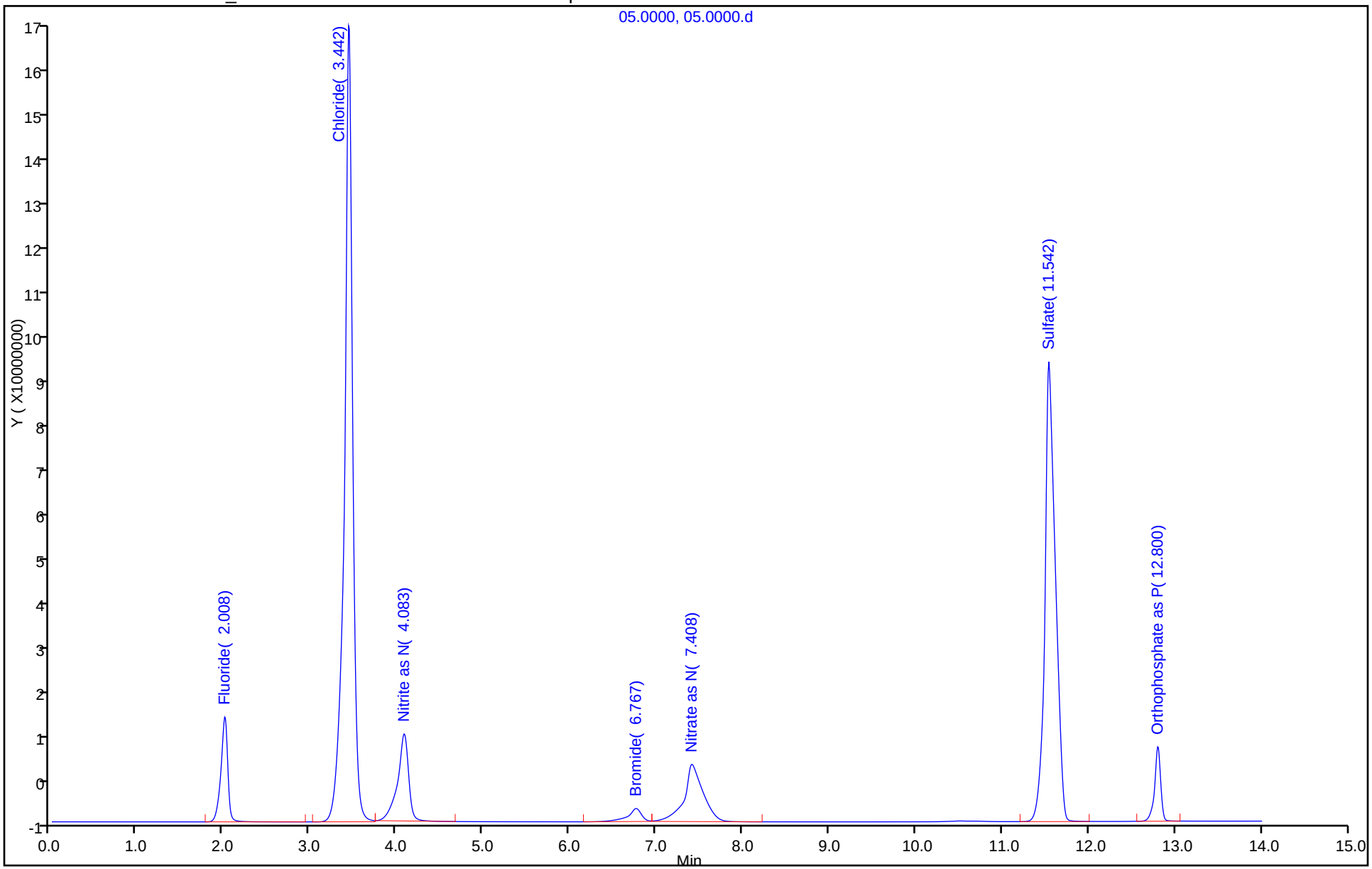
IC CAL cl/so4_00120 Amount Added: 1.20 Units: mL
IC Cal low_00235 Amount Added: 0.40 Units: mL

Report Date: 08-Oct-2016 08:50:41 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\05.0000.d

Injection Date:	07-Oct-2016 10:32:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\05.0000.d
Lims ID: std L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Oct-2016 10:32:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-005 Temporary sequence for manual data acquisition
Misc. Info.: 24354
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:39 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	123236930	4.00	4.14	
2 Chloride	3.442	3.442	0.000	1129842185	60.0	60.6	
3 Nitrite as N	4.083	4.083	0.000	163946726	4.00	4.18	
4 Bromide	6.767	6.767	0.000	30414430	4.00	4.03	
5 Nitrate as N	7.408	7.408	0.000	183098879	4.00	4.01	
6 Sulfate	11.542	11.542	0.000	824224951	60.0	60.9	
7 Orthophosphate as P	12.800	12.800	0.000	77484373	4.00	3.97	

Reagents:

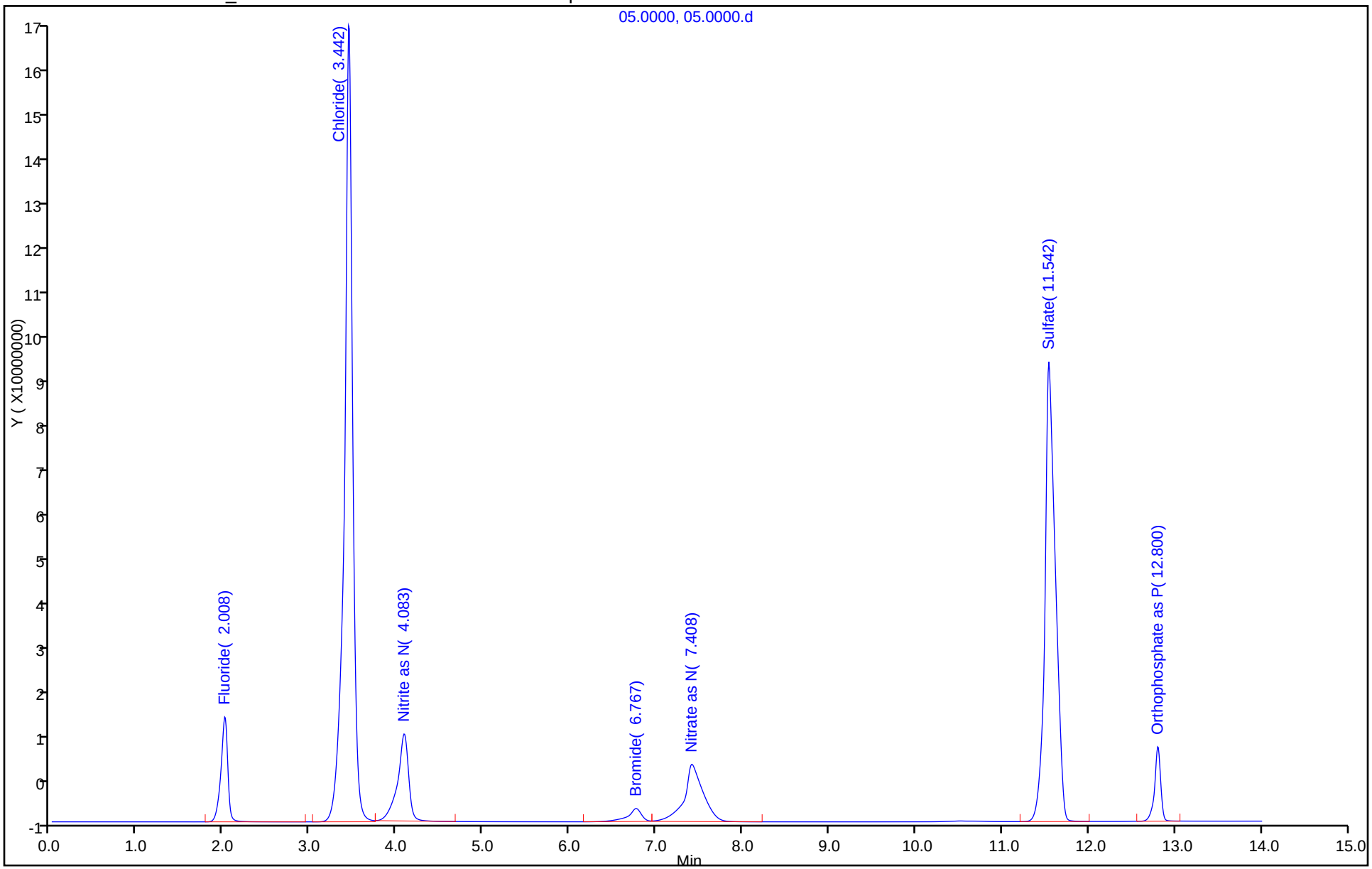
IC CAL cl/so4_00120 Amount Added: 1.20 Units: mL
IC Cal low_00235 Amount Added: 0.40 Units: mL

Report Date: 08-Oct-2016 08:50:41 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\05.0000.d

Injection Date:	07-Oct-2016 10:32:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L4			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\06.0000.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Oct-2016 10:49:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-006 Temporary sequence for manual data acquisition
Misc. Info.: 21074
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:43 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	237072476	8.00	7.99	
2 Chloride	3.425	3.442	-0.017	2243362063	120.0	120.3	
3 Nitrite as N	4.075	4.083	-0.008	312244759	8.00	7.99	
4 Bromide	6.708	6.767	-0.059	60699419	8.00	8.02	
5 Nitrate as N	7.275	7.408	-0.133	366497941	8.00	8.01	
6 Sulfate	11.458	11.542	-0.084	1626099022	120.0	120.3	
7 Orthophosphate as P	12.783	12.800	-0.017	154884971	8.00	8.04	

Reagents:

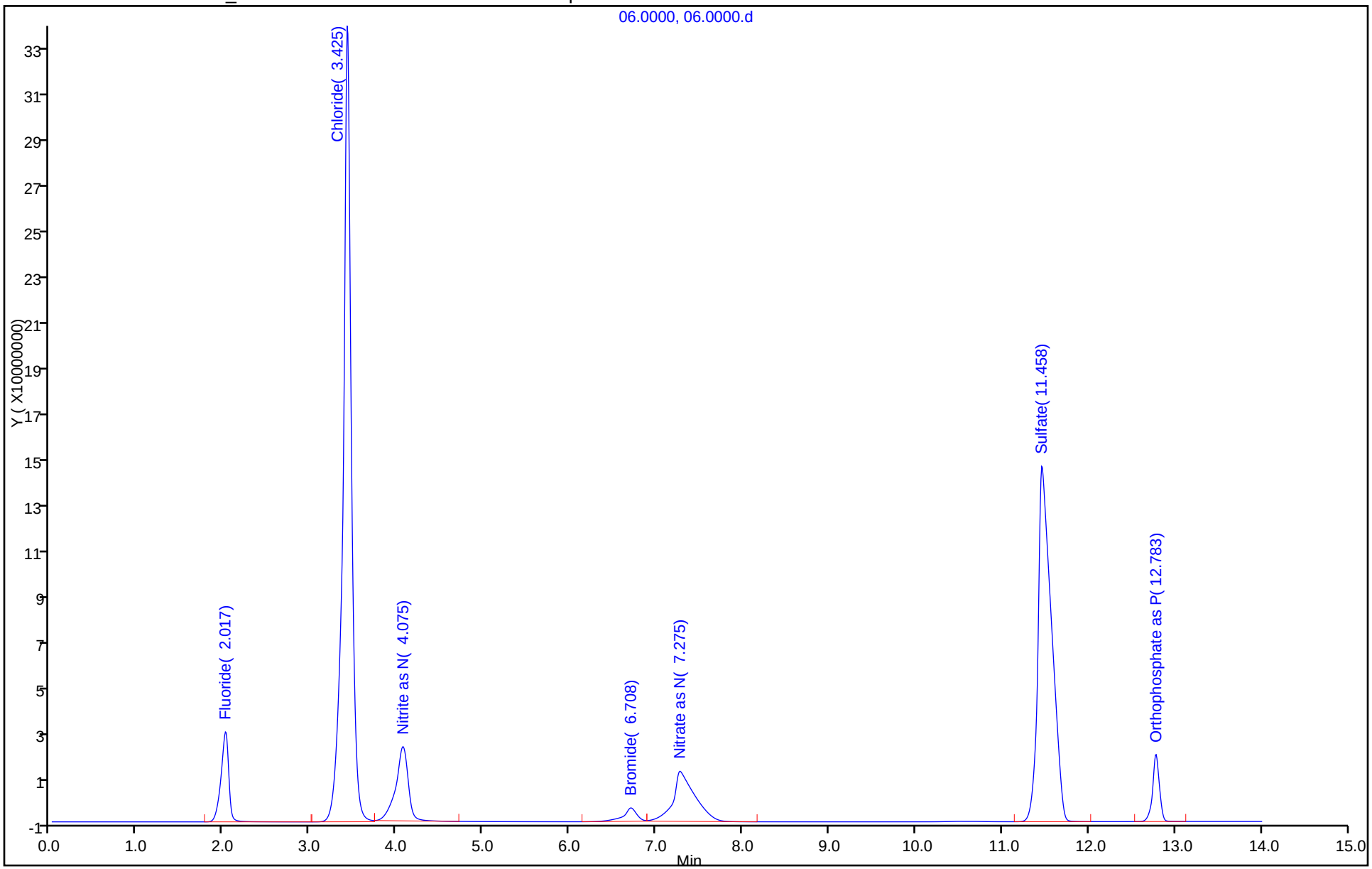
IC CAL cl/so4_00120 Amount Added: 2.40 Units: mL
IC Cal low_00235 Amount Added: 0.80 Units: mL

Report Date: 08-Oct-2016 08:50:43 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\06.0000.d

Injection Date:	07-Oct-2016 10:49:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\06.0000.d
Lims ID: std L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Oct-2016 10:49:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-006 Temporary sequence for manual data acquisition
Misc. Info.: 21074
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:43 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	237072476	8.00	7.99	
2 Chloride	3.425	3.442	-0.017	2243362063	120.0	120.3	
3 Nitrite as N	4.075	4.083	-0.008	312244759	8.00	7.99	
4 Bromide	6.708	6.767	-0.059	60699419	8.00	8.02	
5 Nitrate as N	7.275	7.408	-0.133	366497941	8.00	8.01	
6 Sulfate	11.458	11.542	-0.084	1626099022	120.0	120.3	
7 Orthophosphate as P	12.783	12.800	-0.017	154884971	8.00	8.04	

Reagents:

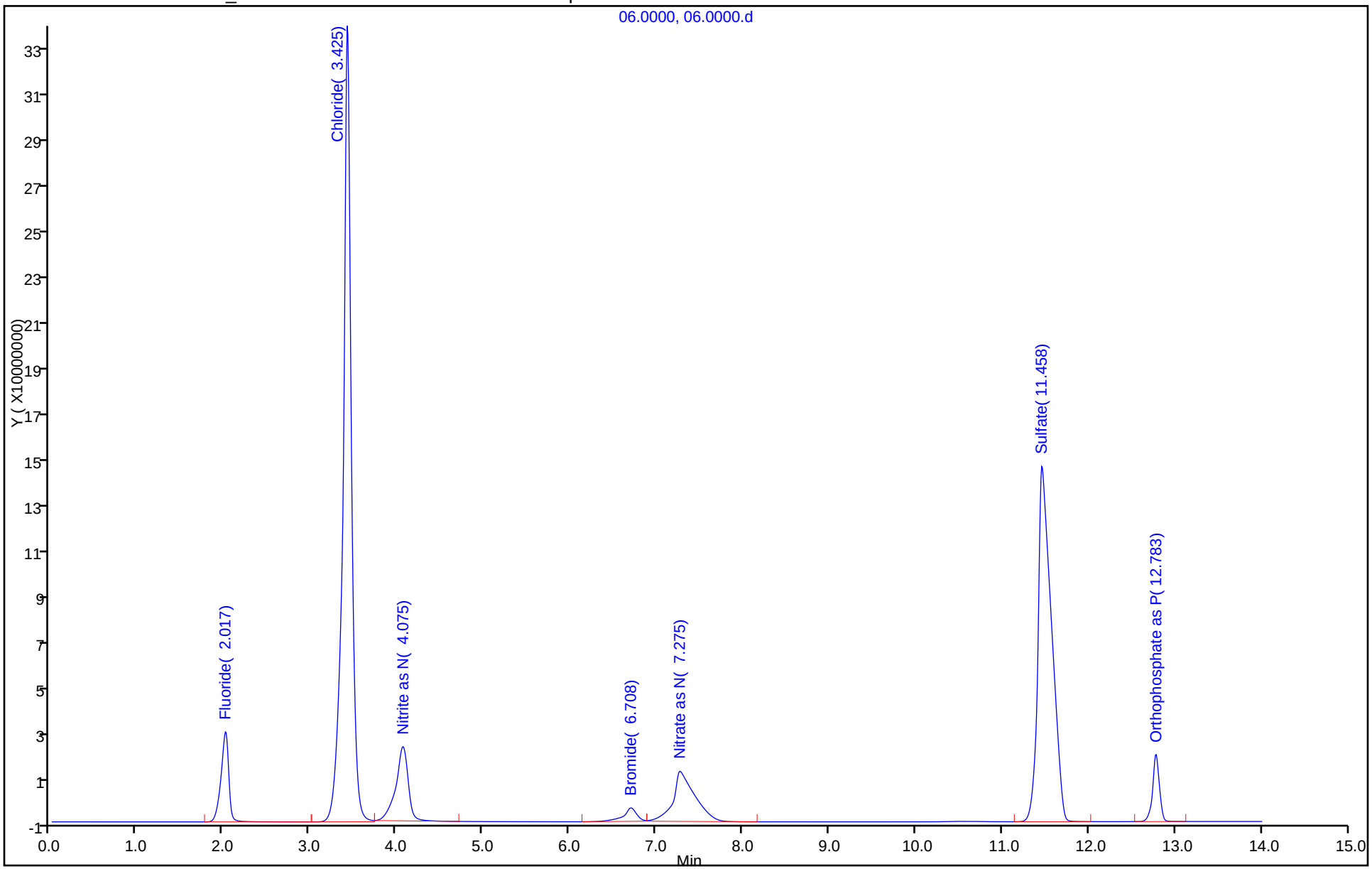
IC CAL cl/so4_00120 Amount Added: 2.40 Units: mL
IC Cal low_00235 Amount Added: 0.80 Units: mL

Report Date: 08-Oct-2016 08:50:43 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\06.0000.d

Injection Date:	07-Oct-2016 10:49:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L5			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 07-Oct-2016 11:06:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-007 Temporary sequence for manual data acquisition
Misc. Info.: 21160
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:45 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

First Level Reviewer: bensona Date: 07-Oct-2016 11:25:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	291498682	10.0	9.83	
2 Chloride	3.417	3.442	-0.025	3718642140	200.0	199.3	
3 Nitrite as N	4.058	4.083	-0.025	381429468	10.0	9.77	
4 Bromide	6.675	6.767	-0.092	75572072	10.0	9.97	
5 Nitrate as N	7.208	7.408	-0.200	456723172	10.0	9.98	
6 Sulfate	11.383	11.542	-0.159	2689103099	200.0	198.9	
7 Orthophosphate as P	12.775	12.800	-0.025	193180959	10.0	10.0	

Reagents:

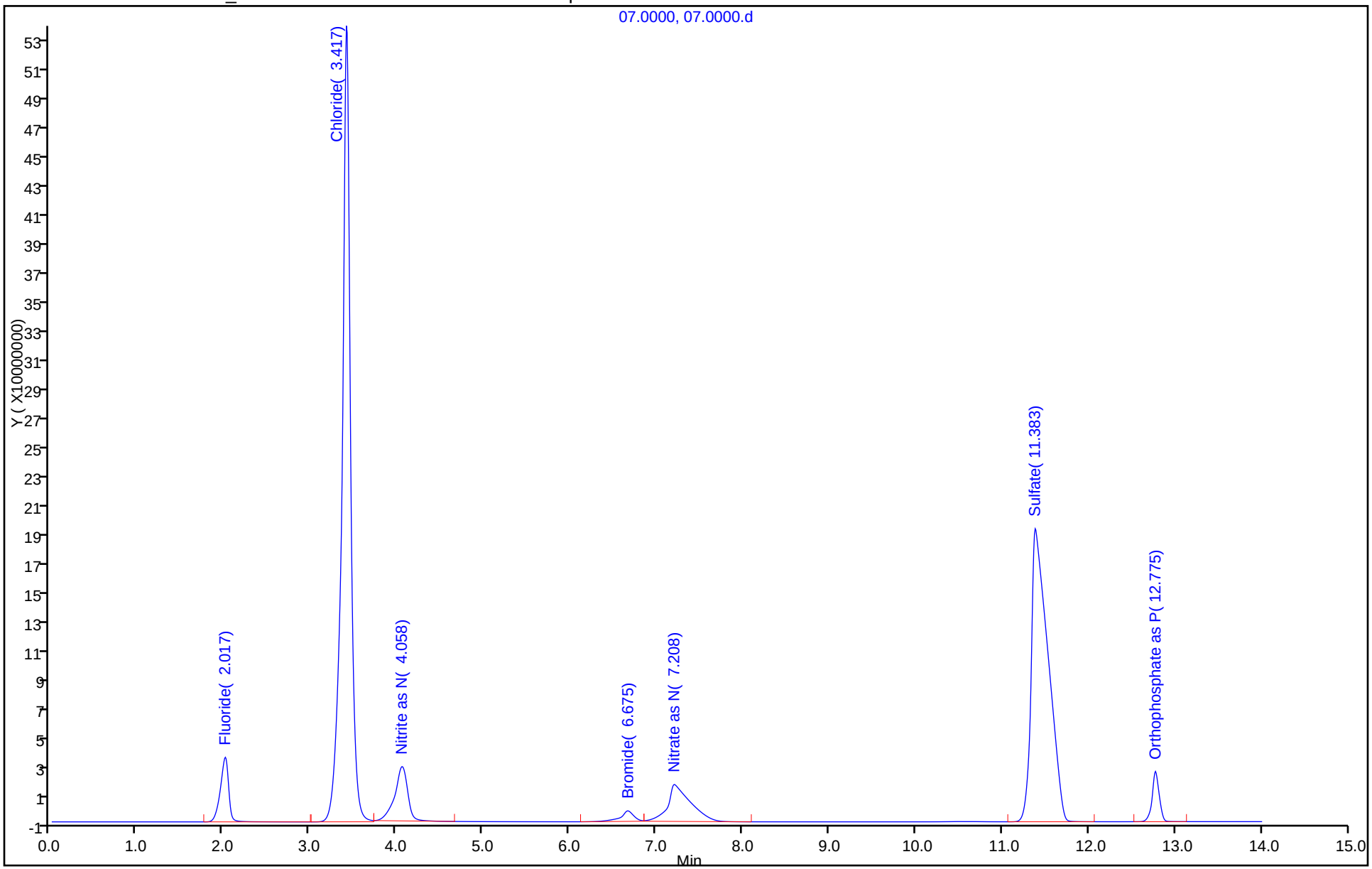
IC CAL cl/so4_00120 Amount Added: 4.00 Units: mL
IC Cal low_00235 Amount Added: 1.00 Units: mL

Report Date: 08-Oct-2016 08:50:46 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Injection Date:	07-Oct-2016 11:06:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d
Lims ID: std L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 07-Oct-2016 11:06:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-007 Temporary sequence for manual data acquisition
Misc. Info.: 21160
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:45 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

First Level Reviewer: bensona Date: 07-Oct-2016 11:25:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.008	0.009	291498682	10.0	9.83	
2 Chloride	3.417	3.442	-0.025	3718642140	200.0	199.3	
3 Nitrite as N	4.058	4.083	-0.025	381429468	10.0	9.77	
4 Bromide	6.675	6.767	-0.092	75572072	10.0	9.97	
5 Nitrate as N	7.208	7.408	-0.200	456723172	10.0	9.98	
6 Sulfate	11.383	11.542	-0.159	2689103099	200.0	198.9	
7 Orthophosphate as P	12.775	12.800	-0.025	193180959	10.0	10.0	

Reagents:

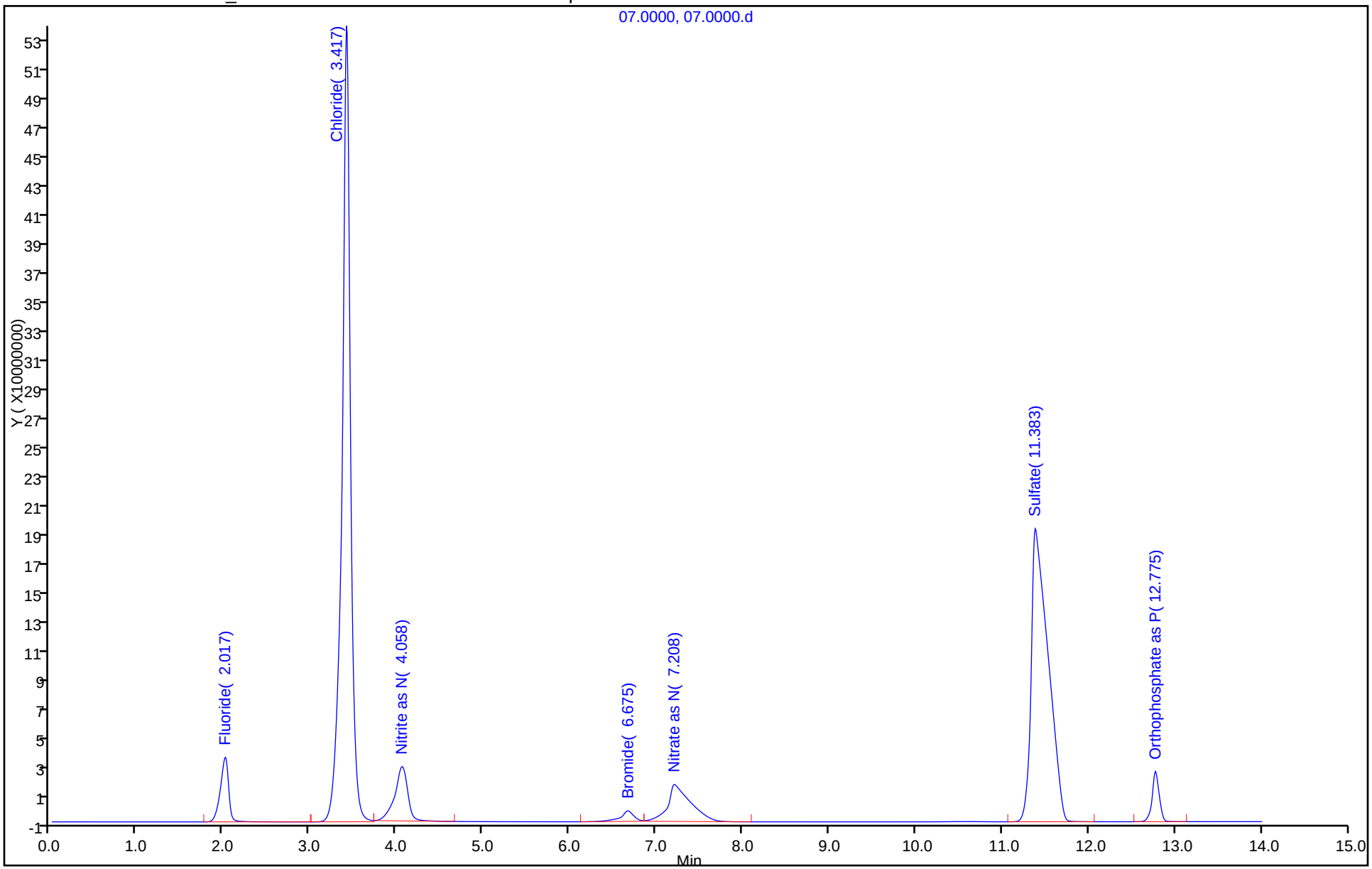
IC CAL cl/so4_00120 Amount Added: 4.00 Units: mL
IC Cal low_00235 Amount Added: 1.00 Units: mL

Report Date: 08-Oct-2016 08:50:46 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Injection Date:	07-Oct-2016 11:06:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	std L6			Worklist Smp#:	7
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



M

IC Instrument Information

WL: 51631 **Inst ID:** 8 **Analysis Date:** 10/07 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐	89119	3	F Cl NO2 Br NO3 PO4 SO4	MS/D	1 & 3
☑	89113	1	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐	89118	7	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐	89110	7	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver
Priority Form

Log-in Number: 89119

Client: Coors Brewing

Project Manager: Jamie Lee

	Initials:	Date/Time:
Receiving	JT	10/7/16 1220
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST CDT/CST (MDT/MST) PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1-3	
	Nitrite by IC	50	300.0/9056	1-3	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3															
Date	10/6	→	→	→														
Time	550	555	0615															

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89113 Project Manager: Rothmeyer, Stephanie

Client: Quantum Water

	Initials:	Date/Time:
Receiving	RP	10-7-16 1322
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST CDT/CST (MDT/MST) PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1	
	Nitrite by IC	50	300.0/9056	1	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO_2 NO_3 Cl SO_4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1																	
Date	10-7																	
Time	1100																	

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89118 Project Manager: ST

Client: Clean Harbors GLW

Time Zone:

	Initials:	Date/Time:
Receiving	DLW	10/7/16 0915
Dept. Rep. / Analyst	SVC	10/7/16 1445

EDT/EST (CDT/CST) MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1, 4-9	
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO3 Cl 804 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	4	5	6	7	8	9											
Date	10/6						"											
Time	1221	1125	1128	1159	1202	1218	1221											

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89110

Project Manager: Kae Yoder

Client: URS Corporation

	Initials:	Date/Time:
Receiving	JF	10/7/16 0915
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST	CDT/CST	MDT/MST	PDT/PST
Other:			

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	2-8	
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO3 SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3	4	5	6	7	8										
Date	10/6																	
Time	1000	1055	1105	1150	1200	1325	1430	1430										

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Laboratories
Worklist Report

Worklist Name: 100716 cal
Worklist Number: 51631
Instrument Name: WC_IonChrom8
Chrom Method: Anions_IC8
Injection Volume: 25.00
Units: ul
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b
Upload Directory: \\CORPTALSAPP16\280-DN-RawData\WetChem\IonChrom8\300.0_28D

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-001	# 1 RTC	IC LCS_00710	RTC		1.000000	
280-0051631-002	# 2 std L1	IC CAL cl/so4_00120 IC Cal low_00235	IC	1	1.000000	
280-0051631-003	# 3 std L2	IC CAL cl/so4_00120 IC Cal low_00235	IC	2	1.000000	
280-0051631-004	# 4 std L3	IC CAL cl/so4_00120 IC Cal low_00235	IC	3	1.000000	
280-0051631-005	# 5 std L4	IC CAL cl/so4_00120 IC Cal low_00235	IC	4	1.000000	
280-0051631-006	# 6 std L5	IC CAL cl/so4_00120 IC Cal low_00235	IC	5	1.000000	
280-0051631-007	# 7 std L6	IC CAL cl/so4_00120 IC Cal low_00235	IC	6	1.000000	
280-0051631-008	# 8 ICV	IC ICV 5_00158 IC CL ICV_00013 IC SO4 ICV_00016	ICV		1.000000	
280-0051631-009	# 9 ICB		ICB		1.000000	
280-0051631-010	#10 MRL	IC CAL cl/so4_00120 IC Cal low_00235	MRL		1.000000	
280-0051631-011	#11 LCS	IC LCS_00710	LCS		1.000000	
280-0051631-012	#12 LCSD	IC LCS_00710	LCSD		1.000000	
280-0051631-013	#13 MB		MB		1.000000	
280-0051631-014	#14 280-89119-B-1		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-015	#15 280-89119-B-1 DU		DU		1.000000	
280-0051631-016	#16 280-89119-B-1 MS	ICMS/MSD WEEK_00422	MS		1.000000	
280-0051631-017	#17 280-89119-B-1 MSD	ICMS/MSD WEEK_00422	MSD		1.000000	
280-0051631-018	#18 280-89119-B-2		Client		1.000000	
280-0051631-019	#19 280-89119-B-3		Client		1.000000	
280-0051631-020	#20 280-89119-B-3 DU		DU		1.000000	
280-0051631-021	#21 280-89119-B-3 MS	ICMS/MSD WEEK_00422	MS		1.000000	
280-0051631-022	#22 280-89119-B-3 MSD	ICMS/MSD WEEK_00422	MSD		1.000000	
280-0051631-023	#23 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-024	#24 ccb		CCB		1.000000	
280-0051631-025	#25 280-89113-B-1		Client		2.000000	
280-0051631-026	#26 280-89113-B-1		Client		50.00	
280-0051631-027	#27 280-89118-C-1		Client		1.000000	
280-0051631-028	#28 280-89118-C-4		Client		1.000000	
280-0051631-029	#29 280-89118-C-4		Client		5.000000	
280-0051631-030	#30 280-89118-C-5		Client		1.000000	
280-0051631-031	#31 280-89118-C-5		Client		5.000000	
280-0051631-032	#32 280-89118-C-6		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-033	#33 280-89118-C-6		Client		5.000000	
280-0051631-034	#34 280-89118-C-7		Client		1.000000	
280-0051631-035	#35 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-036	#36 ccb		CCB		1.000000	
280-0051631-037	#37 280-89118-C-7		Client		5.000000	
280-0051631-038	#38 280-89118-C-8		Client		1.000000	
280-0051631-039	#39 280-89118-C-8		Client		5.000000	
280-0051631-040	#40 280-89118-C-9		Client		1.000000	
280-0051631-041	#41 280-89118-C-9		Client		5.000000	
280-0051631-042	#42 280-89110-D-2		Client		1.000000	
280-0051631-043	#43 280-89110-D-2		Client		10.00	
280-0051631-044	#44 280-89110-H-3		Client		1.000000	
280-0051631-045	#45 280-89110-H-3		Client		10.00	
280-0051631-046	#46 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-047	#47 ccb		CCB		1.000000	
280-0051631-048	#48 280-89110-H-4		Client		1.000000	
280-0051631-049	#49 280-89110-H-4		Client		10.00	
280-0051631-050	#50 280-89110-D-5		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-051	#51 280-89110-D-5		Client		10.00	
280-0051631-052	#52 280-89110-D-6		Client		1.000000	
280-0051631-053	#53 280-89110-D-6		Client		10.00	
280-0051631-054	#54 280-89110-D-7		Client		2.000000	
280-0051631-055	#55 280-89110-D-7		Client		50.00	
280-0051631-056	#56 280-89110-H-8		Client		2.000000	
280-0051631-057	#57 280-89110-H-8		Client		50.00	
280-0051631-058	#58 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-059	#59 ccb		CCB		1.000000	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Ion Chromatography Data Review Checklist

LIMS Batch Number: 345473-74 Worklist #: 51631		Instrument ID: IC8
Analyst/1st Reviewer/Date: TD / AB 10 8 16	Method (circle): (300.0) (9056) 9056A DV-WC-0077	QC Type (circle): Standard DOD Q4 DoD Q5 QAPP_____ Other_____
Matrix (circle): Water Solid Leachate		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Verify intermediate standards for correct concentration stated in SOP (ICAL pts at correct concentration)	√			—	
2. Calibrated with at least 5 standards & a blank	√			—	
3. Elution order of analytes in ICAL confirmed to be correct	√			—	
4. Linearity and intercept: r ≥ 0.995 (r2>0.99) & |x-intercept| < ½ RL (absolute value)	√			—	
5. ICV, second source: run before samples 90-110% recovery / 80-120% recovery (Hydrazine)	√			—	
6. CCV: 10% frequency & closing 90-110% recovery / 80-120% recovery (Hydrazine)	√			—	
7. ICB/CCB: run before samples, 10% freq. & closing 8. Result < ½ RL	√			—	
9. RL-level check standard (Anions) run before samples 50-150% Recovery	√			—	
10. RT Window set based on midpoint of ICAL or initial CCV?	√			—	
B. Client Sample and QC Sample Results					
11. Samples with results > linear range diluted and reanalyzed?	√			—	Comments:
12. Manual integrations done & documented appropriately? (before & after chroms, date, initial, & reason)	√			—	Comments:
C. Preparation/Matrix QC					
13. If samples are lab filtered are QC samples also filtered?	√			—	
14. Method Blank: one per preparation batch Result < 1/2 RL *If no, list blank ID & explain:*	√			—	□ No analyte > RL in associated samples □ Sample results >10x blank □ Insufficient sample for reanalysis
15. LCS: one per preparation batch 90-110% recovery (routine) / Lab limits (Hydrazine) *If no, list LCS ID & explain:*	√			—	□ Insufficient sample for reanalysis □ LCS %R > QC limits & samples < RL
16. Matrix Retention Time Spike: one per sample (Hydrazine) MS/MSD freq.: a pair per 20 samples (Hydrazine) MS/MSD and Dup freq.: a pair per 10 samples (Anions) *If no, list QC ID & explain:*	√			—	□ Insufficient sample

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
17. MS/MSD recovery & RPD: 80-120% recovery (Anions) Lab limits (Hydrazine) 20% RPD *If no, list MS or MSD ID & explain:*	√			—	□ LCS acceptable – matrix effects □ Native analyte > 4x spike level □ Matrix effect and native analyte > 4x spike
D. Raw Data & TALS Data Entry					
18. Raw Data					
a. Unused data is clearly identified (with reason)	√			—	
b. All cross outs are initialed and dated	√			—	
c. Out of control QC is clearly identified	√			—	
d. Any data that has a qualifier is commented on with appropriate action taken	√			—	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	√			—	
19. Run Log					
a. Unused data is clearly identified	√			—	
b. All cross outs are initialed and dated	√			—	
c. Analyst initials/signature provided	√			—	
20. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct	√			—	
b. Method and matrix are correct	√			—	
c. Date and time match raw data	√			—	
d. Dilutions are correct	√			—	
e. Correct suffix designated (where applicable)	√			—	
21. TALS Worksheet Tab is complete and correct	√			—	
22. TALS Reagent Tab is complete and correct	√			—	
23. TALS QC Links Tab is correct	√			—	
24. TALS Sample Results Tab					
a. All unused data are marked Rejected or Accepted	√			—	
b. All reported analytes are marked Primary or Secondary	√			—	
25. TALS Batch Information Screen documentation is complete	√			—	
26. TALS Status set to appropriate review level	√			—	
E. Final Report and NCMs (2nd level review only)					
27. Were all job/project requirements met?	—				
28. Results for samples and QC correct on final report?	—				
29. Are all necessary scanned documents in TALS?	—				
30. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?	—				

Comments: _____

2nd Reviewer: TP **Review Date:** 10/09/16

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\08.0000.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 07-Oct-2016 11:33:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-008 Temporary sequence for manual data acquisition
Misc. Info.: 29545
Operator ID: Instrument ID: WC_IonChrom8
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:47 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	124395643	4.00	4.18	
2 Chloride	3.442	3.442	0.000	1523116071	80.0	81.7	
3 Nitrite as N	4.083	4.083	0.000	162760194	4.00	4.14	
4 Bromide	6.767	6.767	0.000	30299011	4.00	4.01	
5 Nitrate as N	7.408	7.408	0.000	185663282	4.00	4.07	
6 Sulfate	11.517	11.517	0.000	1098325850	80.0	81.2	
7 Orthophosphate as P	12.808	12.808	0.000	78042932	4.00	4.00	

Reagents:

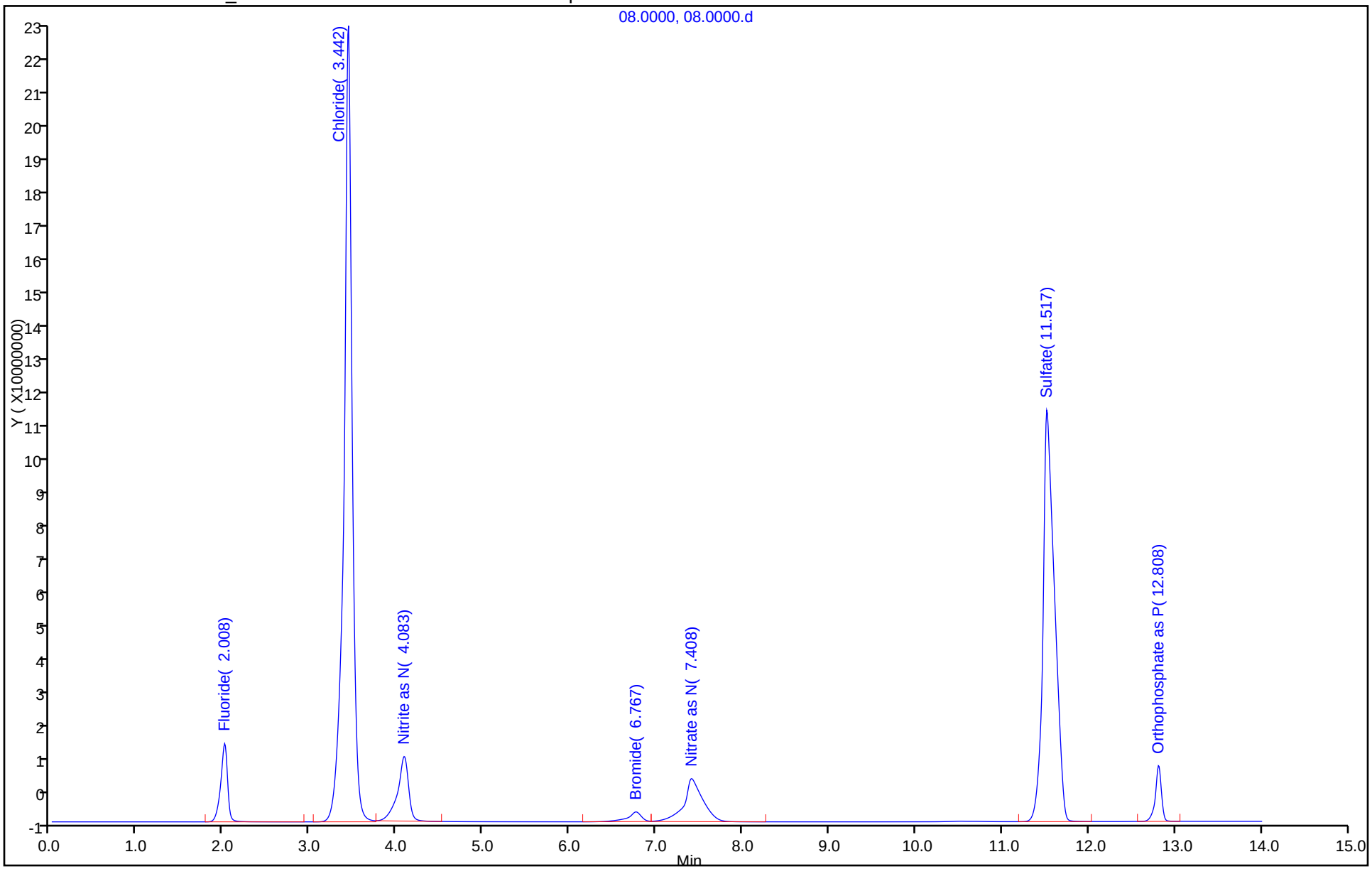
IC ICV 5_00158 Amount Added: 0.40 Units: mL
IC CL ICV_00013 Amount Added: 0.40 Units: mL
IC SO4 ICV_00016 Amount Added: 0.40 Units: mL

Report Date: 08-Oct-2016 08:50:48 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\08.0000.d

Injection Date:	07-Oct-2016 11:33:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



M

IC Instrument Information

WL: 51631 **Inst ID:** 8 **Analysis Date:** 10/07 **Analyst:** TP

Rush	Job No.	Samples	Anions	QC Req	HT Exp
☐ ✓	89119	3	F Cl NO2 Br NO3 PO4 SO4	MS/D	1 & 3
☑	89113	1	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐ ✓	89118	7	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐ ✓	89110	7	F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	
☐			F Cl NO2 Br NO3 PO4 SO4	MS/D	

Dilutions

Job No.	Samples	Anions	Dilution	Reason
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver

Priority Form

Log-in Number: 89119

Client: Coors Brewing

Project Manager: Jamie Lee

	Initials:	Date/Time:
Receiving	JF	10/7/16 1220
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST CDT/CST (MDT/MST) PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1-3	
	Nitrite by IC	50	300.0/9056	1-3	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3															
Date	10/6	→	→	→														
Time	550	555	0615															

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89113 Project Manager: Rothmeyer, Stephanie

Client: Quantum Water

	Initials:	Date/Time:
Receiving	RP	10-7-16 1322
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST CDT/CST (MDT/MST) PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1	
	Nitrite by IC	50	300.0/9056	1	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO_2 NO_3 Cl SO_4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1																	
Date	10-7																	
Time	1100																	

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89118 Project Manager: ST

Client: Clean Harbors GLW

Time Zone:

	Initials:	Date/Time:
Receiving	DLW	10/7/16 0915
Dept. Rep. / Analyst	SVC	10/7/16 1445

EDT/EST (CDT/CST) MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1, 4-9	
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO3 Cl 804 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	4	5	6	7	8	9											
Date	10/6						"											
Time	1221	1125	1128	1159	1202	1218	1221											

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 89110 Project Manager: Kae Yoder

Client: URS Corporation

	Initials:	Date/Time:
Receiving	JT	10/7/16 0915
Dept. Rep. / Analyst	SVC	10/7/16 1445

Time Zone:

EDT/EST CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	2-8	
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO3 SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3	4	5	6	7	8										
Date	10/6																	
Time	1000	1055	1105	1150	1200	1325	1430	1430										

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Laboratories
Worklist Report

Worklist Name: 100716 cal
Worklist Number: 51631
Instrument Name: WC_IonChrom8
Chrom Method: Anions_IC8
Injection Volume: 25.00
Units: ul
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b
Upload Directory: \\CORPTALSAPP16\280-DN-RawData\WetChem\IonChrom8\300.0_28D

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-001	# 1 RTC	IC LCS_00710	RTC		1.000000	
280-0051631-002	# 2 std L1	IC CAL cl/so4_00120 IC Cal low_00235	IC	1	1.000000	
280-0051631-003	# 3 std L2	IC CAL cl/so4_00120 IC Cal low_00235	IC	2	1.000000	
280-0051631-004	# 4 std L3	IC CAL cl/so4_00120 IC Cal low_00235	IC	3	1.000000	
280-0051631-005	# 5 std L4	IC CAL cl/so4_00120 IC Cal low_00235	IC	4	1.000000	
280-0051631-006	# 6 std L5	IC CAL cl/so4_00120 IC Cal low_00235	IC	5	1.000000	
280-0051631-007	# 7 std L6	IC CAL cl/so4_00120 IC Cal low_00235	IC	6	1.000000	
280-0051631-008	# 8 ICV	IC ICV 5_00158 IC CL ICV_00013 IC SO4 ICV_00016	ICV		1.000000	
280-0051631-009	# 9 ICB		ICB		1.000000	
280-0051631-010	#10 MRL	IC CAL cl/so4_00120 IC Cal low_00235	MRL		1.000000	
280-0051631-011	#11 LCS	IC LCS_00710	LCS		1.000000	
280-0051631-012	#12 LCSD	IC LCS_00710	LCSD		1.000000	
280-0051631-013	#13 MB		MB		1.000000	
280-0051631-014	#14 280-89119-B-1		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-015	#15 280-89119-B-1 DU		DU		1.000000	
280-0051631-016	#16 280-89119-B-1 MS	ICMS/MSD WEEK_00422	MS		1.000000	
280-0051631-017	#17 280-89119-B-1 MSD	ICMS/MSD WEEK_00422	MSD		1.000000	
280-0051631-018	#18 280-89119-B-2		Client		1.000000	
280-0051631-019	#19 280-89119-B-3		Client		1.000000	
280-0051631-020	#20 280-89119-B-3 DU		DU		1.000000	
280-0051631-021	#21 280-89119-B-3 MS	ICMS/MSD WEEK_00422	MS		1.000000	
280-0051631-022	#22 280-89119-B-3 MSD	ICMS/MSD WEEK_00422	MSD		1.000000	
280-0051631-023	#23 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-024	#24 ccb		CCB		1.000000	
280-0051631-025	#25 280-89113-B-1		Client		2.000000	
280-0051631-026	#26 280-89113-B-1		Client		50.00	
280-0051631-027	#27 280-89118-C-1		Client		1.000000	
280-0051631-028	#28 280-89118-C-4		Client		1.000000	
280-0051631-029	#29 280-89118-C-4		Client		5.000000	
280-0051631-030	#30 280-89118-C-5		Client		1.000000	
280-0051631-031	#31 280-89118-C-5		Client		5.000000	
280-0051631-032	#32 280-89118-C-6		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-033	#33 280-89118-C-6		Client		5.000000	
280-0051631-034	#34 280-89118-C-7		Client		1.000000	
280-0051631-035	#35 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-036	#36 ccb		CCB		1.000000	
280-0051631-037	#37 280-89118-C-7		Client		5.000000	
280-0051631-038	#38 280-89118-C-8		Client		1.000000	
280-0051631-039	#39 280-89118-C-8		Client		5.000000	
280-0051631-040	#40 280-89118-C-9		Client		1.000000	
280-0051631-041	#41 280-89118-C-9		Client		5.000000	
280-0051631-042	#42 280-89110-D-2		Client		1.000000	
280-0051631-043	#43 280-89110-D-2		Client		10.00	
280-0051631-044	#44 280-89110-H-3		Client		1.000000	
280-0051631-045	#45 280-89110-H-3		Client		10.00	
280-0051631-046	#46 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-047	#47 ccb		CCB		1.000000	
280-0051631-048	#48 280-89110-H-4		Client		1.000000	
280-0051631-049	#49 280-89110-H-4		Client		10.00	
280-0051631-050	#50 280-89110-D-5		Client		1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Dil Fact
280-0051631-051	#51 280-89110-D-5		Client		10.00	
280-0051631-052	#52 280-89110-D-6		Client		1.000000	
280-0051631-053	#53 280-89110-D-6		Client		10.00	
280-0051631-054	#54 280-89110-D-7		Client		2.000000	
280-0051631-055	#55 280-89110-D-7		Client		50.00	
280-0051631-056	#56 280-89110-H-8		Client		2.000000	
280-0051631-057	#57 280-89110-H-8		Client		50.00	
280-0051631-058	#58 ccv	IC LCS_00710	CCV		1.000000	
280-0051631-059	#59 ccb		CCB		1.000000	

Ion Chromatography Data Review Checklist

LIMS Batch Number: 345473-74 Worklist #: 51631		Instrument ID: IC8
Analyst/1st Reviewer/Date: TD / AB 10 8 16	Method (circle): 300.0 9056 9056A DV-WC-0077	QC Type (circle): Standard DOD Q4 DoD Q5 QAPP_____ Other_____
Matrix (circle): Water Solid Leachate		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Verify intermediate standards for correct concentration stated in SOP (ICAL pts at correct concentration)	✓			—	
2. Calibrated with at least 5 standards & a blank	✓			—	
3. Elution order of analytes in ICAL confirmed to be correct	✓			—	
4. Linearity and intercept: r ≥ 0.995 (r2>0.99) & |x-intercept| < ½ RL (absolute value)	✓			—	
5. ICV, second source: run before samples 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
6. CCV: 10% frequency & closing 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
7. ICB/CCB: run before samples, 10% freq. & closing 8. Result < ½ RL	✓			—	
9. RL-level check standard (Anions) run before samples 50-150% Recovery	✓			—	
10. RT Window set based on midpoint of ICAL or initial CCV?	✓			—	
B. Client Sample and QC Sample Results					
11. Samples with results > linear range diluted and reanalyzed?	✓			—	Comments:
12. Manual integrations done & documented appropriately? (before & after chroms, date, initial, & reason)	✓			✓	Comments:
C. Preparation/Matrix QC					
13. If samples are lab filtered are QC samples also filtered?	✓			—	
14. Method Blank: one per preparation batch Result < 1/2 RL *If no, list blank ID & explain:*	✓			✓	□ No analyte > RL in associated samples □ Sample results >10x blank □ Insufficient sample for reanalysis
15. LCS: one per preparation batch 90-110% recovery (routine) / Lab limits (Hydrazine) *If no, list LCS ID & explain:*	✓			✓	□ Insufficient sample for reanalysis □ LCS %R > QC limits & samples < RL
16. Matrix Retention Time Spike: one per sample (Hydrazine) MS/MSD freq.: a pair per 20 samples (Hydrazine) MS/MSD and Dup freq.: a pair per 10 samples (Anions) *If no, list QC ID & explain:*	✓			✓	□ Insufficient sample

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
17. MS/MSD recovery & RPD: 80-120% recovery (Anions) Lab limits (Hydrazine) 20% RPD *If no, list MS or MSD ID & explain:*	√			—	□ LCS acceptable – matrix effects □ Native analyte > 4x spike level □ Matrix effect and native analyte > 4x spike
D. Raw Data & TALS Data Entry					
18. Raw Data				—	
a. Unused data is clearly identified (with reason)	√			—	
b. All cross outs are initialed and dated	√			—	
c. Out of control QC is clearly identified	√			—	
d. Any data that has a qualifier is commented on with appropriate action taken	√			—	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	√			—	
19. Run Log					
a. Unused data is clearly identified	√			—	
b. All cross outs are initialed and dated	√			—	
c. Analyst initials/signature provided	√			—	
20. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct	√			—	
b. Method and matrix are correct	√			—	
c. Date and time match raw data	√			—	
d. Dilutions are correct	√			—	
e. Correct suffix designated (where applicable)	√			—	
21. TALS Worksheet Tab is complete and correct	√			—	
22. TALS Reagent Tab is complete and correct	√			—	
23. TALS QC Links Tab is correct	√			—	
24. TALS Sample Results Tab					
a. All unused data are marked Rejected or Accepted	√			—	
b. All reported analytes are marked Primary or Secondary	√			—	
25. TALS Batch Information Screen documentation is complete	√			—	
26. TALS Status set to appropriate review level	√			—	
E. Final Report and NCMs (2nd level review only)					
27. Were all job/project requirements met?	—				
28. Results for samples and QC correct on final report?	—				
29. Are all necessary scanned documents in TALS?	—				
30. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?	—				

Comments: _____

_____

_____

2nd Reviewer: TP **Review Date:** 10/09/16

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\08.0000.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 07-Oct-2016 11:33:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-008 Temporary sequence for manual data acquisition
Misc. Info.: 29545
Operator ID: Instrument ID: WC_IonChrom8
Sublist:

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:47 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	124395643	4.00	4.18	
2 Chloride	3.442	3.442	0.000	1523116071	80.0	81.7	
3 Nitrite as N	4.083	4.083	0.000	162760194	4.00	4.14	
4 Bromide	6.767	6.767	0.000	30299011	4.00	4.01	
5 Nitrate as N	7.408	7.408	0.000	185663282	4.00	4.07	
6 Sulfate	11.517	11.517	0.000	1098325850	80.0	81.2	
7 Orthophosphate as P	12.808	12.808	0.000	78042932	4.00	4.00	

Reagents:

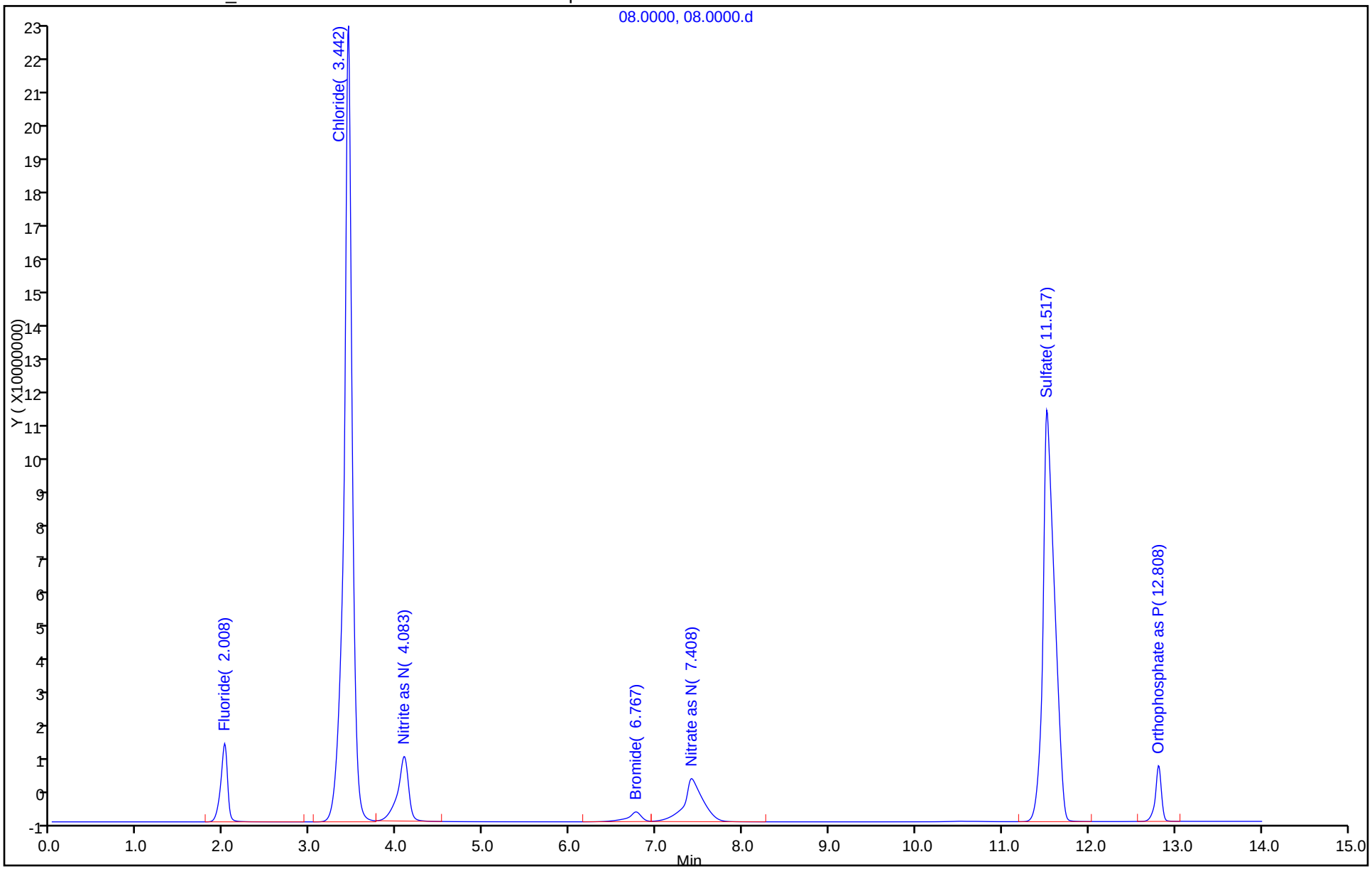
IC ICV 5_00158 Amount Added: 0.40 Units: mL
IC CL ICV_00013 Amount Added: 0.40 Units: mL
IC SO4 ICV_00016 Amount Added: 0.40 Units: mL

Report Date: 08-Oct-2016 08:50:48 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\08.0000.d

Injection Date:	07-Oct-2016 11:33:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\09.0000.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 07-Oct-2016 11:50:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-009 Temporary sequence for manual data acquisition
Misc. Info.: 21425
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 08-Oct-2016 08:50:47 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

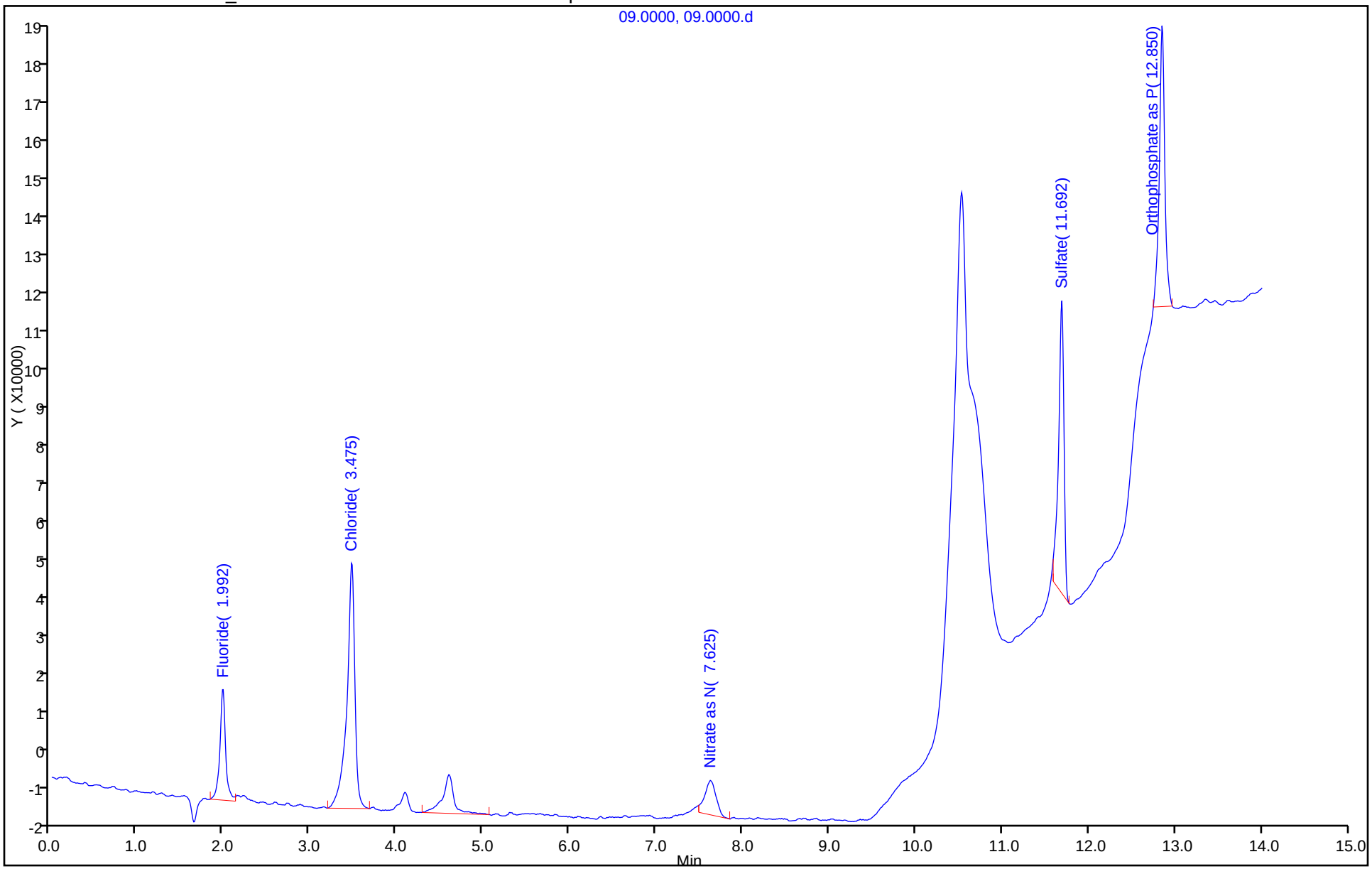
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	129637		-0.0240	
2 Chloride	3.475	3.442	0.033	398699		0.0795	
3 Nitrite as N		4.083				ND	
4 Bromide		6.767				ND	
5 Nitrate as N	7.625	7.408	0.217	78689		0.0183	
6 Sulfate	11.692	11.517	0.175	320061		-0.0205	
7 Orthophosphate as P	12.850	12.808	0.042	313724		-0.0879	

Report Date: 08-Oct-2016 08:50:50 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\09.0000.d

Injection Date:	07-Oct-2016 11:50:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\09.0000.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 07-Oct-2016 11:50:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0051631-009 Temporary sequence for manual data acquisition
Misc. Info.: 21425
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 08-Oct-2016 08:50:47 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK032

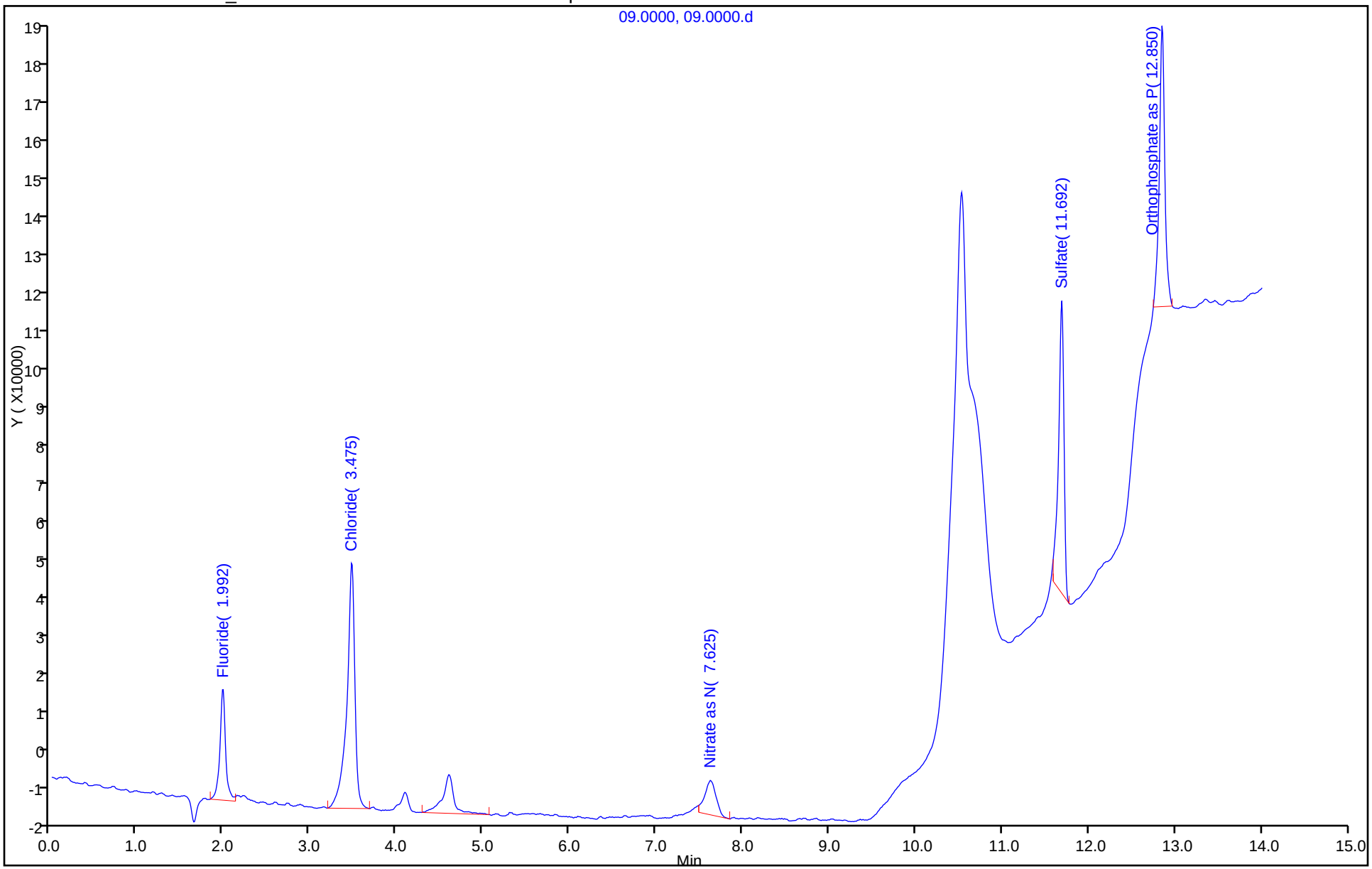
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	129637		-0.0240	
2 Chloride	3.475	3.442	0.033	398699		0.0795	
3 Nitrite as N		4.083				ND	
4 Bromide		6.767				ND	
5 Nitrate as N	7.625	7.408	0.217	78689		0.0183	
6 Sulfate	11.692	11.517	0.175	320061		-0.0205	
7 Orthophosphate as P	12.850	12.808	0.042	313724		-0.0879	

Report Date: 08-Oct-2016 08:50:50 Chrom Revision: 2.2 08-Sep-2016 14:45:52

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\09.0000.d

Injection Date:	07-Oct-2016 11:50:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



IC Instrument Information

WL: 52599 **Inst ID:** 8 **Analysis Date:** 11-2-16 **Analyst:** AB

	Rush	Job No.	Samples	Anions	QC Req		HT Exp
✓	☐	90409	1	F Cl ~~NO2~~ Br ~~NO3~~ PO4 ~~SO4~~	MS/D	1	11-3
	☐	89402	4	F ~~Cl~~ NO2 Br NO3 PO4 ~~SO4~~	MS/D		—
	☐	89464	1	F ~~Cl~~ NO2 Br NO3 PO4 ~~SO4~~	MS/D		→
	☐	90417	6	F Cl NO2 Br NO3 PO4 SO4	MS/D	1	
2nd LCS/LCSD	☐	90456	11	F Cl NO2 Br NO3 PO4 SO4	MS/D	12	client
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		

Dilutions

Job No.	Samples	Anions	Dilution	Reason
90417	4	F ~~Cl~~ NO2 Br NO3 PO4 SO4	5x	high
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver

Priority Form

Log-in Number: 90409 Project Manager: P.M.

Client: Cardno Ravenna

	Initials:	Date/Time:
Receiving	KW	1000 02 Nov 16
Dept. Rep. / Analyst		11/2/16 1200

Time Zone: (EDT/EST) CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A	4	
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	4	
	Nitrite by IC	50	300.0/9056	↓	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO_2, NO_3 SO_4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	4																	
Date	11/01																	
Time	1642																	

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver
Priority Form

Log-in Number: 90417

Client: AMEC

Project Manager: Jamie Leigh

	Initials:	Date/Time:
Receiving	JF	11/2/16 1000
Dept. Rep. / Analyst	[signature]	11/2/16 1530

Time Zone:

EDT/EST (circled) CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D **or** 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1-6	
	Nitrite by IC	50	300.0/9056	1-6	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 Cl SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3	4	5	6												
Date	11/1 →																	
Time	1040	1140	1305	1050	1155	1305												

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 90456 Project Manager: DR

Client: RMC forme- Atlas

	Initials:	Date/Time:
Receiving	DR	11/2/16 1650
Dept. Rep. / Analyst	TP	11/2 2210

Time Zone:

EDT/EST CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	5,6,8-16 ↓	12 ↓
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 Br F Cl SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	5	6	8	9	10	11	12	13	14	15	16							
Date	11/1	———	———	———	———	→	11/2	———	———	———	→							
Time																		

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Laboratories
Worklist Report

Worklist Name: 110216 Worklist Number: 52599
Instrument Name: WC_IonChrom8 Chrom Method: Anions_IC8
Injection Volume: 25.00 Units: ul
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b
Upload Directory: \\CORPTALSAPP16\280-DN-RawData\WetChem\IonChrom8\300.0_28D

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-001	# 1 CCV	IC LCS_00736	CCV	1.000000	
280-0052599-002	# 2 CCB		CCB	1.000000	
280-0052599-003	# 3 MRL	IC CAL cl/so4_00123 IC Cal low_00241	MRL	1.000000	
280-0052599-004	# 4 LCS	IC LCS_00736	LCS	1.000000	
280-0052599-005	# 5 LCSD	IC LCS_00736	LCSD	1.000000	
280-0052599-006	# 6 MB		MB	1.000000	
280-0052599-007	# 7 280-90409-E-4		Client	1.000000	
280-0052599-008	# 8 280-90409-E-4 DU		DU	1.000000	
280-0052599-009	# 9 280-90409-E-4 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-010	#10 280-90409-E-4 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-011	#11 280-89402-B-1		Client	1.000000	
280-0052599-012	#12 280-89402-B-2		Client	1.000000	
280-0052599-013	#13 280-89402-B-3		Client	1.000000	
280-0052599-014	#14 280-89402-B-4		Client	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-015	#15 280-89464-A-1		Client	5.000000	
280-0052599-016	#16 280-89464-A-1		Client	50.00	
280-0052599-017	#17 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-018	#18 ccb		CCB	1.000000	
280-0052599-019	#19 280-90417-C-1		Client	1.000000	
280-0052599-020	#20 280-90417-C-1 DU		DU	1.000000	
280-0052599-021	#21 280-90417-C-1 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-022	#22 280-90417-C-1 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-023	#23 280-90417-C-2		Client	1.000000	
280-0052599-024	#24 280-90417-C-3		Client	1.000000	
280-0052599-025	#25 280-90417-C-4		Client	1.000000	
280-0052599-026	#26 280-90417-C-5		Client	1.000000	
280-0052599-027	#27 280-90417-C-6		Client	1.000000	
280-0052599-028	#28 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-029	#29 ccb		CCB	1.000000	
280-0052599-030	#30 lcs	IC LCS_00736	LCS	1.000000	
280-0052599-031	#31 lcsd	IC LCS_00736	LCSD	1.000000	
280-0052599-032	#32 mb		MB	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-033	#33 280-90456-A-5		Client	1.000000	
280-0052599-034	#34 280-90456-A-6		Client	1.000000	
280-0052599-035	#35 280-90456-A-8		Client	1.000000	
280-0052599-036	#36 280-90456-A-9		Client	1.000000	
280-0052599-037	#37 280-90456-A-10		Client	1.000000	
280-0052599-038	#38 280-90456-A-11		Client	1.000000	
280-0052599-039	#39 280-90456-A-12		Client	1.000000	
280-0052599-040	#40 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-041	#41 ccb		CCB	1.000000	
280-0052599-042	#42 280-90456-A-12 DU		DU	1.000000	
280-0052599-043	#43 280-90456-B-12 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-044	#44 280-90456-C-12 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-045	#45 280-90456-A-13		Client	1.000000	
280-0052599-046	#46 280-90456-A-14		Client	1.000000	
280-0052599-047	#47 280-90456-A-15		Client	1.000000	
280-0052599-048	#48 280-90456-A-16		Client	1.000000	
280-0052599-049	#49 280-90417-C-4		Client	5.000000	
280-0052599-050	#50 ccv	IC LCS_00736	CCV	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-051	#51 ccb		CCB	1.000000	

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m

Instrument:	WC_IonChrom8	Lims Location:	280
Lock State:	Unlocked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	07-Oct-2016 11:25:43

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b
Inj Date : 07-Oct-2016 09:42:00, Sublist: chrom-Anions_IC8*sub4

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	838946	2956392		0.999	838946	2956392		0.999
2 Chloride	-108514	1866424		1.000	-108514	1866424		1.000
3 Nitrite as N	1671642	3886723		0.999	1671642	3886723		0.999
4 Bromide	-151613	7592115		1.000	-151613	7592115		1.000
5 Nitrate as N	-760316	4582485		1.000	-760316	4582485		1.000
6 Sulfate	597819	1351726		1.000	597819	1351726		1.000
7 Orthophosphate as P	1986121	1902512		1.000	1986121	1902512		1.000

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Ion Chromatography Data Review Checklist

LIMS Batch Number: 349376-77	Worklist #: 52599	Instrument ID: IC8
Analyst/1st Reviewer/Date: AB:TP / AB 11-3-16	Method (circle): ~~300.0~~ 9056 ~~9056A~~ DV-WC-0077	QC Type (circle): Standard ~~DOD Q4~~ ~~DOD Q5~~ QAPP_____ Other_____
Matrix (circle): ~~Water~~ Solid Leachate		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Verify intermediate standards for correct concentration stated in SOP (ICAL pts at correct concentration)	✓			—	
2. Calibrated with at least 5 standards & a blank	✓			—	
3. Elution order of analytes in ICAL confirmed to be correct	✓			—	
4. Linearity and intercept: $r \geq 0.995$ ($r^2>0.99$) & |x-intercept| < ½ RL (absolute value)	✓			—	
5. ICV, second source: run before samples 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
6. CCV: 10% frequency & closing 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
7. ICB/CCB: run before samples, 10% freq. & closing 8. Result < ½ RL	✓			—	
9. RL-level check standard (Anions) run before samples 50-150% Recovery	✓			—	
10. RT Window set based on midpoint of ICAL or initial CCV?	✓			—	
B. Client Sample and QC Sample Results					
11. Samples with results > linear range diluted and reanalyzed?	✓			—	Comments:
12. Manual integrations done & documented appropriately? (before & after chroms, date, initial, & reason)	✓			—	Comments:
C. Preparation/Matrix QC					
13. If samples are lab filtered are QC samples also filtered?	✓			—	
14. Method Blank: one per preparation batch Result < 1/2 RL *If no, list blank ID & explain:*	✓			✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
15. LCS: one per preparation batch 90-110% recovery (routine) / Lab limits (Hydrazine) *If no, list LCS ID & explain:*	✓			✓	☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
16. Matrix Retention Time Spike: one per sample (Hydrazine) MS/MSD freq.: a pair per 20 samples (Hydrazine) MS/MSD and Dup freq.: a pair per 10 samples (Anions) *If no, list QC ID & explain:*	✓			✓	☐ Insufficient sample

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
17. MS/MSD recovery & RPD: 80-120% recovery (Anions) Lab limits (Hydrazine) 20% RPD *If no, list MS or MSD ID & explain:*	√			—	□ LCS acceptable – matrix effects □ Native analyte > 4x spike level □ Matrix effect and native analyte > 4x spike
D. Raw Data & TALS Data Entry					
18. Raw Data					
a. Unused data is clearly identified (with reason)	√			—	
b. All cross outs are initialed and dated	√			—	
c. Out of control QC is clearly identified	√				
d. Any data that has a qualifier is commented on with appropriate action taken	√			—	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	√			—	
19. Run Log					
a. Unused data is clearly identified	√			—	
b. All cross outs are initialed and dated	√			—	
c. Analyst initials/signature provided	√			—	
20. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct	√			—	
b. Method and matrix are correct	√			—	
c. Date and time match raw data	√			—	
d. Dilutions are correct	√			—	
e. Correct suffix designated (where applicable)	√			—	
21. TALS Worksheet Tab is complete and correct	√			—	
22. TALS Reagent Tab is complete and correct	√			—	
23. TALS QC Links Tab is correct	√			—	
24. TALS Sample Results Tab					
a. All unused data are marked Rejected or Accepted	√			—	
b. All reported analytes are marked Primary or Secondary	√			—	
25. TALS Batch Information Screen documentation is complete	√			—	
26. TALS Status set to appropriate review level	√			—	
E. Final Report and NCMs (2nd level review only)					
27. Were all job/project requirements met?	—				
28. Results for samples and QC correct on final report?	—				
29. Are all necessary scanned documents in TALS?	—				
30. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?	—				

Comments: _____

2nd Reviewer: TP **Review Date:** 11/03/16

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\01.0000.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2016 09:20:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-001 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:32 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	148840436	5.00	5.01	
2 Chloride	3.383	3.383	0.000	1834332525	100.0	98.3	
3 Nitrite as N	4.000	4.000	0.000	202893837	5.00	5.18	
4 Bromide	6.567	6.567	0.000	37775741	5.00	5.00	
5 Nitrate as N	7.167	7.167	0.000	229063382	5.00	5.02	
6 Sulfate	11.408	11.408	0.000	1348219984	100.0	99.7	
7 Orthophosphate as P	12.908	12.908	0.000	76949913	5.00	3.94	

Reagents:

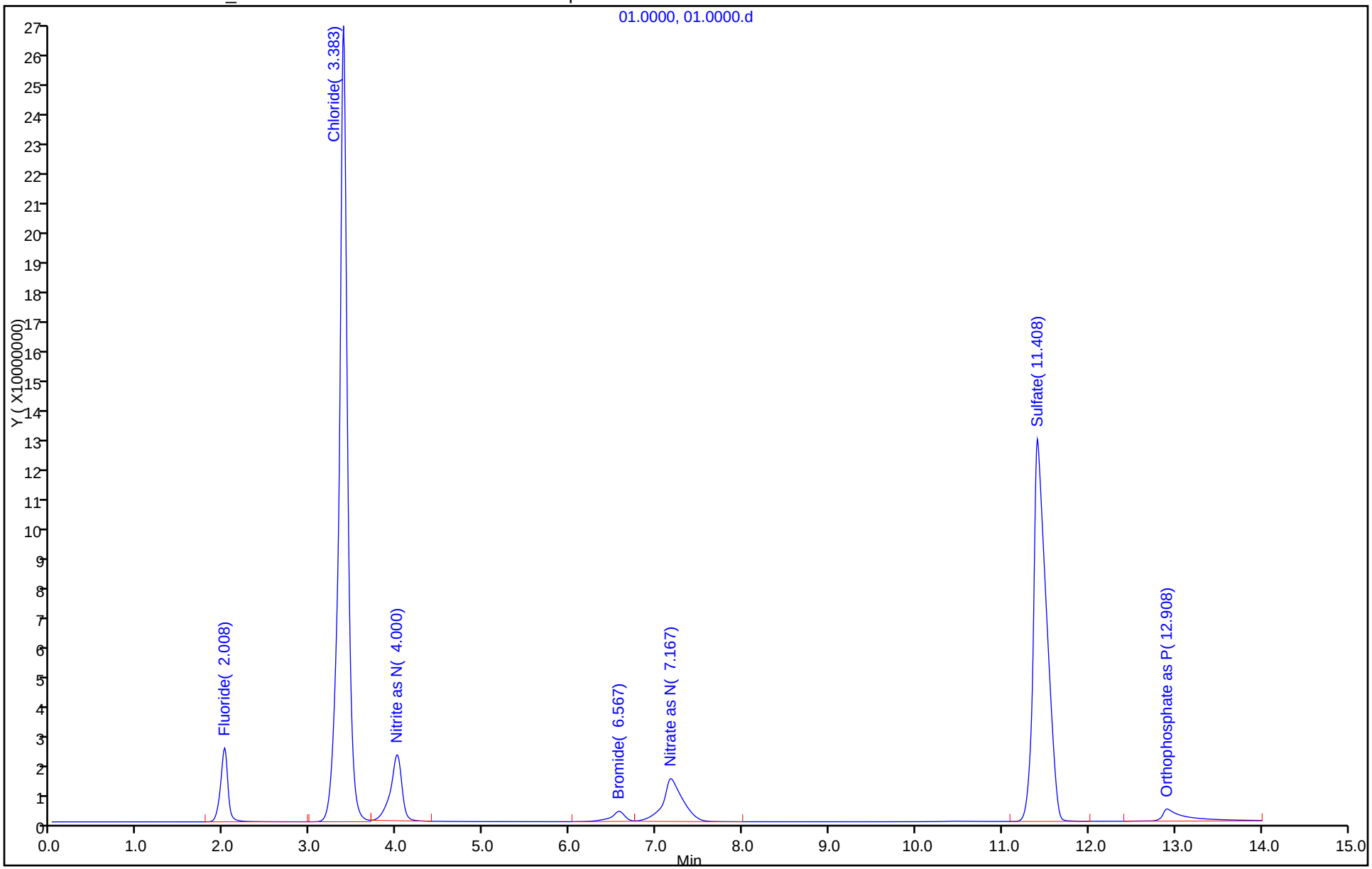
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:33 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\01.0000.d

Injection Date:	02-Nov-2016 09:20:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



IC Instrument Information

WL: 52599 **Inst ID:** 8 **Analysis Date:** 11-2-16 **Analyst:** AB

	Rush	Job No.	Samples	Anions	QC Req		HT Exp
r	☐	90409	1	F Cl ~~NO2~~ Br ~~NO3~~ PO4 ~~SO4~~	MS/D	1	11-3
	☐	89402	4	F ~~Cl~~ NO2 Br NO3 PO4 ~~SO4~~	MS/D		—
	☐	89464	1	F ~~Cl~~ NO2 Br NO3 PO4 ~~SO4~~	MS/D		→
	☐	90417	6	F Cl NO2 Br NO3 PO4 SO4	MS/D	1	
2nd LCS/LCSD	☐	90456	11	F Cl NO2 Br NO3 PO4 SO4	MS/D	12	client
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		
	☐			F Cl NO2 Br NO3 PO4 SO4	MS/D		

Dilutions

Job No.	Samples	Anions	Dilution	Reason
90417	4	F ~~Cl~~ NO2 Br NO3 PO4 SO4	5x	high
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		
		F Cl NO2 Br NO3 PO4 SO4		

TestAmerica Denver

Priority Form

Log-in Number: 90409 Project Manager: P.M.

Client: Cardno Ravenna

	Initials:	Date/Time:
Receiving	KW	1000 02 Nov 16
Dept. Rep. / Analyst		11/2/16 1200

Time Zone: (EDT/EST) CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A	4	
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	4	
	Nitrite by IC	50	300.0/9056	↓	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO_2, NO_3 SO_4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	4																	
Date	11/01																	
Time	1642																	

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver
Priority Form

Log-in Number: 90417

Project Manager: Jamie Leigh

Client: AMEC

Time Zone:

	Initials:	Date/Time:
Receiving	JF	11/2/16 1000
Dept. Rep. / Analyst	[signature]	11/2/16 1530

EDT/EST (circled) CDT/CST MDT/MST PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D **or** 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	1-6	
	Nitrite by IC	50	300.0/9056	1-6	
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 Cl SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	1	2	3	4	5	6												
Date	11/1 →																	
Time	1040	1140	1305	1050	1155	1305												

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Denver

Priority Form

Log-in Number: 90456

Client: RMC forme- Atlas

Project Manager: DR

	Initials:	Date/Time:
Receiving	DM	11/2/16 1650
Dept. Rep. / Analyst	TP	11/2 2210

Time Zone:

EDT/EST CDT/CST (MDT/MST) PDT/PST

Other:

HT	Analysis	Min Volume needed (mL)	Method	Sample(s)	MS/MSD Required
Priority I	Chromium (VI) (24 h) [Circle Method]	100	3500-Cr B/D or 7196A		
	Hydrazine (Waters & Solids)	100	Denver		
	Biological Oxygen Demand	1000	5210 B		
	Carbonaceous BOD (cBOD)	1000	5210 B		
Priority II (48 h)	Cyanide Preservation	100	335.4 / 4500-CN		
	Color	100	2120 B		
	Nitrite by Spec (COC May Only list Nitrate)	100	353.2/4500-NO_2 B		
	Orthophosphate by Spec.	50	365.1*		
	Nitrate by IC	50	300.0/9056	5,6,8-16 ↓	12 ↓
	Nitrite by IC	50	300.0/9056		
	Orthophosphate by IC	50	300.0/9056*		
	Settleable Solids	1000	SM2540F		
	Turbidity	50	180.1		
Priority III	Dissolved Oxygen	100	4500-O G		
	Free Carbon Dioxide (CO_2)	100	4500-CO_2		
	Sulfite (SO_3^{2-})	100	4500-SO_3 B		
	pH (water)	100	4500-H B/9040/9045		
	pH (soil Hanford)	5 g	9045C		
	Ferrous Iron	100	3500-FE D		

Potentially Dissolved Metals (wait 8-96 hours to filter): ☐

Preserve: ☐

Filter: ☐

Split: ☐

Composite: NO2 NO3 Br F Cl SO4 ☐

Crush: ☐

8260 Encores Terracores

☐**Check if required**: Coring device un-extruded which requires extrusion and freezing within 48 hours.

☐**Check if required**: A plug of dirt in an empty vial -- place in the freezer within 48 hours for preservation

Sample	5	6	8	9	10	11	12	13	14	15	16							
Date	11/1	———	———	———	———	→	11/2	———	———	———	→							
Time																		

Sample																		
Date																		
Time																		

Tests	Samples		Rapidly Expiring	24 TAT	48 TAT	72 TAT	Other:

*Orthophosphate by methods 300.0 and 365.1 require field filtration within 15 minutes of collection.

TestAmerica Laboratories
Worklist Report

Worklist Name: 110216 Worklist Number: 52599
Instrument Name: WC_IonChrom8 Chrom Method: Anions_IC8
Injection Volume: 25.00 Units: ul
Analysis Type: Semi VOA
Batch Directory: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b
Upload Directory: \\CORPTALSAPP16\280-DN-RawData\WetChem\IonChrom8\300.0_28D

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-001	# 1 CCV	IC LCS_00736	CCV	1.000000	
280-0052599-002	# 2 CCB		CCB	1.000000	
280-0052599-003	# 3 MRL	IC CAL cl/so4_00123 IC Cal low_00241	MRL	1.000000	
280-0052599-004	# 4 LCS	IC LCS_00736	LCS	1.000000	
280-0052599-005	# 5 LCSD	IC LCS_00736	LCSD	1.000000	
280-0052599-006	# 6 MB		MB	1.000000	
280-0052599-007	# 7 280-90409-E-4		Client	1.000000	
280-0052599-008	# 8 280-90409-E-4 DU		DU	1.000000	
280-0052599-009	# 9 280-90409-E-4 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-010	#10 280-90409-E-4 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-011	#11 280-89402-B-1		Client	1.000000	
280-0052599-012	#12 280-89402-B-2		Client	1.000000	
280-0052599-013	#13 280-89402-B-3		Client	1.000000	
280-0052599-014	#14 280-89402-B-4		Client	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-015	#15 280-89464-A-1		Client	5.000000	
280-0052599-016	#16 280-89464-A-1		Client	50.00	
280-0052599-017	#17 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-018	#18 ccb		CCB	1.000000	
280-0052599-019	#19 280-90417-C-1		Client	1.000000	
280-0052599-020	#20 280-90417-C-1 DU		DU	1.000000	
280-0052599-021	#21 280-90417-C-1 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-022	#22 280-90417-C-1 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-023	#23 280-90417-C-2		Client	1.000000	
280-0052599-024	#24 280-90417-C-3		Client	1.000000	
280-0052599-025	#25 280-90417-C-4		Client	1.000000	
280-0052599-026	#26 280-90417-C-5		Client	1.000000	
280-0052599-027	#27 280-90417-C-6		Client	1.000000	
280-0052599-028	#28 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-029	#29 ccb		CCB	1.000000	
280-0052599-030	#30 lcs	IC LCS_00736	LCS	1.000000	
280-0052599-031	#31 lcsd	IC LCS_00736	LCSD	1.000000	
280-0052599-032	#32 mb		MB	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-033	#33 280-90456-A-5		Client	1.000000	
280-0052599-034	#34 280-90456-A-6		Client	1.000000	
280-0052599-035	#35 280-90456-A-8		Client	1.000000	
280-0052599-036	#36 280-90456-A-9		Client	1.000000	
280-0052599-037	#37 280-90456-A-10		Client	1.000000	
280-0052599-038	#38 280-90456-A-11		Client	1.000000	
280-0052599-039	#39 280-90456-A-12		Client	1.000000	
280-0052599-040	#40 ccv	IC LCS_00736	CCV	1.000000	
280-0052599-041	#41 ccb		CCB	1.000000	
280-0052599-042	#42 280-90456-A-12 DU		DU	1.000000	
280-0052599-043	#43 280-90456-B-12 MS	ICMS/MSD WEEK_00428	MS	1.000000	
280-0052599-044	#44 280-90456-C-12 MSD	ICMS/MSD WEEK_00428	MSD	1.000000	
280-0052599-045	#45 280-90456-A-13		Client	1.000000	
280-0052599-046	#46 280-90456-A-14		Client	1.000000	
280-0052599-047	#47 280-90456-A-15		Client	1.000000	
280-0052599-048	#48 280-90456-A-16		Client	1.000000	
280-0052599-049	#49 280-90417-C-4		Client	5.000000	
280-0052599-050	#50 ccv	IC LCS_00736	CCV	1.000000	

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Dil Fact
280-0052599-051	#51 ccb		CCB	1.000000	

TestAmerica Laboratories
Initial Calibration Summary Report

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\Anions_IC8.m

Instrument:	WC_IonChrom8	Lims Location:	280
Lock State:	Unlocked	Cpnd Order:	Retention Time
Integrator:	Falcon	Last Modified:	07-Oct-2016 11:25:43

No.Compounds:7

Initial Calibration Batches

Ical Batch: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b
Inj Date : 07-Oct-2016 09:42:00, Sublist: chrom-Anions_IC8*sub4

Detector 1: 0005

	Wet - Anions				Wet - Anions 28D			
Compound	b	M1	M2	Err	b	M1	M2	Err
1 Fluoride	838946	2956392		0.999	838946	2956392		0.999
2 Chloride	-108514	1866424		1.000	-108514	1866424		1.000
3 Nitrite as N	1671642	3886723		0.999	1671642	3886723		0.999
4 Bromide	-151613	7592115		1.000	-151613	7592115		1.000
5 Nitrate as N	-760316	4582485		1.000	-760316	4582485		1.000
6 Sulfate	597819	1351726		1.000	597819	1351726		1.000
7 Orthophosphate as P	1986121	1902512		1.000	1986121	1902512		1.000

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Ion Chromatography Data Review Checklist

LIMS Batch Number: 349376-77	Worklist #: 52599	Instrument ID: IC8
Analyst/1st Reviewer/Date: AB:TP / AB 11-3-16	Method (circle): ~~300.0~~ 9056 ~~9056A~~ DV-WC-0077	QC Type (circle): Standard ~~DOD Q4~~ ~~DOD Q5~~ QAPP_____ Other_____
Matrix (circle): ~~Water~~ Solid Leachate		

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Verify intermediate standards for correct concentration stated in SOP (ICAL pts at correct concentration)	✓			—	
2. Calibrated with at least 5 standards & a blank	✓			—	
3. Elution order of analytes in ICAL confirmed to be correct	✓			—	
4. Linearity and intercept: $r \geq 0.995$ ($r^2>0.99$) & $\lvert$x-intercept$\rvert$ < ½ RL (absolute value)	✓			—	
5. ICV, second source: run before samples 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
6. CCV: 10% frequency & closing 90-110% recovery / 80-120% recovery (Hydrazine)	✓			—	
7. ICB/CCB: run before samples, 10% freq. & closing 8. Result < ½ RL	✓			—	
9. RL-level check standard (Anions) run before samples 50-150% Recovery	✓			—	
10. RT Window set based on midpoint of ICAL or initial CCV?	✓			—	
B. Client Sample and QC Sample Results					
11. Samples with results > linear range diluted and reanalyzed?	✓			—	Comments:
12. Manual integrations done & documented appropriately? (before & after chroms, date, initial, & reason)	✓			—	Comments:
C. Preparation/Matrix QC					
13. If samples are lab filtered are QC samples also filtered?	✓			—	
14. Method Blank: one per preparation batch Result < 1/2 RL *If no, list blank ID & explain:*	✓			✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
15. LCS: one per preparation batch 90-110% recovery (routine) / Lab limits (Hydrazine) *If no, list LCS ID & explain:*	✓			✓	☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
16. Matrix Retention Time Spike: one per sample (Hydrazine) MS/MSD freq.: a pair per 20 samples (Hydrazine) MS/MSD and Dup freq.: a pair per 10 samples (Anions) *If no, list QC ID & explain:*	✓			✓	☐ Insufficient sample

Review Items	Yes	No	NA	2nd Rev	If No, why is data reportable?
17. MS/MSD recovery & RPD: 80-120% recovery (Anions) Lab limits (Hydrazine) 20% RPD *If no, list MS or MSD ID & explain:*	√			—	□ LCS acceptable – matrix effects □ Native analyte > 4x spike level □ Matrix effect and native analyte > 4x spike
D. Raw Data & TALS Data Entry					
18. Raw Data					
a. Unused data is clearly identified (with reason)	√			—	
b. All cross outs are initialed and dated	√			—	
c. Out of control QC is clearly identified	√				
d. Any data that has a qualifier is commented on with appropriate action taken	√			—	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	√			—	
19. Run Log					
a. Unused data is clearly identified	√			—	
b. All cross outs are initialed and dated	√			—	
c. Analyst initials/signature provided	√			—	
20. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct	√			—	
b. Method and matrix are correct	√			—	
c. Date and time match raw data	√			—	
d. Dilutions are correct	√			—	
e. Correct suffix designated (where applicable)	√			—	
21. TALS Worksheet Tab is complete and correct	√			—	
22. TALS Reagent Tab is complete and correct	√			—	
23. TALS QC Links Tab is correct	√			—	
24. TALS Sample Results Tab					
a. All unused data are marked Rejected or Accepted	√			—	
b. All reported analytes are marked Primary or Secondary	√			—	
25. TALS Batch Information Screen documentation is complete	√			—	
26. TALS Status set to appropriate review level	√			—	
E. Final Report and NCMs (2nd level review only)					
27. Were all job/project requirements met?	—				
28. Results for samples and QC correct on final report?	—				
29. Are all necessary scanned documents in TALS?	—				
30. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?	—				

Comments: _____

2nd Reviewer: TP **Review Date:** 11/03/16

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\01.0000.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2016 09:20:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-001 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:32 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.008	0.000	148840436	5.00	5.01	
2 Chloride	3.383	3.383	0.000	1834332525	100.0	98.3	
3 Nitrite as N	4.000	4.000	0.000	202893837	5.00	5.18	
4 Bromide	6.567	6.567	0.000	37775741	5.00	5.00	
5 Nitrate as N	7.167	7.167	0.000	229063382	5.00	5.02	
6 Sulfate	11.408	11.408	0.000	1348219984	100.0	99.7	
7 Orthophosphate as P	12.908	12.908	0.000	76949913	5.00	3.94	

Reagents:

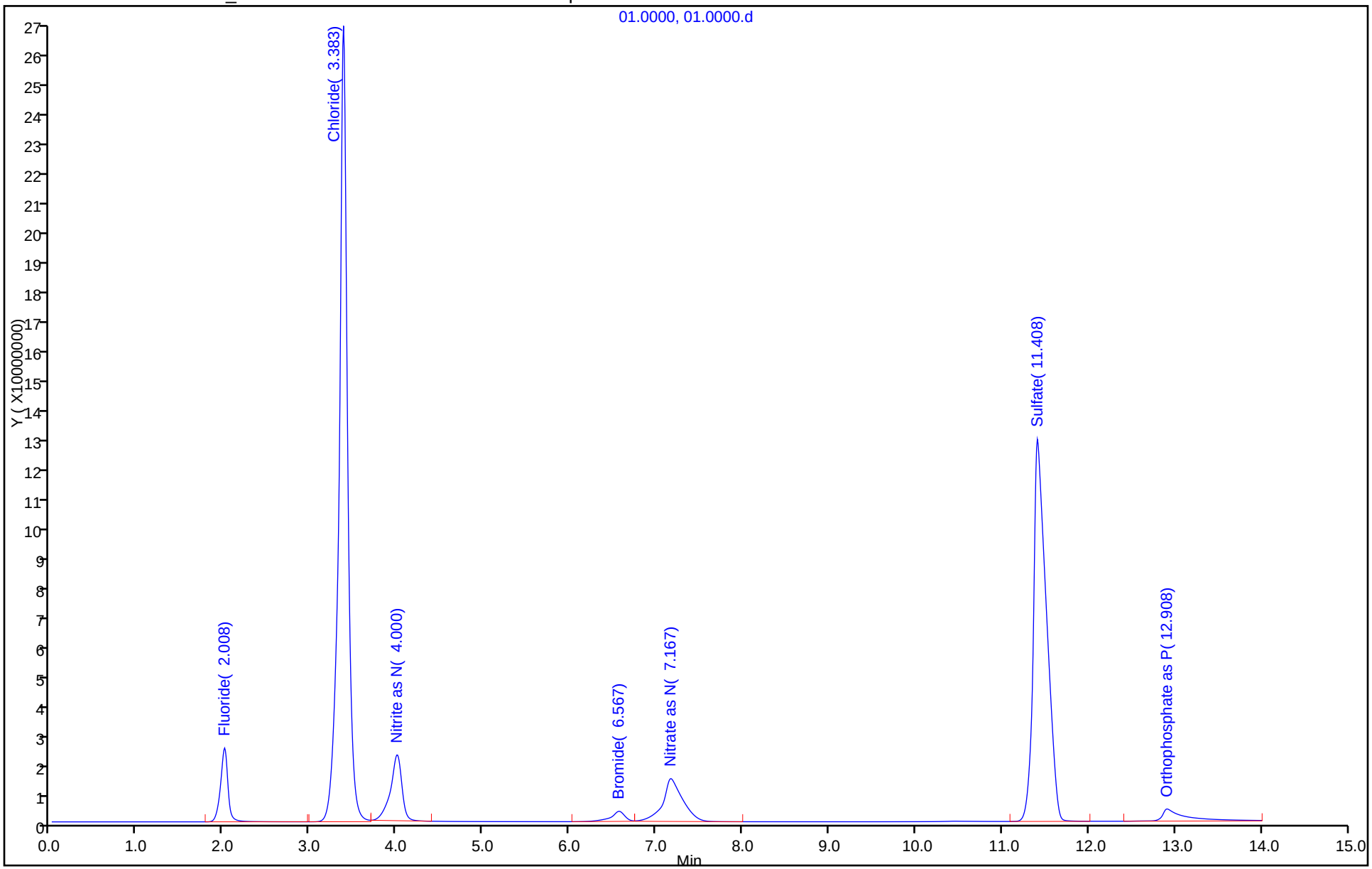
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:33 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\01.0000.d

Injection Date:	02-Nov-2016 09:20:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	1
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\02.0000.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 02-Nov-2016 09:37:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-002 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:32 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

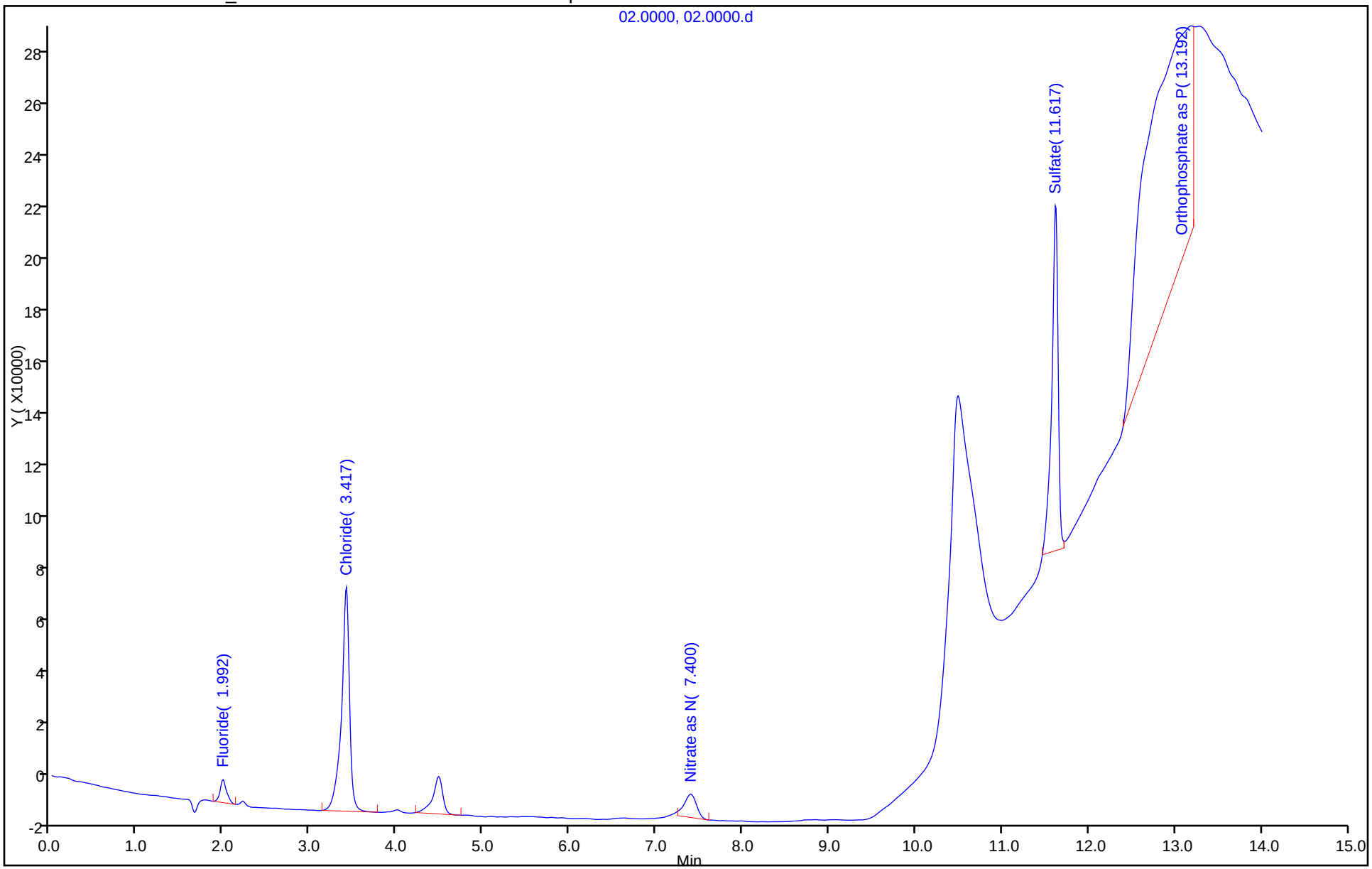
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	45668		-0.0268	
2 Chloride	3.417	3.383	0.034	551229		0.0877	
3 Nitrite as N		4.000				ND	
4 Bromide		6.567				ND	
5 Nitrate as N	7.400	7.167	0.233	87197		0.0185	
6 Sulfate	11.617	11.408	0.209	670762		0.005396	
7 Orthophosphate as P	13.192	12.908	0.284	3543623		0.0819	

Report Date: 03-Nov-2016 07:26:34 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\02.0000.d

Injection Date:	02-Nov-2016 09:37:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\02.0000.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 02-Nov-2016 09:37:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-002 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:32 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

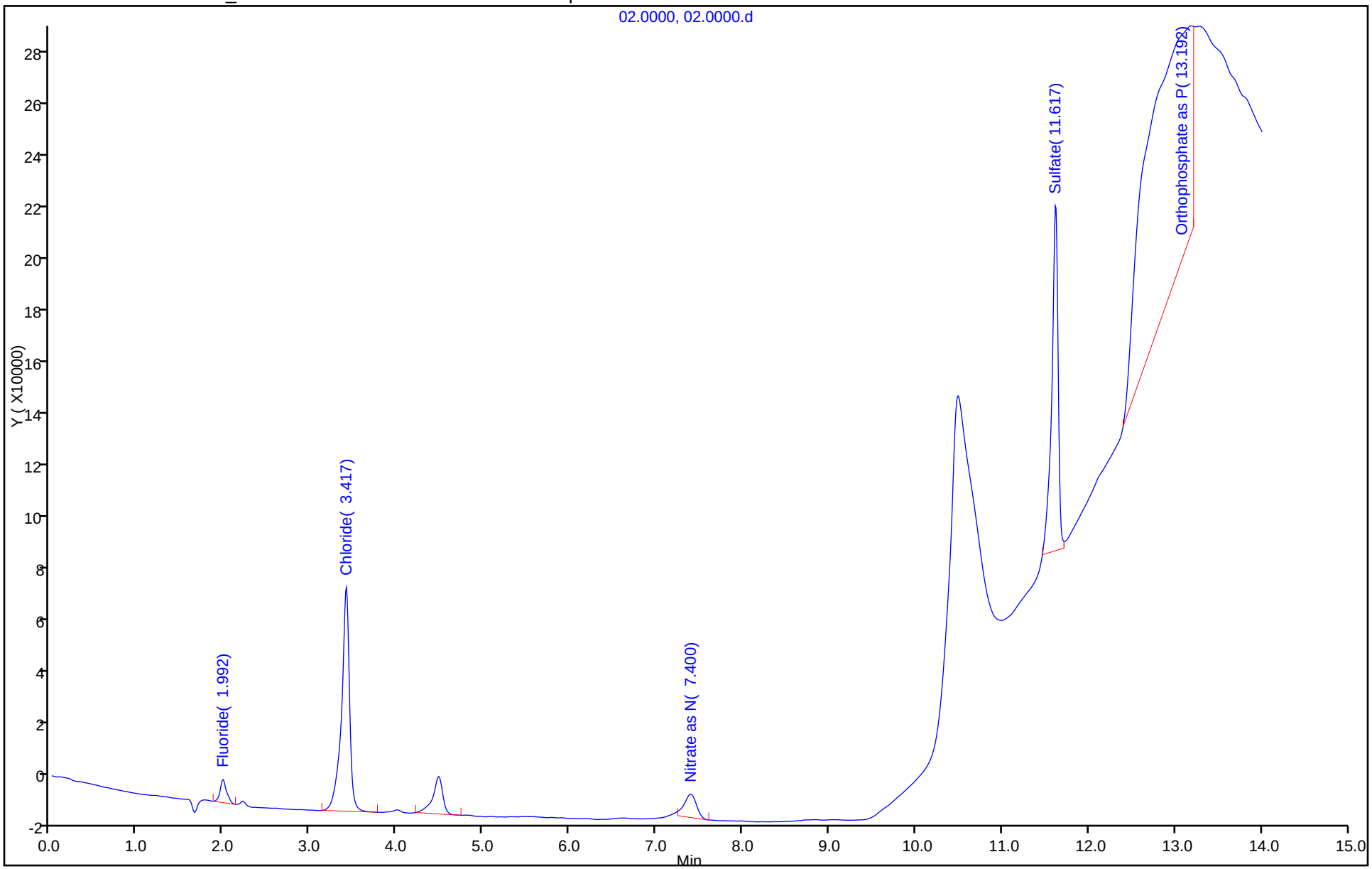
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.008	-0.016	45668		-0.0268	
2 Chloride	3.417	3.383	0.034	551229		0.0877	
3 Nitrite as N		4.000				ND	
4 Bromide		6.567				ND	
5 Nitrate as N	7.400	7.167	0.233	87197		0.0185	
6 Sulfate	11.617	11.408	0.209	670762		0.005396	
7 Orthophosphate as P	13.192	12.908	0.284	3543623		0.0819	

Report Date: 03-Nov-2016 07:26:34 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\02.0000.d

Injection Date:	02-Nov-2016 09:37:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\03.0000.d
Lims ID: MRL
Client ID:
Sample Type: MRL
Inject. Date: 02-Nov-2016 09:54:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-003 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	6310304	0.2000	0.1851	
2 Chloride	3.425	3.425	0.000	46567016	2.50	2.55	
3 Nitrite as N	4.017	4.017	0.000	8632063	0.2000	0.1791	
4 Bromide	6.625	6.625	0.000	1372391	0.2000	0.2007	
5 Nitrate as N	7.392	7.392	0.000	8654853	0.2000	0.2055	
6 Sulfate	11.608	11.608	0.000	34453925	2.50	2.50	
7 Orthophosphate as P	13.208	13.208	0.000	2108033	0.2000	0.006408	

Reagents:

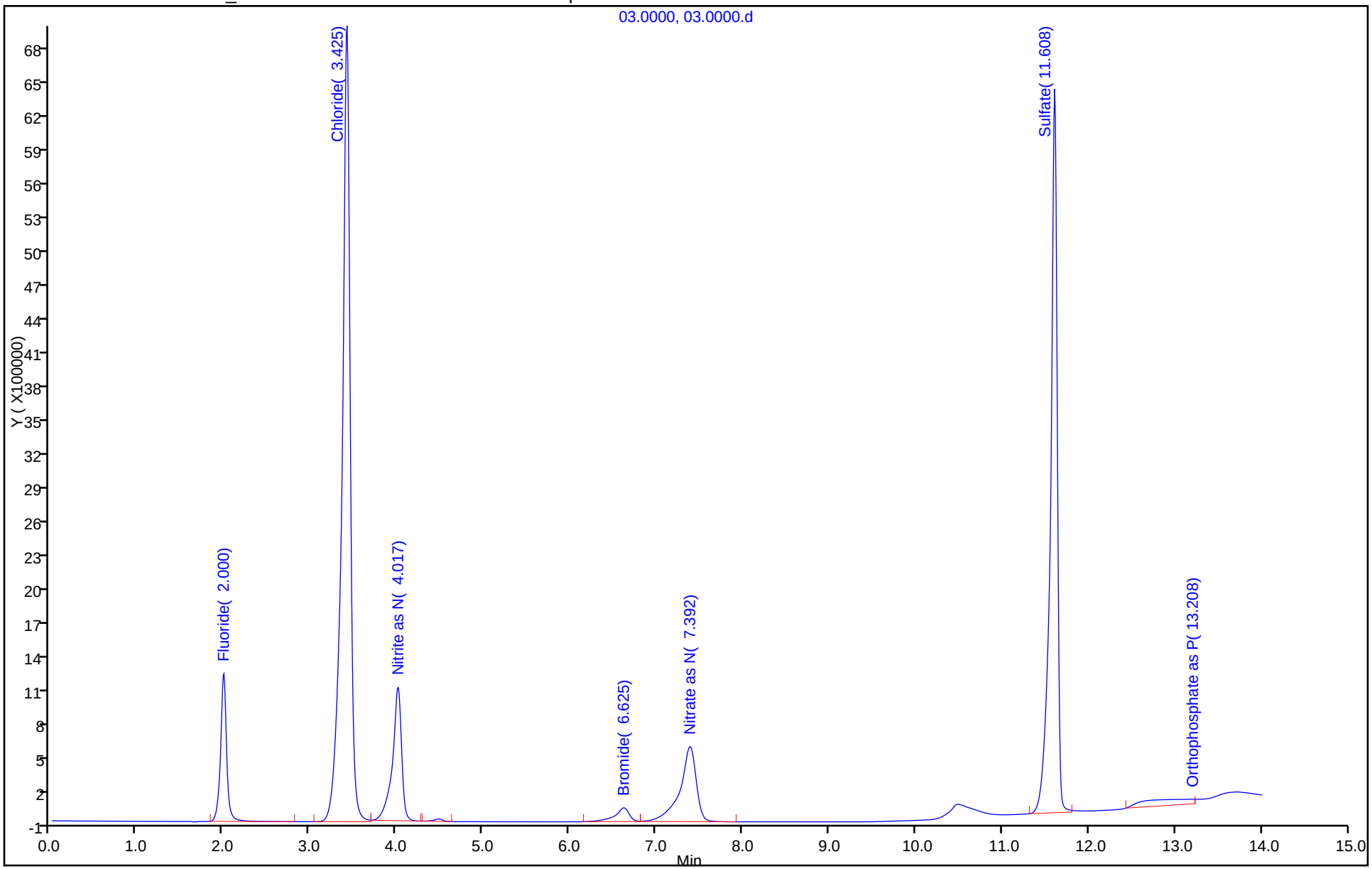
IC CAL cl/so4_00123 Amount Added: 0.05 Units: mL
IC Cal low_00241 Amount Added: 0.02 Units: mL

Report Date: 03-Nov-2016 07:26:35 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\03.0000.d

Injection Date:	02-Nov-2016 09:54:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\03.0000.d
Lims ID: MRL
Client ID:
Sample Type: MRL
Inject. Date: 02-Nov-2016 09:54:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-003 Temporary sequence for manual data acquisition
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.000	2.000	0.000	6310304	0.2000	0.1851	
2 Chloride	3.425	3.425	0.000	46567016	2.50	2.55	
3 Nitrite as N	4.017	4.017	0.000	8632063	0.2000	0.1791	
4 Bromide	6.625	6.625	0.000	1372391	0.2000	0.2007	
5 Nitrate as N	7.392	7.392	0.000	8654853	0.2000	0.2055	
6 Sulfate	11.608	11.608	0.000	34453925	2.50	2.50	
7 Orthophosphate as P	13.208	13.208	0.000	2108033	0.2000	0.006408	

Reagents:

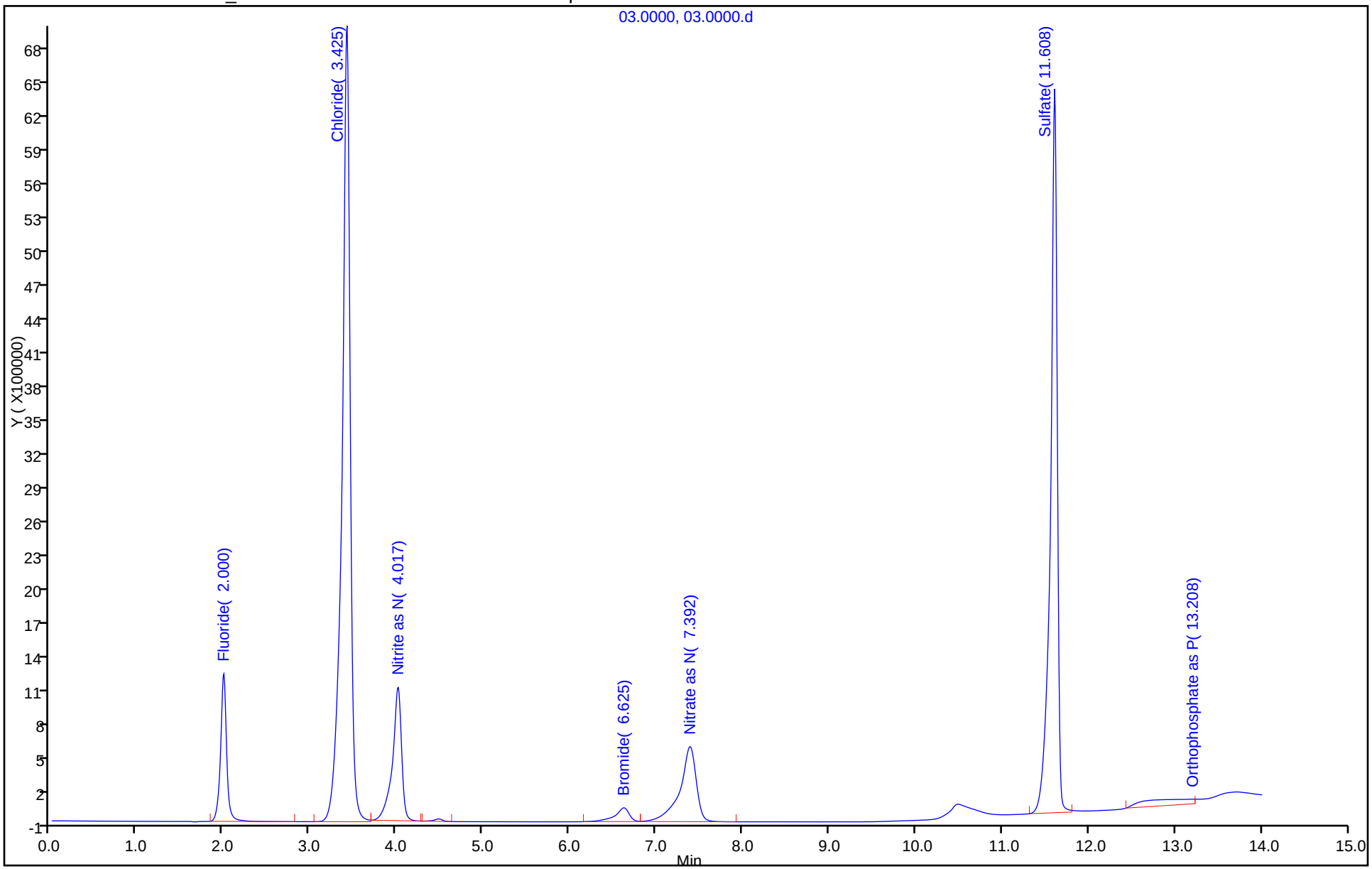
IC CAL cl/so4_00123 Amount Added: 0.05 Units: mL
IC Cal low_00241 Amount Added: 0.02 Units: mL

Report Date: 03-Nov-2016 07:26:35 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\03.0000.d

Injection Date:	02-Nov-2016 09:54:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	MRL			Worklist Smp#:	3
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\04.0000.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Nov-2016 10:10:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-004 Temporary sequence for manual data acquisition
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.000	0.008	152766561	5.00	5.14	
2 Chloride	3.383	3.425	-0.042	1856487854	100.0	99.5	
3 Nitrite as N	4.000	4.017	-0.017	205766141	5.00	5.25	
4 Bromide	6.567	6.625	-0.058	37933830	5.00	5.02	
5 Nitrate as N	7.167	7.392	-0.225	229939192	5.00	5.03	
6 Sulfate	11.400	11.608	-0.208	1351753672	100.0	100.0	
7 Orthophosphate as P	12.908	13.208	-0.300	72635536	5.00	3.71	

Reagents:

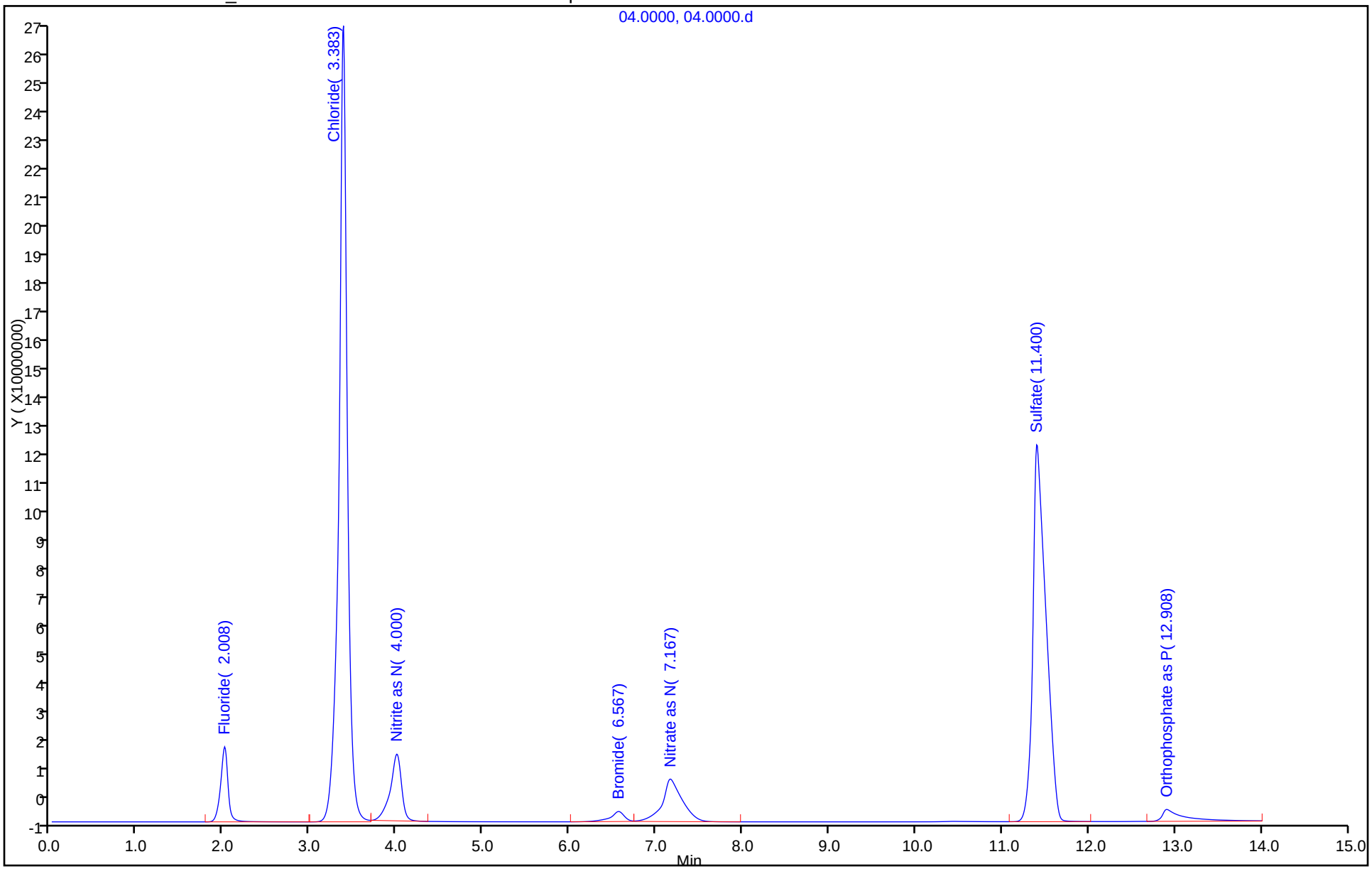
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:36 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\04.0000.d

Injection Date:	02-Nov-2016 10:10:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\04.0000.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 02-Nov-2016 10:10:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-004 Temporary sequence for manual data acquisition
Misc. Info.: 4 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.000	0.008	152766561	5.00	5.14	
2 Chloride	3.383	3.425	-0.042	1856487854	100.0	99.5	
3 Nitrite as N	4.000	4.017	-0.017	205766141	5.00	5.25	
4 Bromide	6.567	6.625	-0.058	37933830	5.00	5.02	
5 Nitrate as N	7.167	7.392	-0.225	229939192	5.00	5.03	
6 Sulfate	11.400	11.608	-0.208	1351753672	100.0	100.0	
7 Orthophosphate as P	12.908	13.208	-0.300	72635536	5.00	3.71	

Reagents:

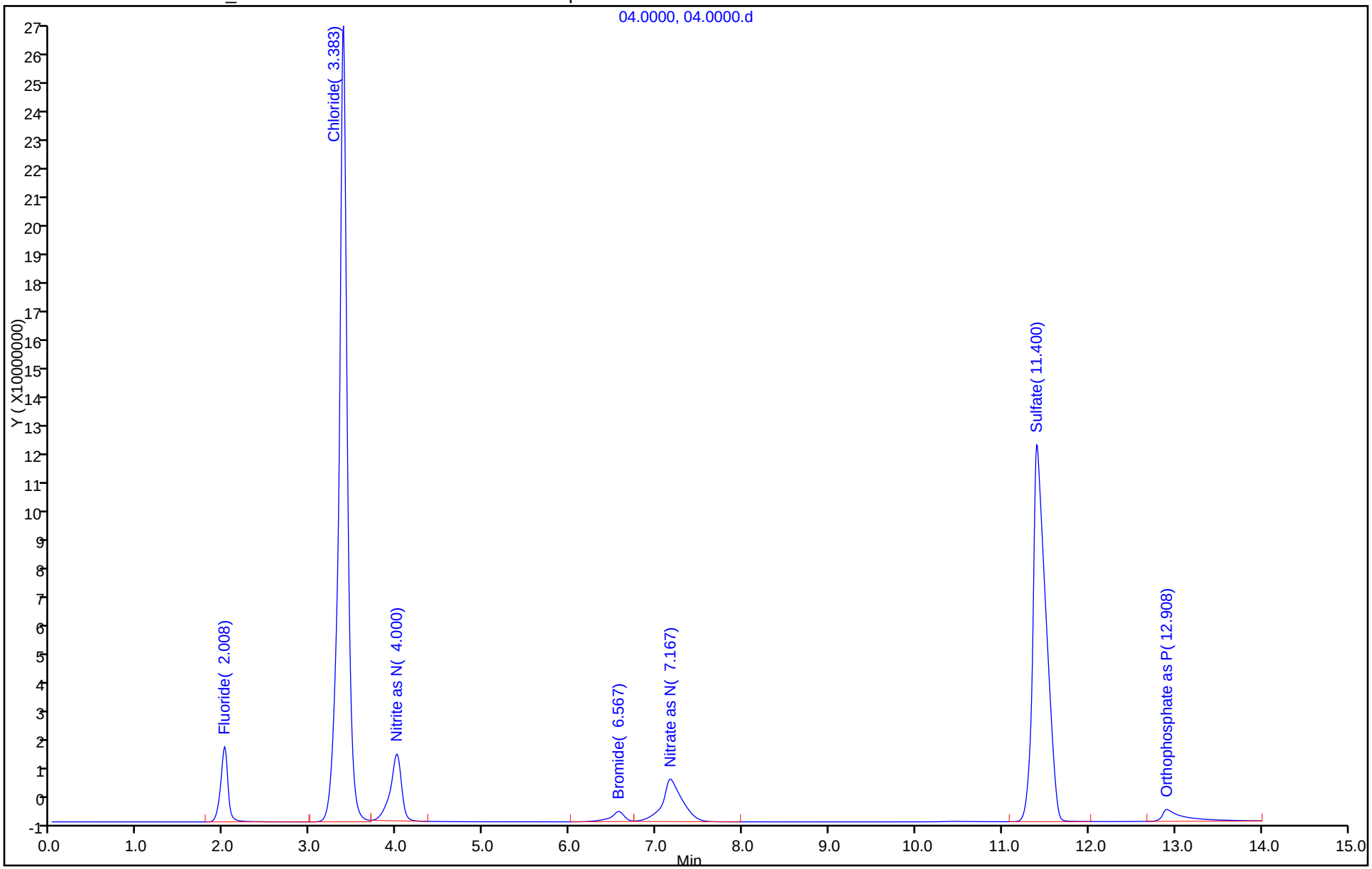
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:36 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\04.0000.d

Injection Date:	02-Nov-2016 10:10:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\05.0000.d
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 02-Nov-2016 10:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-005 Temporary sequence for manual data acquisition
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.000	0.008	152841900	5.00	5.14	
2 Chloride	3.383	3.425	-0.042	1857804914	100.0	99.6	
3 Nitrite as N	4.000	4.017	-0.017	206130705	5.00	5.26	
4 Bromide	6.567	6.625	-0.058	37973873	5.00	5.02	
5 Nitrate as N	7.158	7.392	-0.234	229608813	5.00	5.03	
6 Sulfate	11.408	11.608	-0.200	1350511926	100.0	99.9	
7 Orthophosphate as P	12.900	13.208	-0.308	81258773	5.00	4.17	

Reagents:

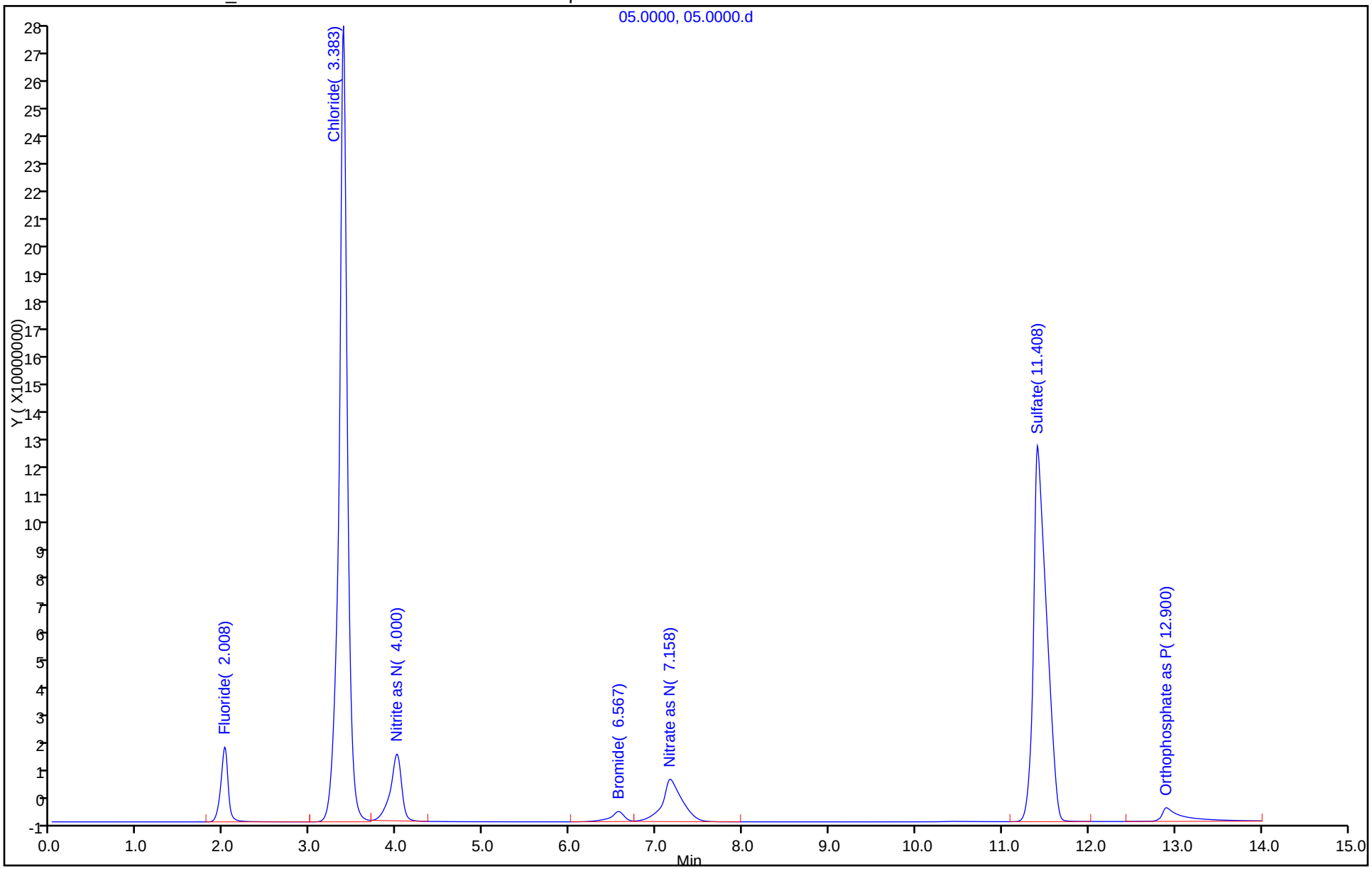
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:37 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\05.0000.d

Injection Date:	02-Nov-2016 10:27:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\05.0000.d
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 02-Nov-2016 10:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-005 Temporary sequence for manual data acquisition
Misc. Info.: 5 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.000	0.008	152841900	5.00	5.14	
2 Chloride	3.383	3.425	-0.042	1857804914	100.0	99.6	
3 Nitrite as N	4.000	4.017	-0.017	206130705	5.00	5.26	
4 Bromide	6.567	6.625	-0.058	37973873	5.00	5.02	
5 Nitrate as N	7.158	7.392	-0.234	229608813	5.00	5.03	
6 Sulfate	11.408	11.608	-0.200	1350511926	100.0	99.9	
7 Orthophosphate as P	12.900	13.208	-0.308	81258773	5.00	4.17	

Reagents:

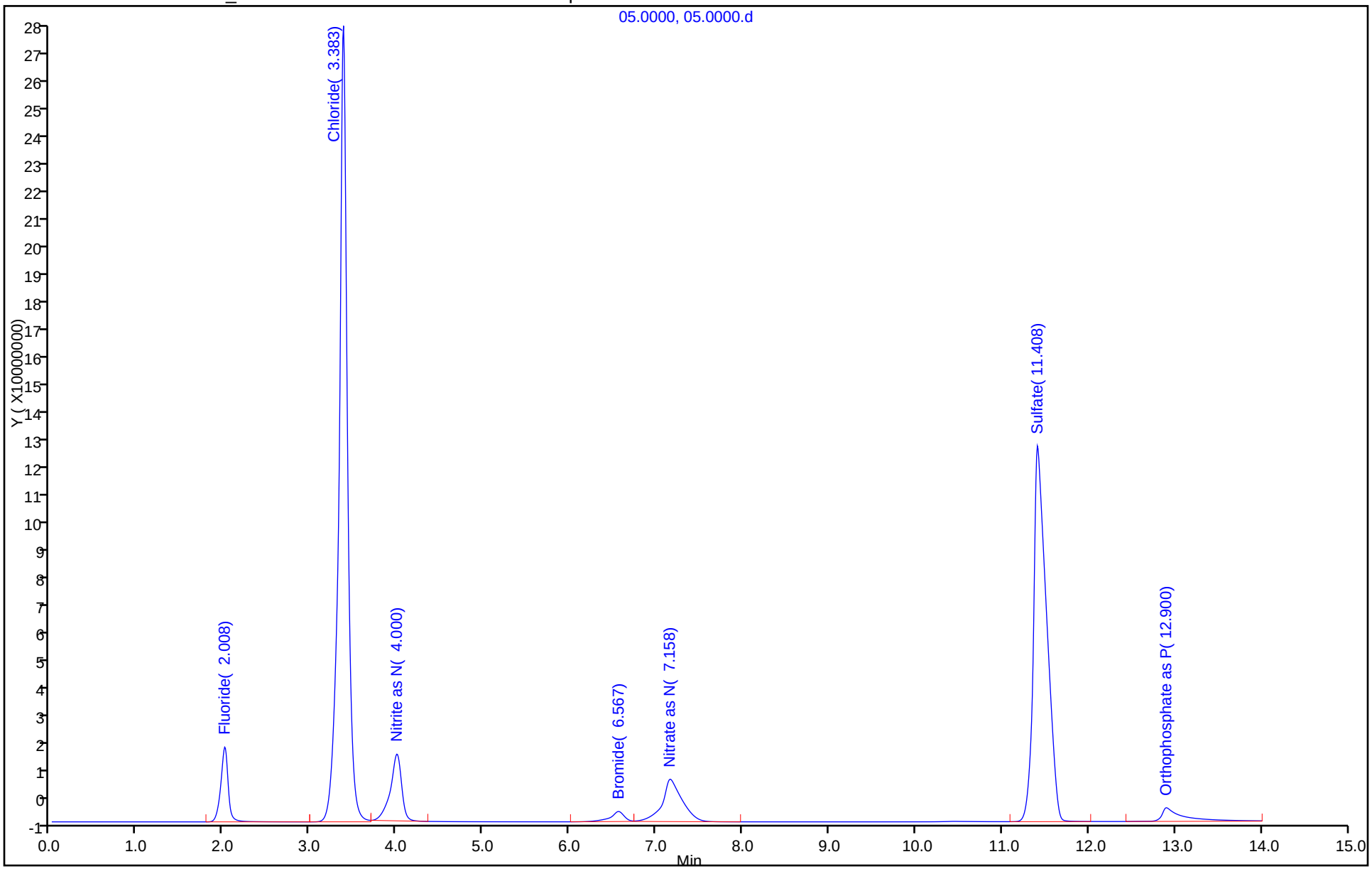
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:37 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\05.0000.d

Injection Date:	02-Nov-2016 10:27:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	LCSD			Worklist Smp#:	5
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\06.0000.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Nov-2016 10:44:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-006 Temporary sequence for manual data acquisition
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

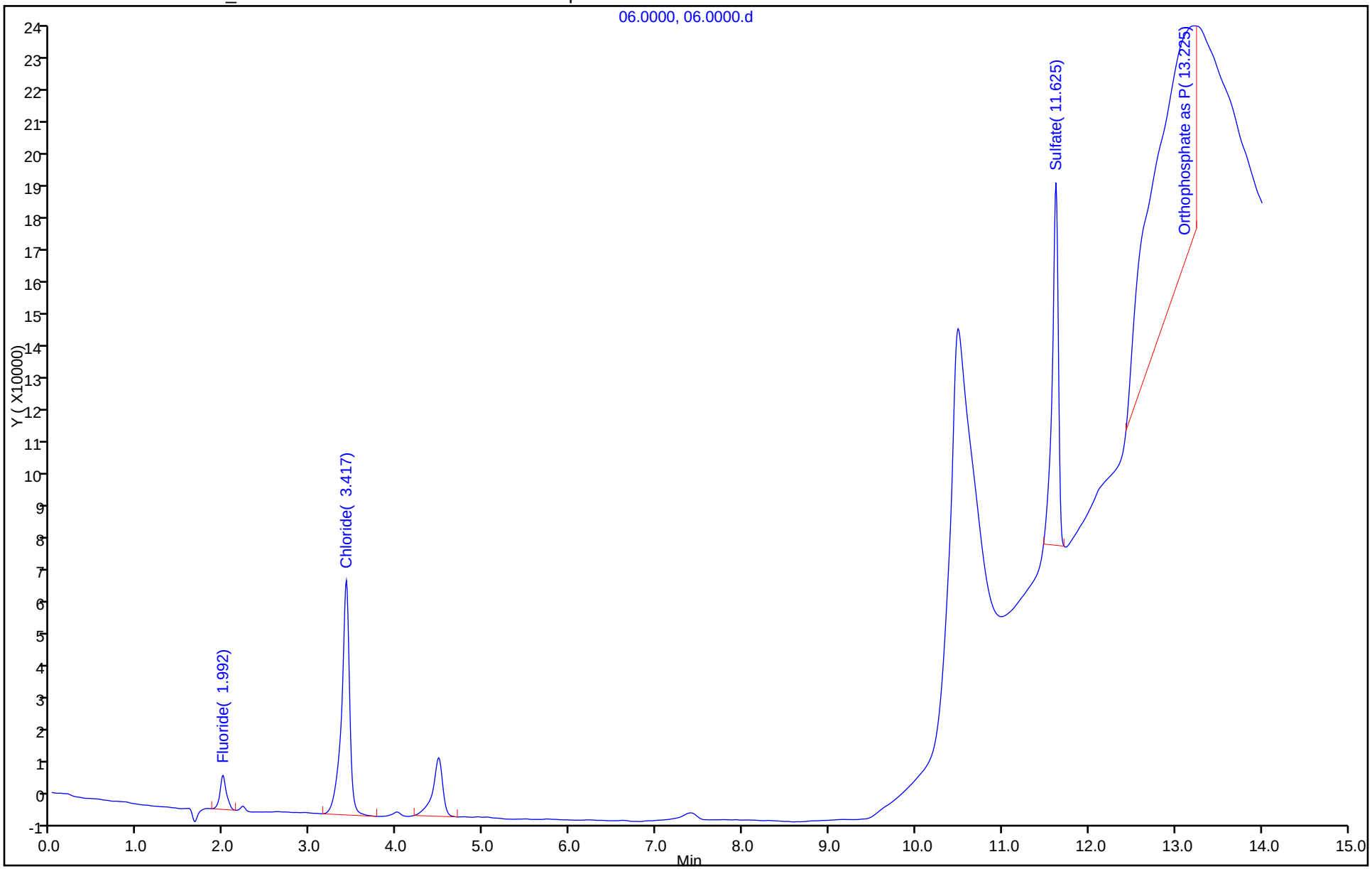
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	54082		-0.0265	
2 Chloride	3.417	3.425	-0.008	468295		0.0832	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N		7.392				ND	
6 Sulfate	11.625	11.608	0.017	545728		-0.003854	
7 Orthophosphate as P	13.225	13.208	0.017	2572824		0.0308	

Report Date: 03-Nov-2016 07:26:38 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\06.0000.d

Injection Date:	02-Nov-2016 10:44:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\06.0000.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 02-Nov-2016 10:44:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-006 Temporary sequence for manual data acquisition
Misc. Info.: 6 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

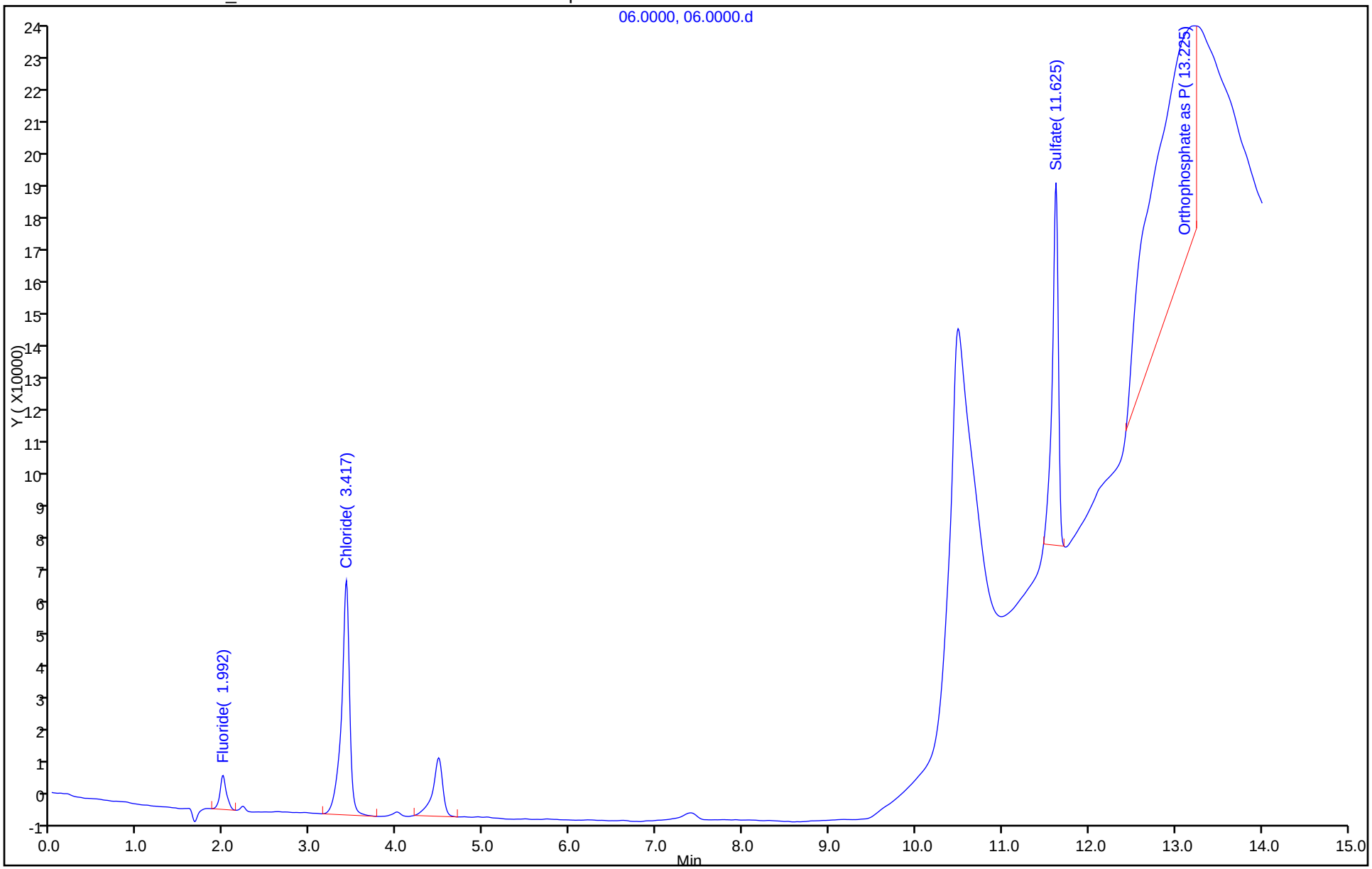
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	54082		-0.0265	
2 Chloride	3.417	3.425	-0.008	468295		0.0832	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N		7.392				ND	
6 Sulfate	11.625	11.608	0.017	545728		-0.003854	
7 Orthophosphate as P	13.225	13.208	0.017	2572824		0.0308	

Report Date: 03-Nov-2016 07:26:38 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\06.0000.d

Injection Date:	02-Nov-2016 10:44:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	MB			Worklist Smp#:	6
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\07.0000.d
Lims ID: 280-90409-E-4
Client ID: FBQmw-175-110116-GW
Sample Type: Client
Inject. Date: 02-Nov-2016 13:01:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-007 Temporary sequence for manual data acquisition
Misc. Info.: 21417 89.4 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

First Level Reviewer: bensona Date: 03-Nov-2016 07:22:33

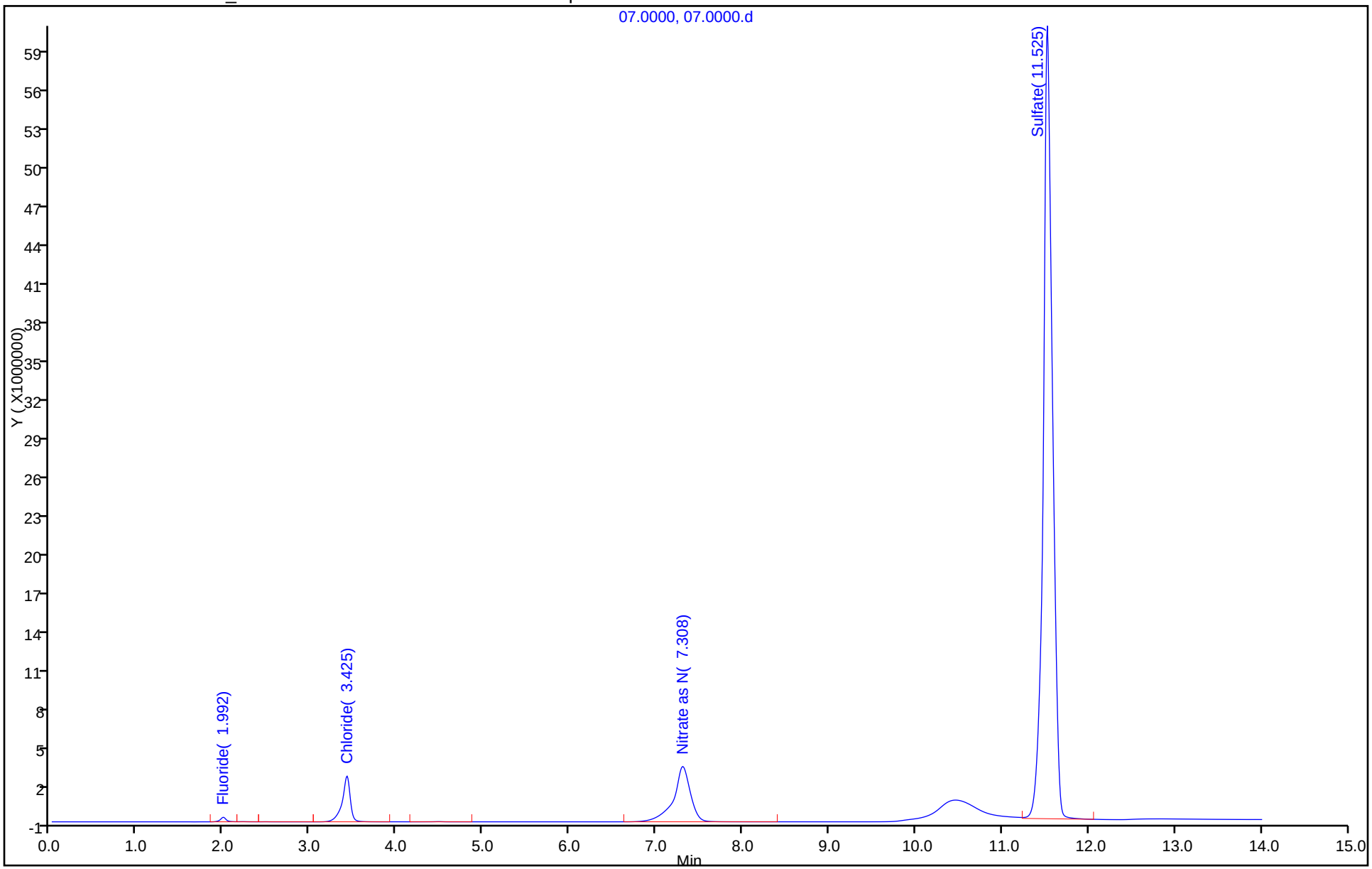
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	1657015	0.0277	
2 Chloride	3.425	3.425	0.000	22653459	1.27	
3 Nitrite as N		4.017			ND	
4 Bromide		6.625			ND	
5 Nitrate as N	7.308	7.392	-0.084	57148513	1.26	
6 Sulfate	11.525	11.608	-0.083	446675874	33.0	
7 Orthophosphate as P		13.208			ND	

Report Date: 03-Nov-2016 07:26:39 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\07.0000.d

Injection Date:	02-Nov-2016 13:01:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4	Lab Sample ID:	280-90409-4	Worklist Smp#:	7
Client ID:	FBQmw-175-110116-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\07.0000.d
Lims ID: 280-90409-E-4
Client ID: FBQmw-175-110116-GW
Sample Type: Client
Inject. Date: 02-Nov-2016 13:01:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-007 Temporary sequence for manual data acquisition
Misc. Info.: 21417 89.4 F
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

First Level Reviewer: bensona Date: 03-Nov-2016 07:22:33

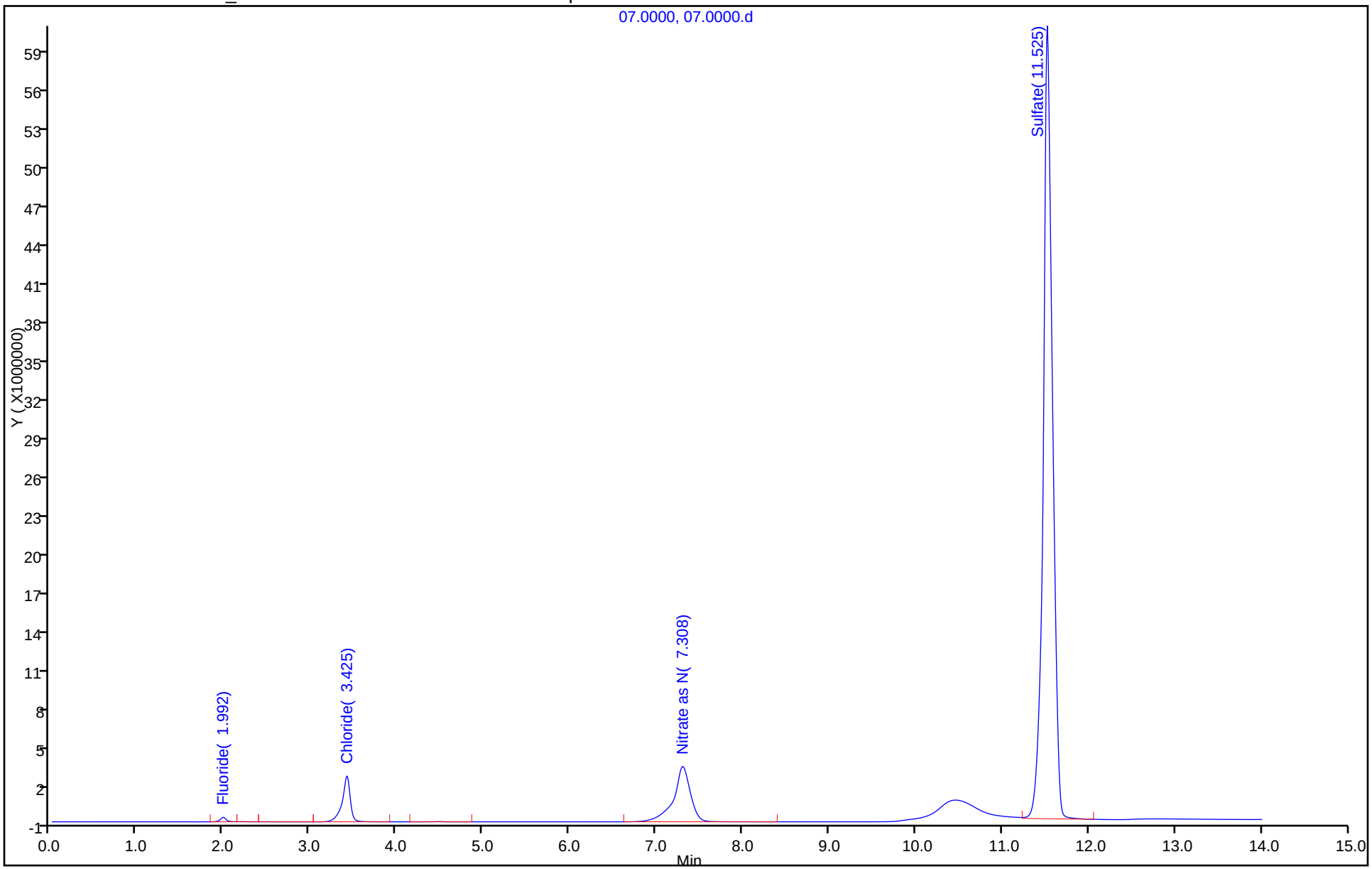
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	1657015	0.0277	
2 Chloride	3.425	3.425	0.000	22653459	1.27	
3 Nitrite as N		4.017			ND	
4 Bromide		6.625			ND	
5 Nitrate as N	7.308	7.392	-0.084	57148513	1.26	
6 Sulfate	11.525	11.608	-0.083	446675874	33.0	
7 Orthophosphate as P		13.208			ND	

Report Date: 03-Nov-2016 07:26:39 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\07.0000.d

Injection Date:	02-Nov-2016 13:01:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4	Lab Sample ID:	280-90409-4	Worklist Smp#:	7
Client ID:	FBQmw-175-110116-GW				
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\08.0000.d
Lims ID: 280-90409-E-4 DU
Client ID:
Sample Type: DU
Inject. Date: 02-Nov-2016 13:18:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-008 Temporary sequence for manual data acquisition
Misc. Info.: 9849
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

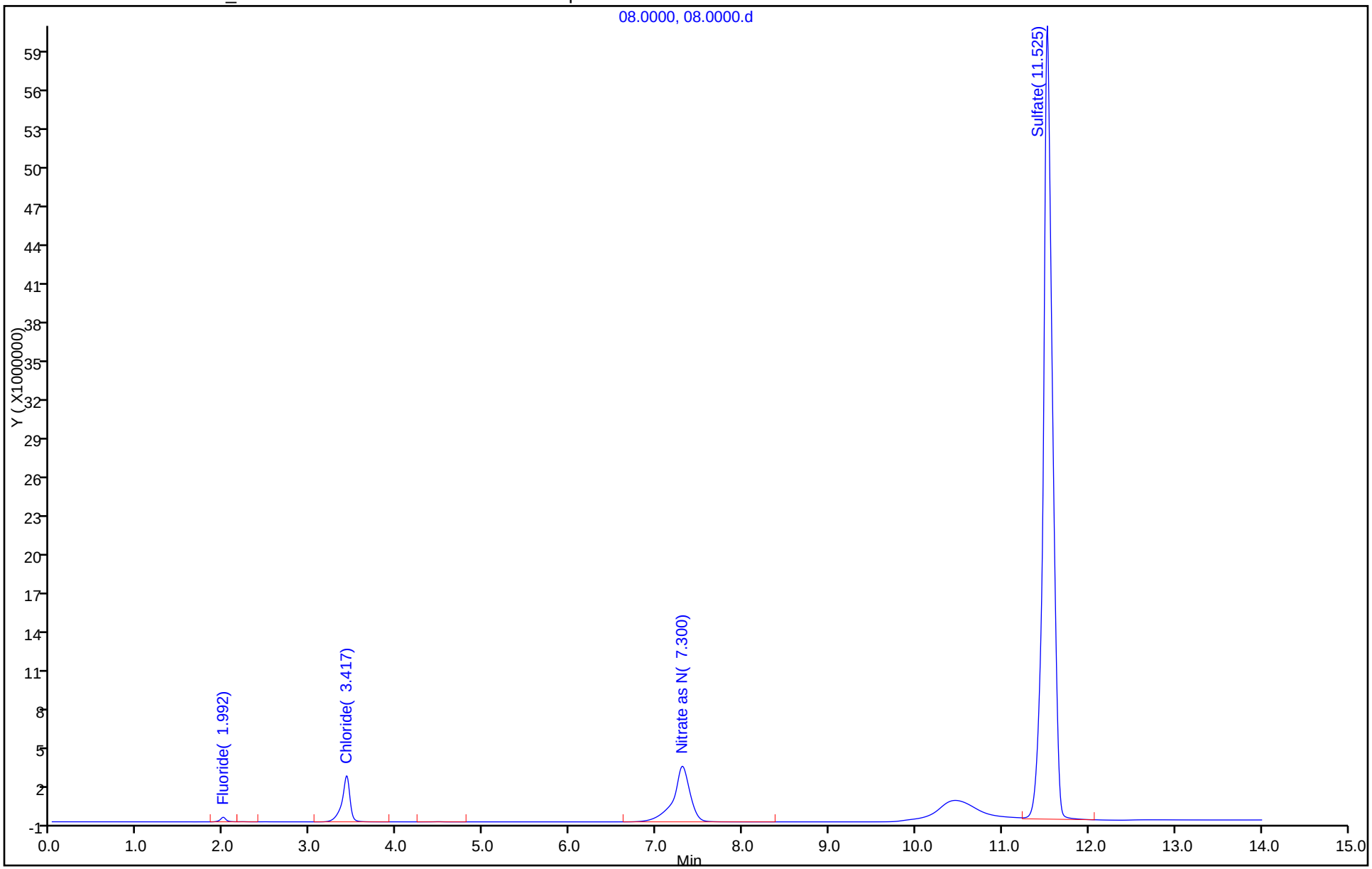
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	1662230		0.0278	
2 Chloride	3.417	3.425	-0.008	22683542		1.27	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N	7.300	7.392	-0.092	57114971		1.26	
6 Sulfate	11.525	11.608	-0.083	446469674		33.0	
7 Orthophosphate as P		13.208				ND	

Report Date: 03-Nov-2016 07:26:40 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\08.0000.d

Injection Date:	02-Nov-2016 13:18:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 DU			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\08.0000.d
Lims ID: 280-90409-E-4 DU
Client ID:
Sample Type: DU
Inject. Date: 02-Nov-2016 13:18:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-008 Temporary sequence for manual data acquisition
Misc. Info.: 9849
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

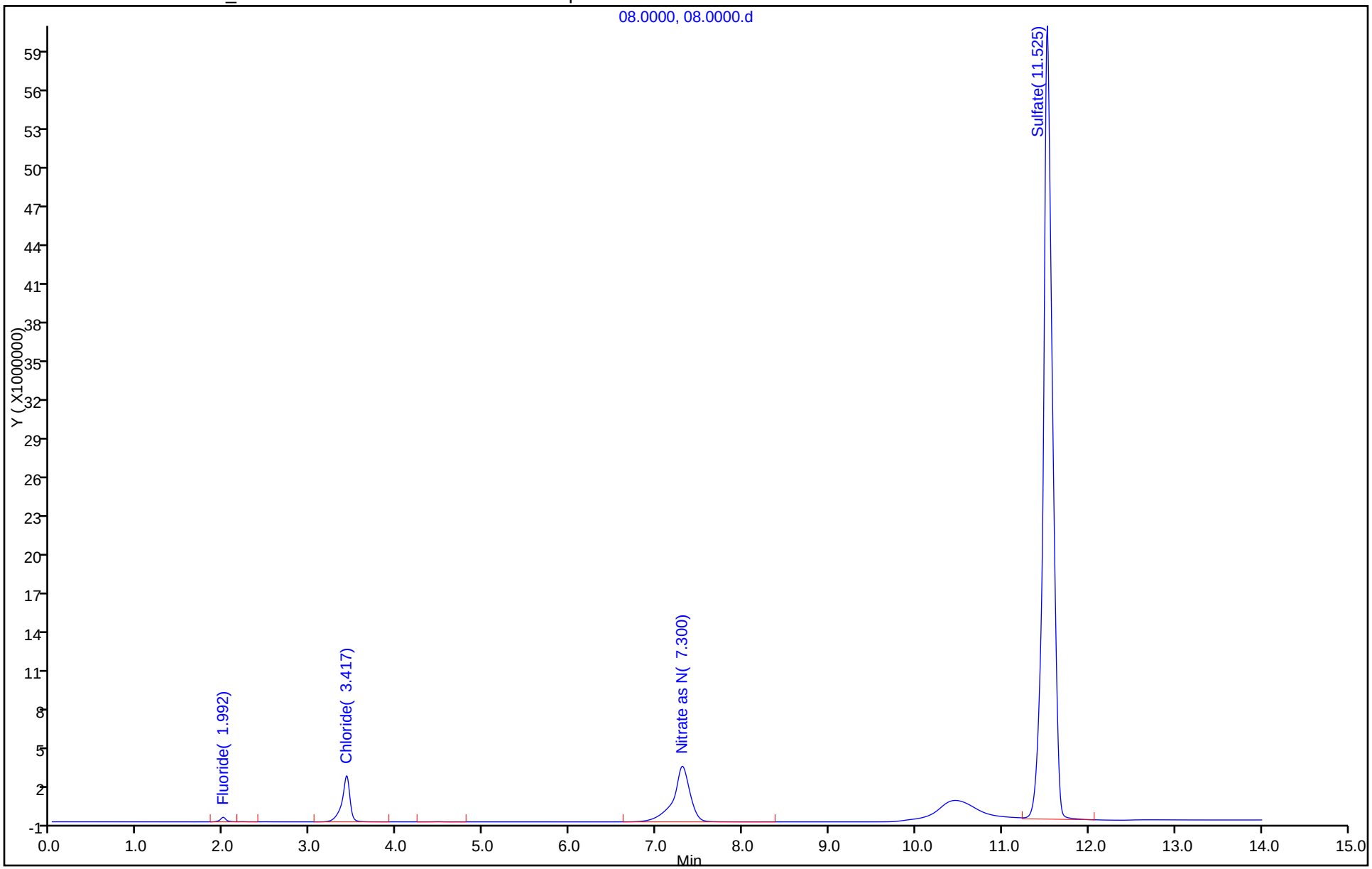
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	1662230		0.0278	
2 Chloride	3.417	3.425	-0.008	22683542		1.27	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N	7.300	7.392	-0.092	57114971		1.26	
6 Sulfate	11.525	11.608	-0.083	446469674		33.0	
7 Orthophosphate as P		13.208				ND	

Report Date: 03-Nov-2016 07:26:40 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\08.0000.d

Injection Date:	02-Nov-2016 13:18:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 DU			Worklist Smp#:	8
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\09.0000.d
Lims ID: 280-90409-E-4 MS
Client ID:
Sample Type: MS
Inject. Date: 02-Nov-2016 13:35:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-009 Temporary sequence for manual data acquisition
Misc. Info.: 11900
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.000	0.017	153385967	5.00	5.16	
2 Chloride	3.408	3.425	-0.017	499902313	25.0	26.8	
3 Nitrite as N	4.008	4.017	-0.009	211435047	5.00	5.40	
4 Bromide	6.550	6.625	-0.075	37817315	5.00	5.00	
5 Nitrate as N	7.108	7.392	-0.284	290293228	5.00	6.35	
6 Sulfate	11.475	11.608	-0.133	792910874	25.0	58.6	
7 Orthophosphate as P	12.925	13.208	-0.283	70183012	5.00	3.58	

Reagents:

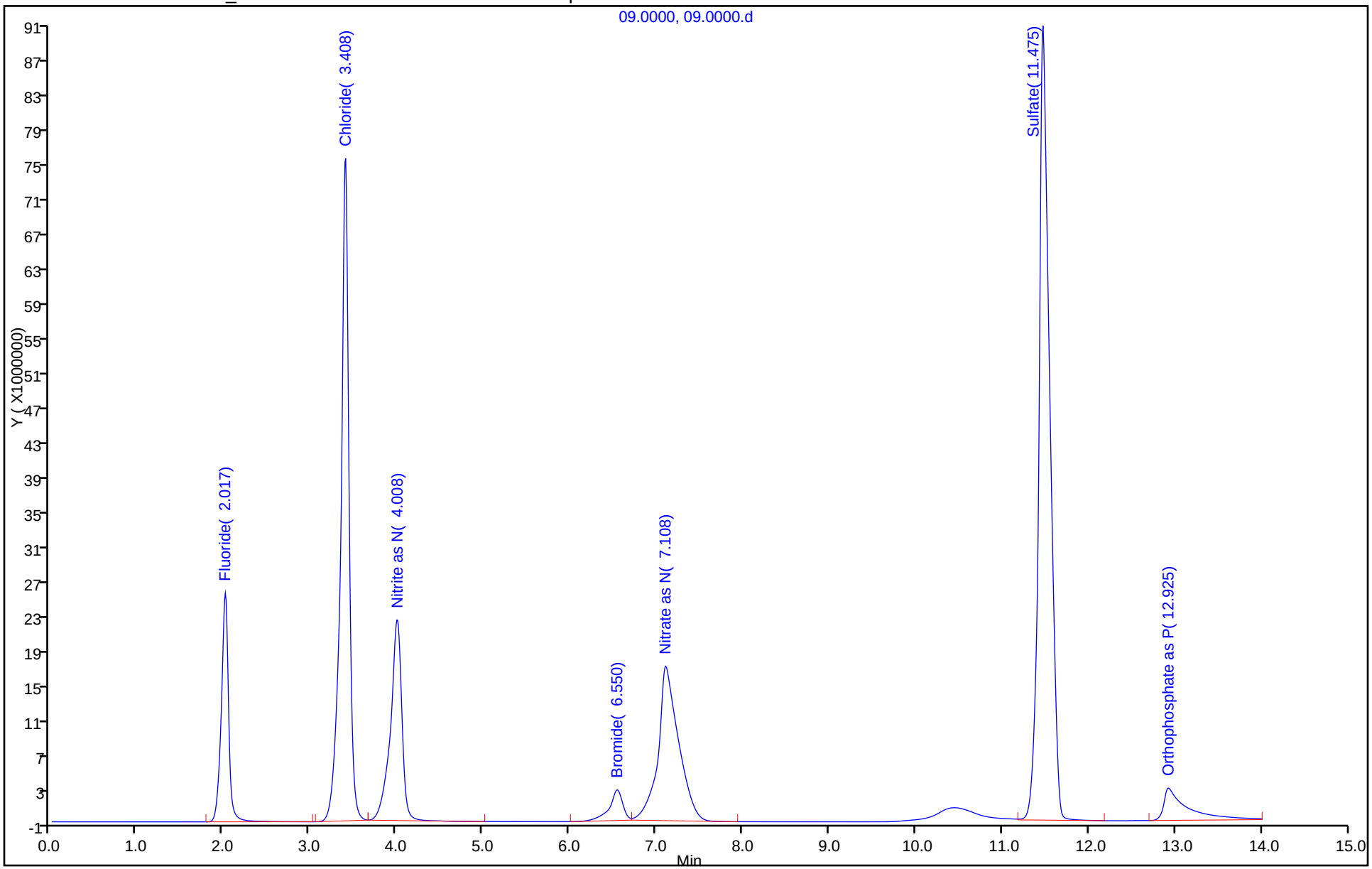
ICMS/MSD WEEK_00428 Amount Added: 0.05 Units: mL

Report Date: 03-Nov-2016 07:26:41 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\09.0000.d

Injection Date:	02-Nov-2016 13:35:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 MS			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\09.0000.d
Lims ID: 280-90409-E-4 MS
Client ID:
Sample Type: MS
Inject. Date: 02-Nov-2016 13:35:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-009 Temporary sequence for manual data acquisition
Misc. Info.: 11900
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.000	0.017	153385967	5.00	5.16	
2 Chloride	3.408	3.425	-0.017	499902313	25.0	26.8	
3 Nitrite as N	4.008	4.017	-0.009	211435047	5.00	5.40	
4 Bromide	6.550	6.625	-0.075	37817315	5.00	5.00	
5 Nitrate as N	7.108	7.392	-0.284	290293228	5.00	6.35	
6 Sulfate	11.475	11.608	-0.133	792910874	25.0	58.6	
7 Orthophosphate as P	12.925	13.208	-0.283	70183012	5.00	3.58	

Reagents:

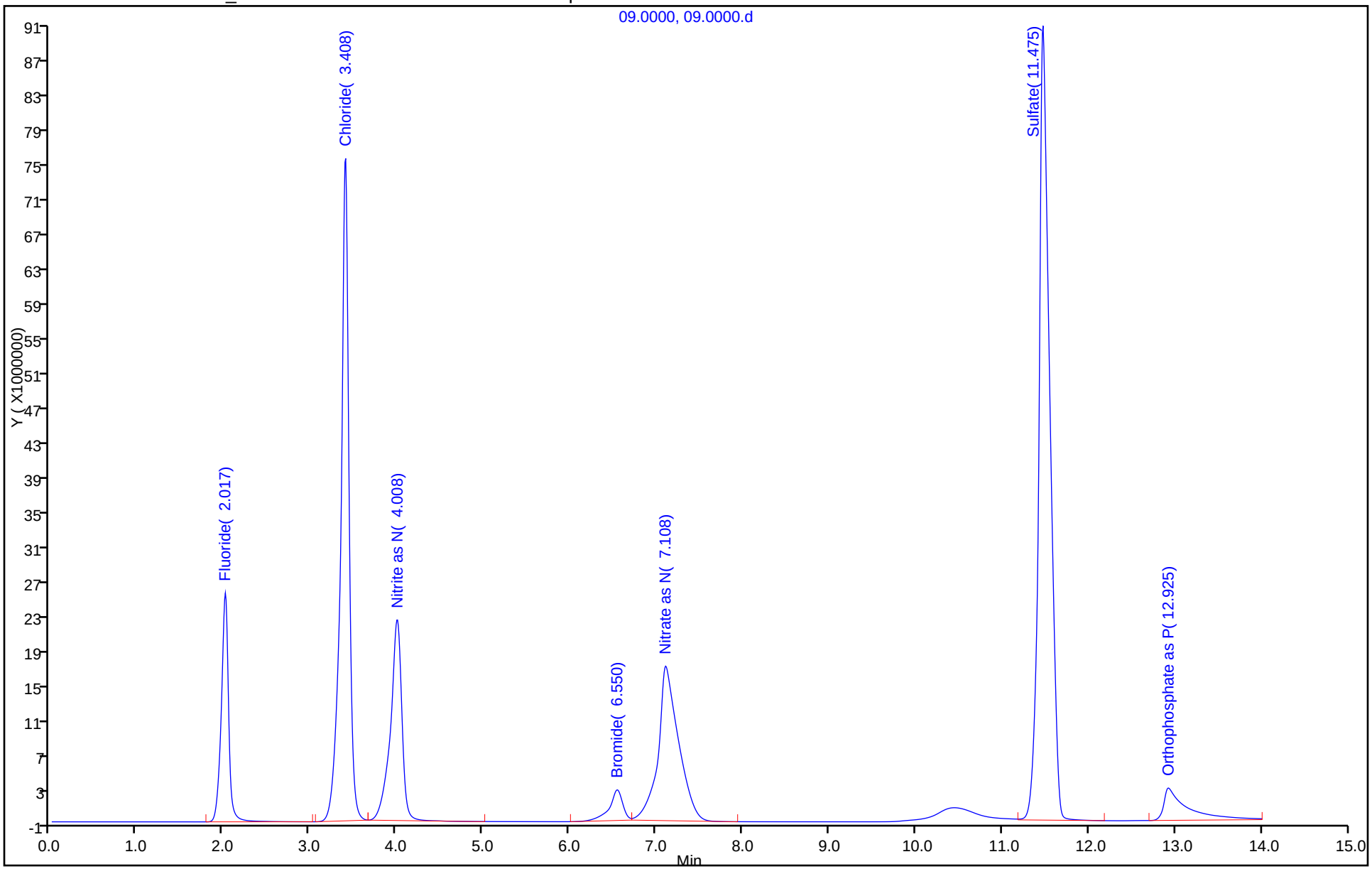
ICMS/MSD WEEK_00428 Amount Added: 0.05 Units: mL

Report Date: 03-Nov-2016 07:26:41 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\09.0000.d

Injection Date:	02-Nov-2016 13:35:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 MS			Worklist Smp#:	9
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\10.0000.d
Lims ID: 280-90409-E-4 MSD
Client ID:
Sample Type: MSD
Inject. Date: 02-Nov-2016 13:51:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-010 Temporary sequence for manual data acquisition
Misc. Info.: 25166
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.000	0.017	154379715	5.00	5.19	
2 Chloride	3.408	3.425	-0.017	502870514	25.0	27.0	
3 Nitrite as N	4.000	4.017	-0.017	213094822	5.00	5.44	
4 Bromide	6.550	6.625	-0.075	38111801	5.00	5.04	
5 Nitrate as N	7.108	7.392	-0.284	291858590	5.00	6.39	
6 Sulfate	11.467	11.608	-0.141	794764561	25.0	58.8	
7 Orthophosphate as P	12.908	13.208	-0.300	76888700	5.00	3.94	

Reagents:

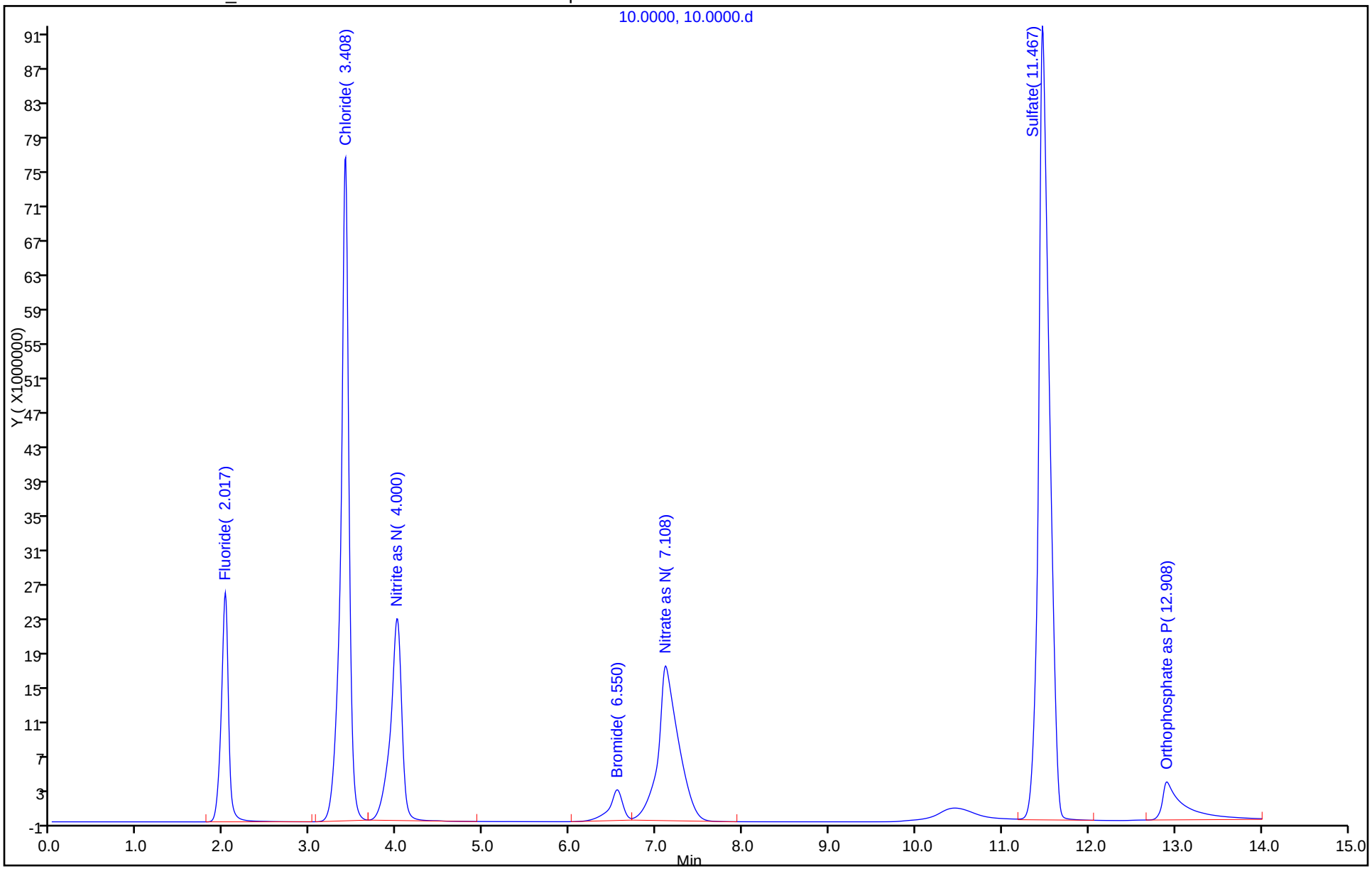
ICMS/MSD WEEK_00428 Amount Added: 0.05 Units: mL

Report Date: 03-Nov-2016 07:26:42 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\10.0000.d

Injection Date:	02-Nov-2016 13:51:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 MSD			Worklist Smp#:	10
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\10.0000.d
Lims ID: 280-90409-E-4 MSD
Client ID:
Sample Type: MSD
Inject. Date: 02-Nov-2016 13:51:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-010 Temporary sequence for manual data acquisition
Misc. Info.: 25166
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:34 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.000	0.017	154379715	5.00	5.19	
2 Chloride	3.408	3.425	-0.017	502870514	25.0	27.0	
3 Nitrite as N	4.000	4.017	-0.017	213094822	5.00	5.44	
4 Bromide	6.550	6.625	-0.075	38111801	5.00	5.04	
5 Nitrate as N	7.108	7.392	-0.284	291858590	5.00	6.39	
6 Sulfate	11.467	11.608	-0.141	794764561	25.0	58.8	
7 Orthophosphate as P	12.908	13.208	-0.300	76888700	5.00	3.94	

Reagents:

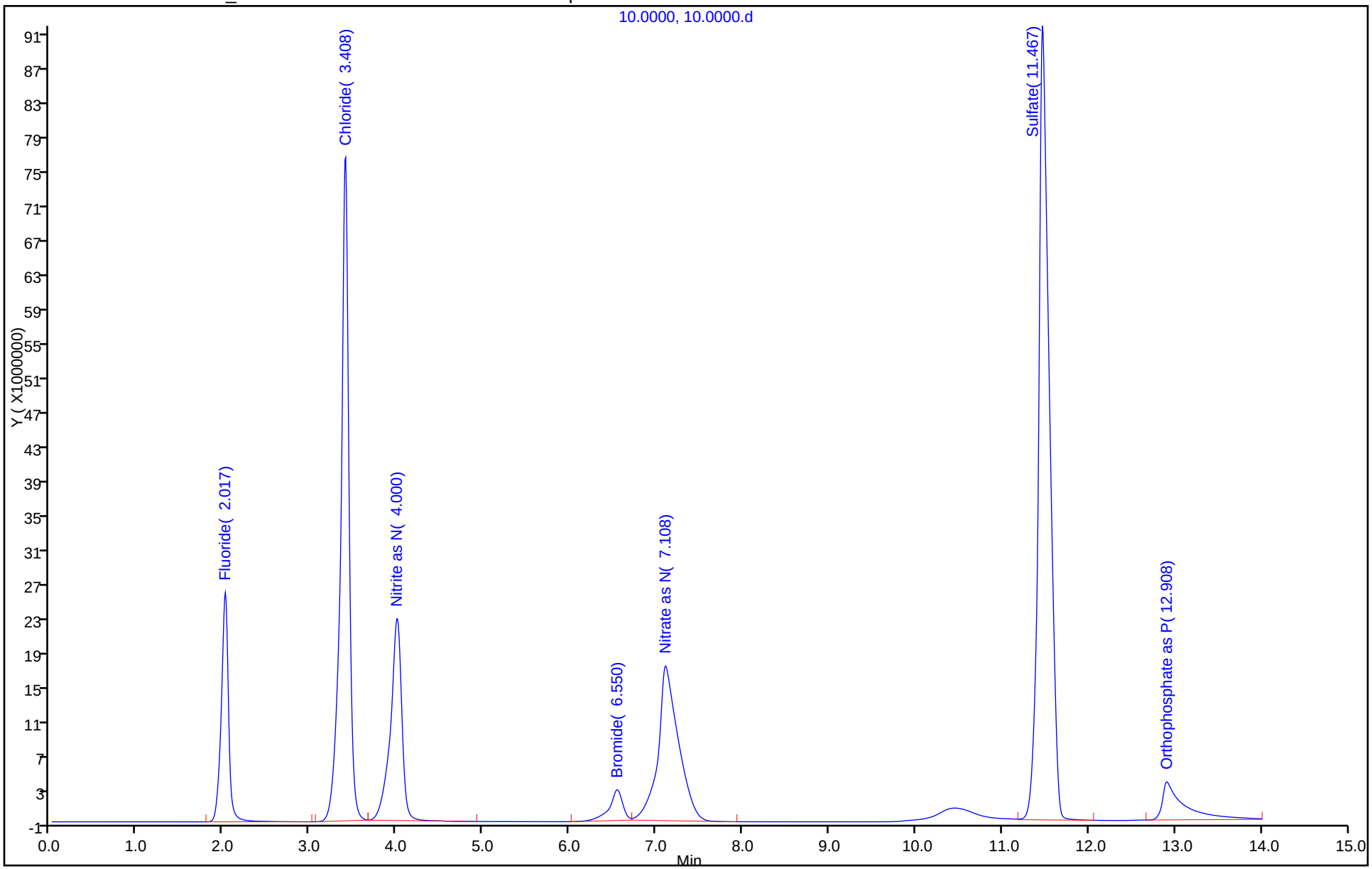
ICMS/MSD WEEK_00428 Amount Added: 0.05 Units: mL

Report Date: 03-Nov-2016 07:26:42 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\10.0000.d

Injection Date:	02-Nov-2016 13:51:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	280-90409-E-4 MSD			Worklist Smp#:	10
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\17.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2016 15:49:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-017 Temporary sequence for manual data acquisition
Misc. Info.: 26402
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:46 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.017	2.000	0.017	152763947	5.00	5.14	
2 Chloride	3.383	3.425	-0.042	1860072580	100.0	99.7	
3 Nitrite as N	4.008	4.017	-0.009	206027162	5.00	5.26	
4 Bromide	6.558	6.625	-0.067	38181020	5.00	5.05	
5 Nitrate as N	7.150	7.392	-0.242	230196831	5.00	5.04	
6 Sulfate	11.433	11.608	-0.175	1350779861	100.0	99.9	
7 Orthophosphate as P	12.958	13.208	-0.250	71250877	5.00	3.64	

Reagents:

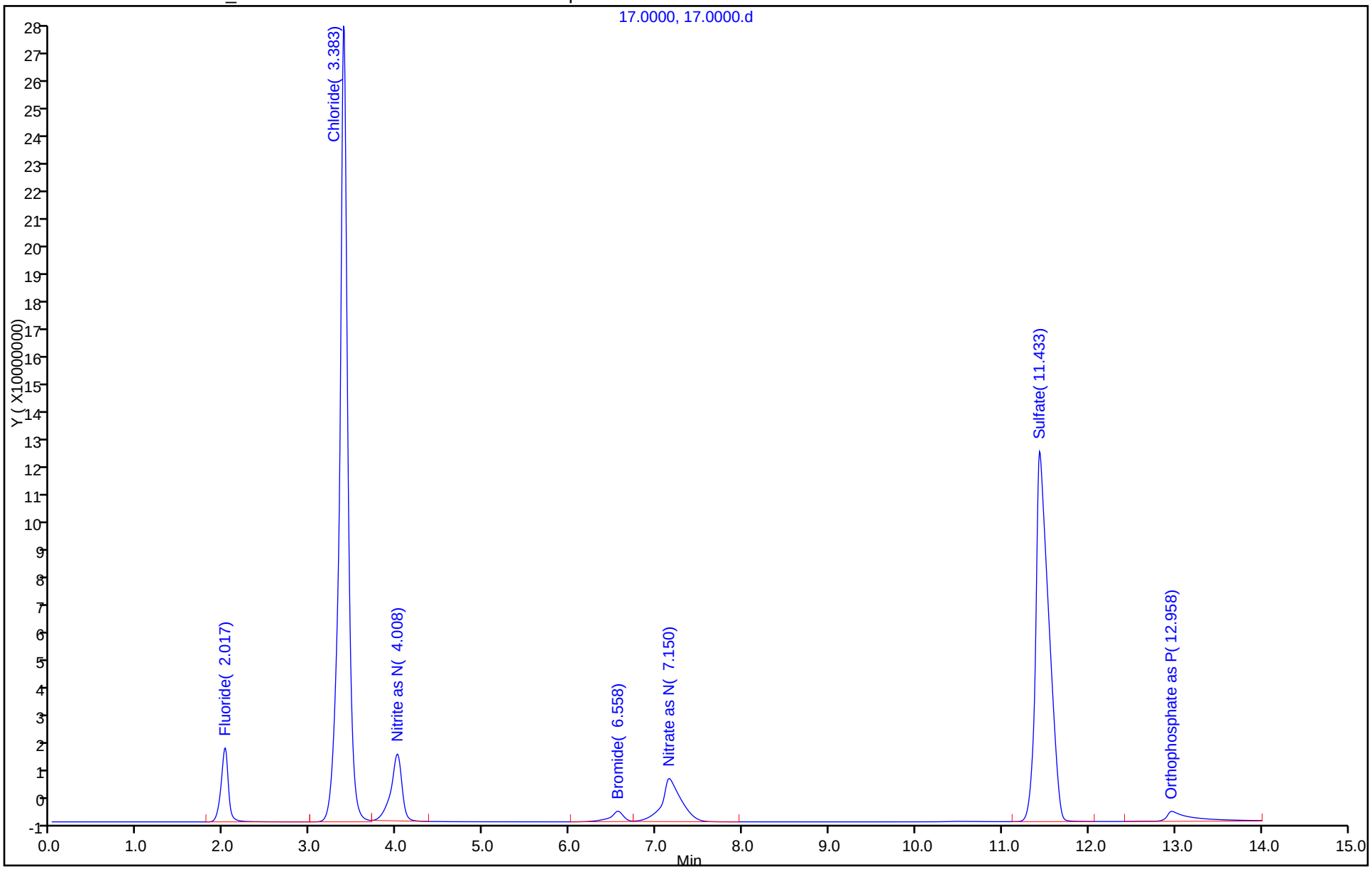
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:46 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\17.0000.d

Injection Date:	02-Nov-2016 15:49:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	17
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\18.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 02-Nov-2016 16:06:00 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-018 Temporary sequence for manual data acquisition
Misc. Info.: 22510
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions 28D
Last Update: 03-Nov-2016 07:26:46 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

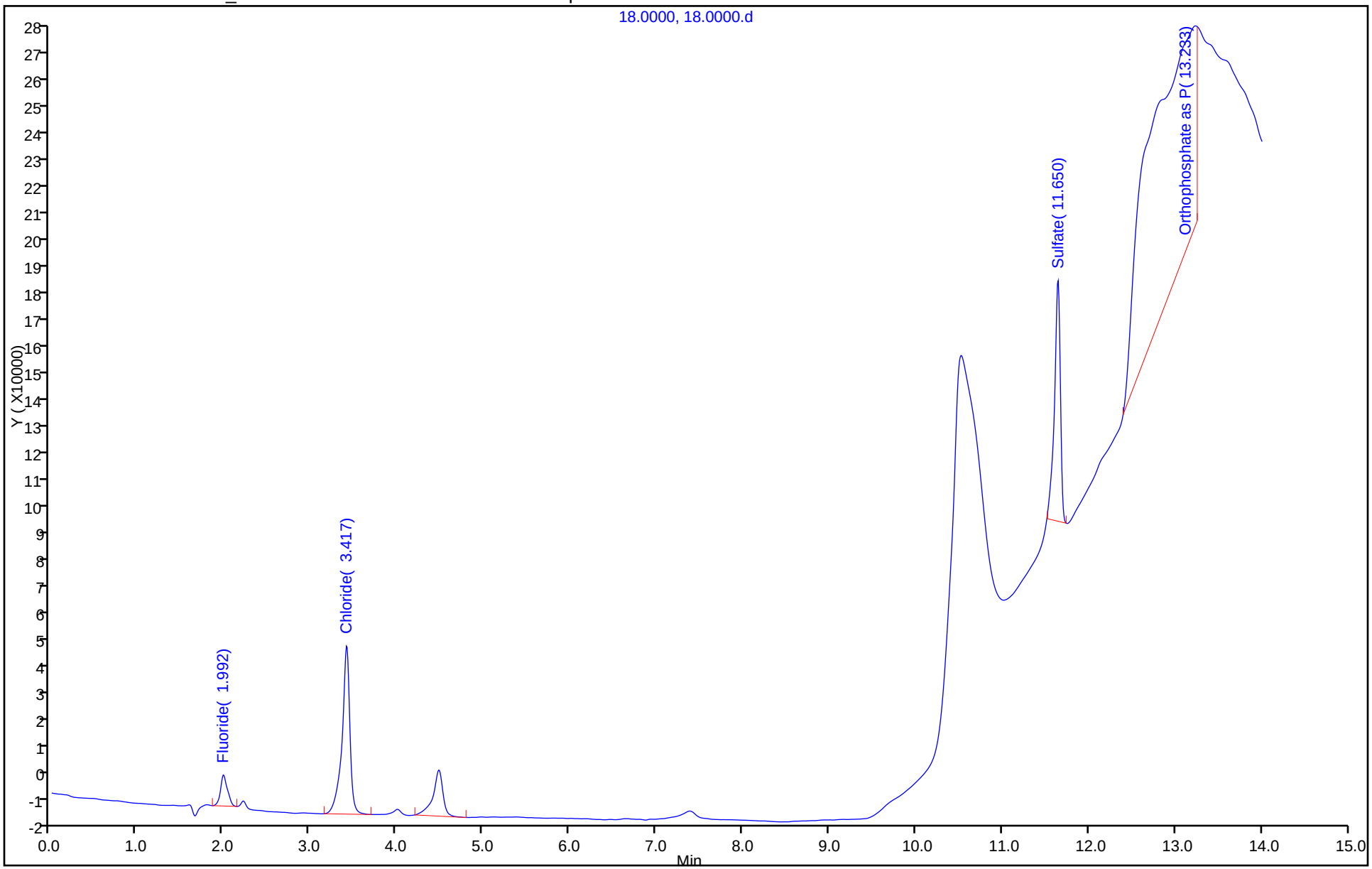
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	61820		-0.0263	
2 Chloride	3.417	3.425	-0.008	380857		0.0785	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N		7.392				ND	
6 Sulfate	11.650	11.608	0.042	412893		-0.0137	
7 Orthophosphate as P	13.233	13.208	0.025	3319243		0.0701	

Report Date: 03-Nov-2016 07:26:47 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\18.0000.d

Injection Date:	02-Nov-2016 16:06:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	18
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions 28D		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\28.0000.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 02-Nov-2016 19:17:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-028 Temporary sequence for manual data acquisition
Misc. Info.: 27946
Operator ID: Instrument ID: WC_IonChrom8
Sublist: chrom-Anions_IC8*sub4

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:53 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	2.008	2.000	0.008	153169911	5.00	5.15	
2 Chloride	3.383	3.425	-0.042	1863962526	100.0	99.9	
3 Nitrite as N	4.000	4.017	-0.017	206570469	5.00	5.27	
4 Bromide	6.558	6.625	-0.067	38314236	5.00	5.07	
5 Nitrate as N	7.150	7.392	-0.242	231322847	5.00	5.06	
6 Sulfate	11.425	11.608	-0.183	1354915478	100.0	100.2	
7 Orthophosphate as P	12.892	13.208	-0.316	77513144	5.00	3.97	

Reagents:

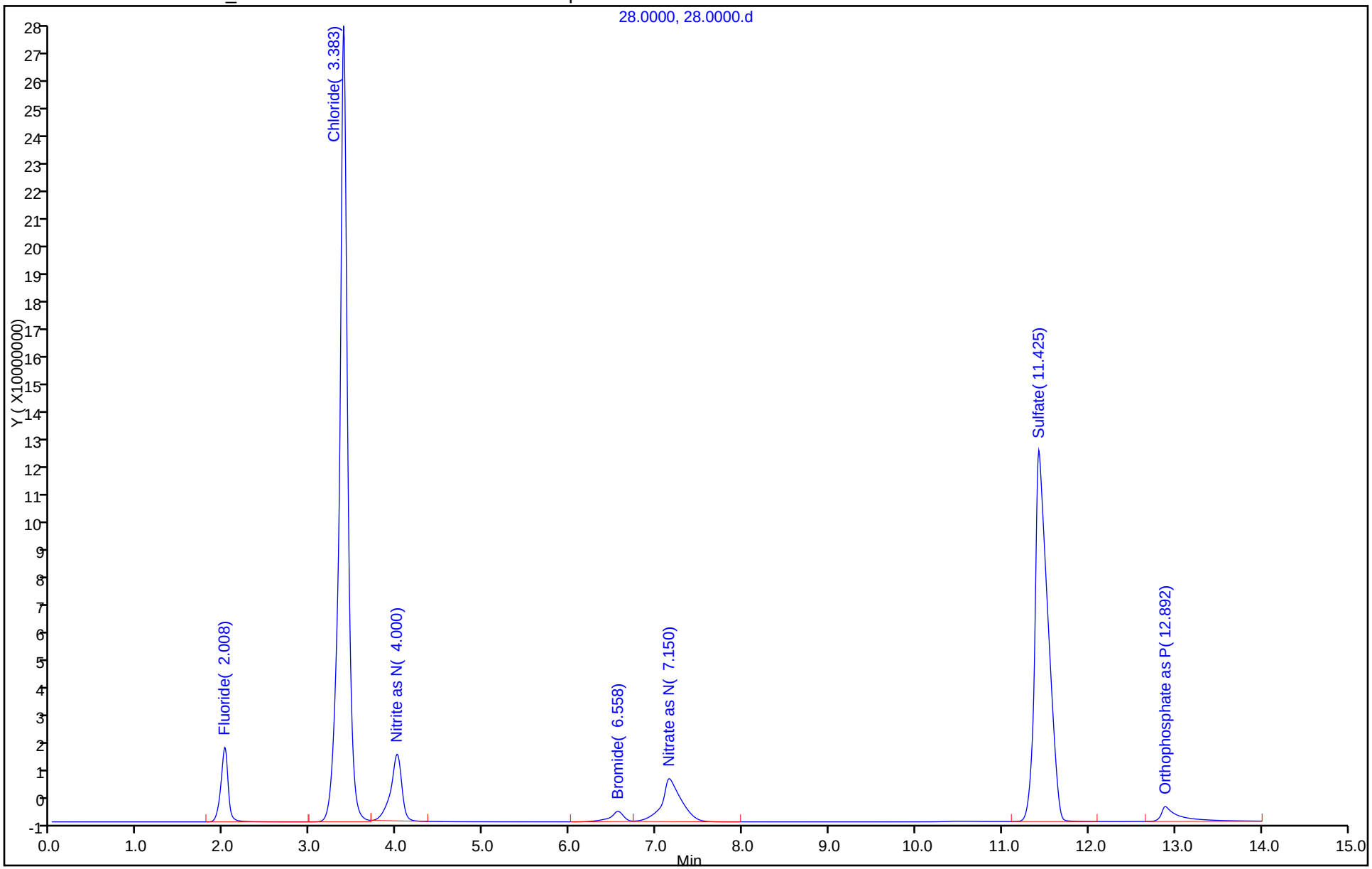
IC LCS_00736 Amount Added: 5.00 Units: mL

Report Date: 03-Nov-2016 07:26:53 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\28.0000.d

Injection Date:	02-Nov-2016 19:17:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	28
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\29.0000.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 02-Nov-2016 19:34:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 25.0 ul Dil. Factor: 1.0000
Sample Info: 280-0052599-029 Temporary sequence for manual data acquisition
Misc. Info.: 13555
Operator ID: Instrument ID: WC_IonChrom8

Method: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\Anions_IC8.m
Limit Group: Wet - Anions
Last Update: 03-Nov-2016 07:26:53 Calib Date: 07-Oct-2016 11:06:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161007-51631.b\07.0000.d

Column 1 : Det: 0005
Process Host: XAWRK021

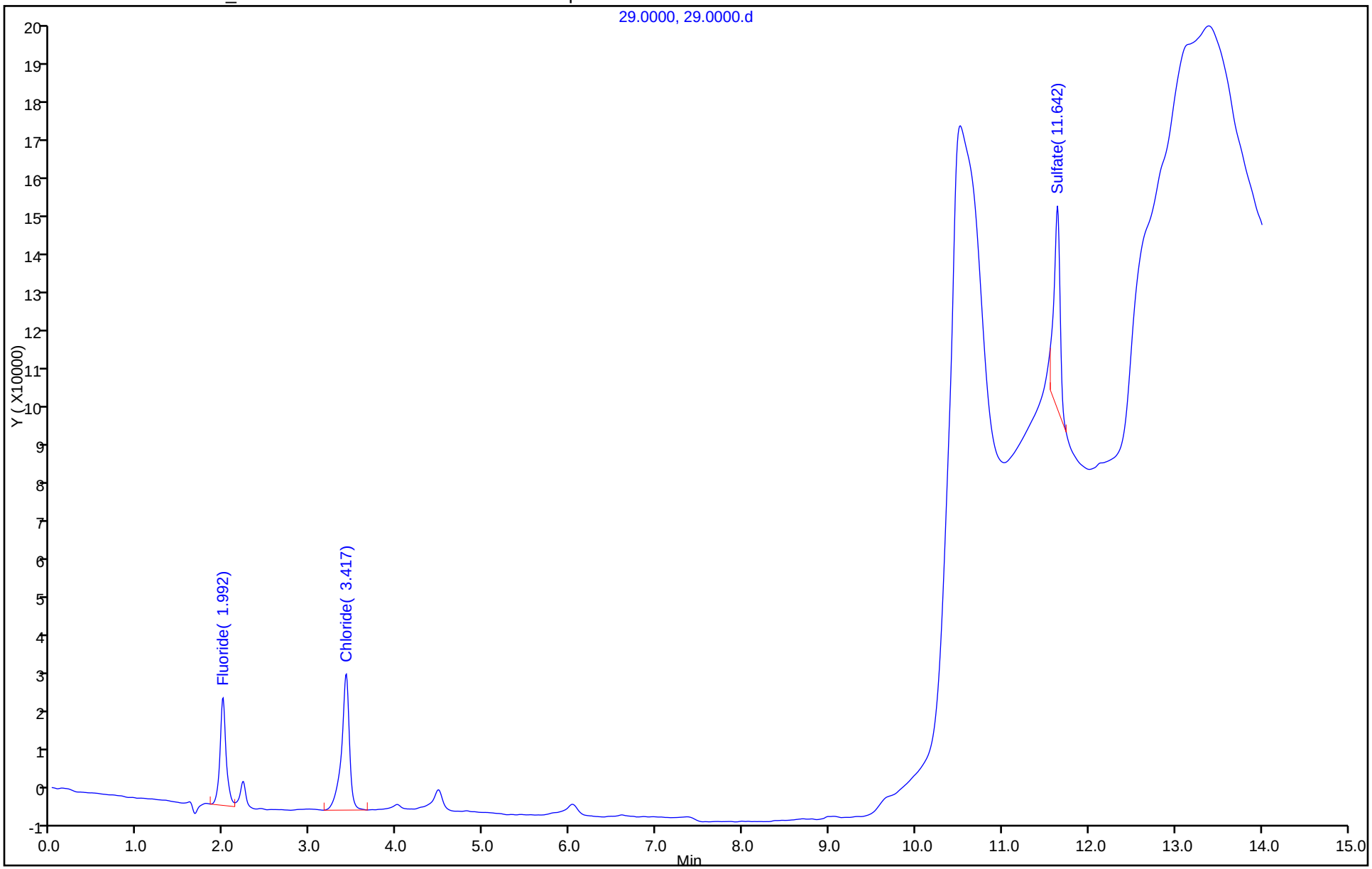
Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	1.992	2.000	-0.008	140423		-0.0236	
2 Chloride	3.417	3.425	-0.008	229383		0.0704	
3 Nitrite as N		4.017				ND	
4 Bromide		6.625				ND	
5 Nitrate as N		7.392				ND	
6 Sulfate	11.642	11.608	0.034	260182		-0.0250	
7 Orthophosphate as P		13.208				ND	

Report Date: 03-Nov-2016 07:26:54 Chrom Revision: 2.2 17-Oct-2016 09:27:18

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\WC_IonChrom8\20161102-52599.b\29.0000.d

Injection Date:	02-Nov-2016 19:34:00	Instrument ID:	WC_IonChrom8	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	29
Client ID:					
Injection Vol:	25.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_IC8	Limit Group:	Wet - Anions		



TestAmerica *Denver*

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Titration Data Review Checklist

LIMS Batch Number: 351255	Method (circle one):	QC Type (circle):
Analyst/1st Reviewer: MC	2310B (2320B) 2340C	(Standard) DoD QAPP Other
Date: 11/14/16	4500 S2 F 4500 SO3 B 9030B/9034	
Matrix (circle): (Water) Solid	(Automated) or Manual (circle one)	Instrument ID (circle one if applicable): AT2 (AT3)

Review Items	Yes	No	2nd Rev	If No, why is data reportable?
A. Sample Storage and Pretreatment				
1. Is sample pH verified and documented prior to analysis? (if required)	N/A		✓	
2. For samples requiring pH adjustment is the amount of acid/base used documented?	N/A		✓	If no, list details:
3. Are samples analyzed within the required hold time?	✓		✓	NCM:
4. Pre-treatment reagents used to remove interferences are documented.	N/A		✓	
B. Calibration / Instrument				
5. Was the normality of the titrant verified and found acceptable?	N/A		✓	Comments:
6. For potentiometric titration, the pH meter is calibrated with 5 buffers bracketing range of samples and QC.	✓		✓	Comments:
7. Calibration standards are analyzed at the beginning and end of the analytical sequence and after every 10 sample analyses. (samples/dilutions/reanalyses).	✓		✓	Comments:
8. Calibrations standards (ICV/CCV) are within 90-110% recovery.	✓		✓	
C. Sample and Batch QC				
9. Blanks are analyzed at the beginning, end and after every 10 sample analyses in the sequence.	✓		✓	
10. Results of blank analyses (MB, ICB, CCB) are < ½ RL (<RL for alkalinity unless DoD)		✓	✓	□ No analyte > ½ RL in associated samples □ Sample results >10x blank NCM 313605
11. A standard from a second source (SRM, CRM, LCS) is included in the analytical sequence.	✓		✓	
12. The recovery of the 2nd source material falls within 90-110% or manufacturer's limits.	✓		✓	
13. Samples analyses are bracketing by acceptable CCV/CCBs.	✓	✓	✓	□ No analyte > RL in associated samples □ Sample results >10x blank NCM ☒ Sample results qualified 313576
14. MS/MSD analyzed at required frequency and recoveries within limits. (If recoveries out of limits, verify not due to lab error) (Required for 2340C, 4500 S2 F, 9030B/9034)	N/A		✓	□ Non-conformance (NCM) added □ Sample results >4X spike conc.
15. Duplicate analyzed at required frequency and RPD within limits. (Required for 2310B, 2320B, 4500 SO3 B)		✓	✓	☒ Non-conformance (NCM) added 313559 ☒ Sample results ND or <2X RL

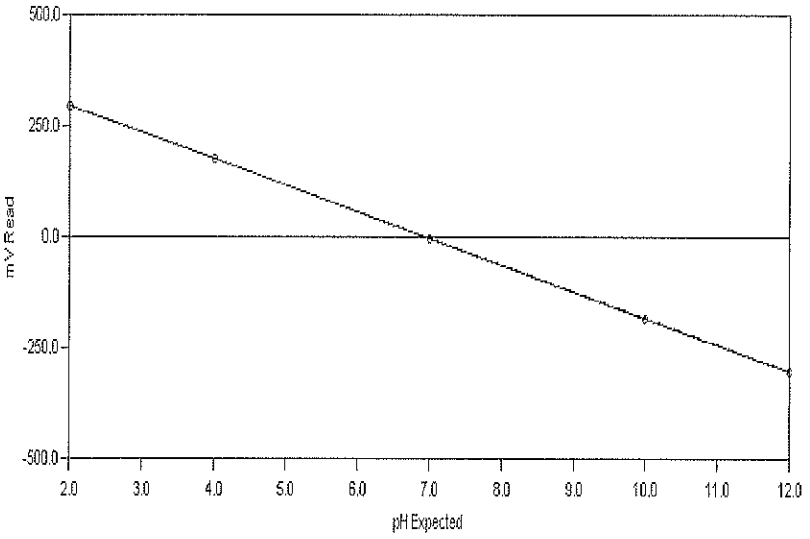
Review Items	Yes	No	2nd Rev	If No, why is data reportable?
16. Are all MS/MSD RPDs <50%? Note: Excessive RPDs (>50%) require evaluation, correction or explanation.	N/A		✓	□ Non-conformance (NCM) added
D. Raw Data & TALS Data Entry				
17. Raw Data	✓		✓	
a. Unused data is clearly identified with reason	✓		✓	
b. All crossed out data is initialed and dated	✓		✓	
c. Out of control QC is clearly identified	✓		✓	
d. Any data that has a qualifier is commented on with appropriate action taken	✓		✓	
e. The first page of the run includes the filename, instrument, and analyst initials/signature	✓		✓	
f. 100% of manual calculations are verified.	✓		✓	
18. TALS Samples Tab	✓		✓	
a. LIMS Sample IDs / Containers are correct	✓		✓	
b. Method and matrix are correct	✓		✓	
c. Date and time match raw data	✓		✓	
d. Dilutions are correct	✓		✓	
e. Correct suffix designated (where applicable)	✓		✓	
19. TALS Worksheet Tab is complete and correct	✓		✓	
20. TALS Reagent Tab is complete and correct	✓		✓	
21. TALS QC Links Tab is correct	✓		✓	
22. TALS Sample Results Tab	✓		✓	
a. All unused data are marked Rejected or Accepted	✓		✓	
b. All reported analytes are marked Primary or Secondary	✓		✓	
c. Data manually transcribed from benchsheet into TALS verified 100% including significant figures SM 4500 SO3 B).	✓		✓	
d. TALS Batch Information Screen documentation is complete	✓		✓	
e. TALS Status set to appropriate review level	✓		✓	
E. Final Report and NCMs (2nd level review only)				
f. Were all job/project requirements met?	✓			
g. Results for samples and QC correct on final report?	✓			
h. Are all necessary scanned documents in TALS?	✓			
i. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?	✓			

Comments: 2nd 1st level review OA 11/14/16

2nd Reviewer: JM **Review Date:** 4/15/16

PC-TitratION PLUS
Calibration Report

Calibration Record # 1306



Calibration Settings

Calibration ID	PH	Date	11/13/2016
Channel	1	Time	8:55 AM
Probe Type	pH	Temperature	295.18 K 22.03 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-59.883	CorrCoeff	1.0000
Intercept	-3.636	Equation: Y = (-59.883) X + (-3.636)	

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-59.883	-65.00	-53.00
Intercept	-3.636	-100.00	100.00
Correlation Coefficient	1.0000	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	2.00	296.26
	4.00	175.78
	7.00	-4.39
	10.00	-182.86
	12.00	-302.97

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Water Analysis Report

Run Number 4894 **Order Number** 20161113-5

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	pH2	pH3	Acid	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	(mL) @ 8.3	(mL) @ 4.5	(mL) @ 4.2	Conc (N)
RINSE	11/13/2016	2:26 PM	23.09	-1.00	4.72	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
Buffer 7	11/13/2016	2:29 PM	22.89	-1.00	7.02	-1.00	-1.00	-1.00	.00	1,400.21	1,400.21	.00	.00	.00	2.80	-1.00	.10
Initial Check	11/13/2016	2:33 PM	22.83	-1.00	10.94	-1.00	-1.00	-1.00	536.21	996.10	.00	919.78	76.32	1.07	1.99	-1.00	.10
LCS	11/13/2016	2:37 PM	22.74	-1.00	10.95	-1.00	-1.00	-1.00	537.36	983.83	.00	892.94	90.89	1.07	1.97	-1.00	.10
MB	11/13/2016	2:41 PM	22.75	-1.00	7.25	-1.00	-1.00	-1.00	.00	6.07	6.07	.00	.00	.00	.02	.02	.10
280-90433-c-1	11/13/2016	2:46 PM	22.63	-1.00	7.52	-1.00	-1.00	-1.00	.00	3,034.94	3,034.94	.00	.00	.00	6.07	-1.00	.10
280-90409-e-4	11/13/2016	2:49 PM	22.60	-1.00	6.29	-1.00	-1.00	-1.00	.00	23.59	23.59	.00	.00	.00	.05	-1.00	.10
DU 280-90409-e-4	11/13/2016	2:53 PM	22.51	-1.00	6.20	-1.00	-1.00	-1.00	.00	11.70	11.70	.00	.00	.00	.03	.03	.10
280-90549-c-1	11/13/2016	2:57 PM	22.37	-1.00	7.14	-1.00	-1.00	-1.00	.00	1,207.80	1,207.80	.00	.00	.00	2.42	-1.00	.10
280-90581-a-3	11/13/2016	3:00 PM	22.31	-1.00	6.17	-1.00	-1.00	-1.00	.00	1,537.65	1,537.65	.00	.00	.00	3.08	-1.00	.10
280-90651-a-5	11/13/2016	3:06 PM	22.40	-1.00	8.03	-1.00	-1.00	-1.00	.00	1,082.29	1,082.29	.00	.00	.00	2.16	-1.00	.10
280-90653-d-2	11/13/2016	3:10 PM	22.60	-1.00	7.29	-1.00	-1.00	-1.00	.00	2,749.35	2,749.35	.00	.00	.00	5.50	-1.00	.10
CCV	11/13/2016	3:15 PM	22.63	-1.00	10.89	-1.00	-1.00	-1.00	463.65	972.30	45.00	927.30	.00	.93	1.94	-1.00	.10
CCB	11/13/2016	3:18 PM	22.63	-1.00	6.61	-1.00	-1.00	-1.00	.00	5.80	5.80	.00	.00	.00	.02	.02	.10

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW

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Shipping and Receiving Documents

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Arvada, CO 80002
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WBG

Chain of Custody Record

8104815 24502
8104815 24513
8104815 24524

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Client Information	Sampler:	Lab PM: McEntee, Patrick J	Carrier Tracking No(s): 8104815 14784 / 8104815 24535	COC No: 280-58780-20615.2
Client Contact: Ms. Heather Miner	Phone:	E-Mail: patrick.mcentee@testamericainc.com		Page: Page:
Company: Cardno TEC, Inc				Job #:
Address: 1658 Cole Boulevard Suite 190	Due Date Requested:			
City: Golden	TAT Requested (days):			
State, Zip: CO, 80401				
Phone:	PO #: 0091979			
Email: heather.miner@cardno-gs.com	WO #:			
Project Name: Ravenna, OH - ~~Winklepeck Burning Grounds~~ Load Line 2 + FTB ESK Quarry	Project #: 28014271			
Site: W	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Inspected by Bethany Weeks

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8330B_DOD5 - Explosives	Total Metals 6010C_DOD5, 6020A_DOD5, 7470A_DOD5	8270D_DOD5 - SVOCs ~~List~~ Phthalates	8270D_SIM_DOD5 - PAHs	8260B_DOD5 - VOCs	8270D_DOD5 - SVOCs - List 2 (phthalates)	PCBs 8082A	Cyanide 9012B	Hexavalent Chromium 7196A	6860 Perchlorate	9034 Sulfide	2320B Alk., Anions (NO2, NO3, SO4)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	N	A	N	N	B	N					
LL2mw-271-110116-gw	11/01/16	1013	G	W	N	N	X	X	X				X	X		X			9	
LL2mw-261-103116-gw	10/31/16	1440	G	W	N	N	X	X	X				X	X						
LL2mw-500-103116-gw	10/31/16	1450	G	W	N	N		X												
FBQmw-175-110116-gw	11/1/16		G	W				X						X	X		X	X		24HR Hold

280-90409 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11/01/16 / 1730	ATC	Fedex	11/01/16 / 1730	
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 1000 02Nov16	Company TAD
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.6, 0.6, 3.1 IR5D.0 02Nov16 Transfer Stmt.

11/29/2016

Login Sample Receipt Checklist

Client: Cardno TEC, Inc

Job Number: 280-90409-1

Login Number: 90409
List Number: 1
Creator: Muniz, Ashley T

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	False	No sample date and/or time on COC, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	